



Audit Committee

Friday, August 16, 2019 at 8:00 a.m.

5th Floor Board Room, Water Board Building
735 Randolph Street, Detroit, Michigan 48226
GLWater.org

AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. July 19, 2019 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
 - A. Shared Services Update (Page 4)
7. NEW BUSINESS
8. REPORTS
 - A. Monthly Financial Report for May 2019 (Page 9)
 - B. Quarterly Investment Report (Page 10)
 - C. CFO Updates (verbal)
9. LOOK AHEAD
 - Next Audit Committee Meetings
 - A. Regular Meeting September 20, 2019 at 8:00 a.m.
10. INFORMATION
11. OTHER MATTERS
12. ADJOURNMENT

Note: The Audit Committee meeting for Friday, August 16, 2019 was cancelled. This binder has been posted on our website- <https://www.glwater.org/financials/> for reference at the September 20, 2019 meeting.



Great Lakes Water Authority

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

Meeting Minutes - Draft

Audit Committee

Friday, July 19, 2019

8:00 AM

Water Board Building 5th Floor

1. Call To Order

Chairman Daddow called the meeting to order at 8:00 a.m.

2. Quorum Call

Present: 2 - Chairman Robert Daddow, and Director Gary Brown

Excused: 1 - Director Brian Baker

3. Approval of Agenda

Chairman Daddow requested a Motion to approve the Agenda.

Motion By: Gary Brown

Support: Robert Daddow

Action: Approved

The motion carried by a unanimous vote.

4. Approval of Minutes

A. [2019-281](#) Approval of Minutes of June 21, 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [June 21, 2019 Audit Committee Meeting Minutes.pdf](#)

Chairman Daddow requested a Motion to approve the June 21, 2019 Audit Committee Meeting Minutes.

Motion By: Gary Brown

Support By: Robert Daddow

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. [2019-282](#) Series Ordinance Authorizing the Issuance of Water Supply System Revenue Bonds

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Approval of Series Ordinance- Water Revenue Bonds 7.19.19.pdf](#)
[REVISED- Approval of Series Ordinance- Water Revenue Bonds 7.24.19.pdf](#)
[REVISED- Series Ordinance \(2019 4th Quarter SRF\) 7.24.19 Board Meeting.pdf](#)
[REVISED- Resolution Approving 2019 SRF-23 Ordinance 7.24.19 Board Meeting.docx](#)

Motion By: Gary Brown

Support By: Robert Daddow

Action: Recommended for Approval to the Board of Directors

Agenda of July 24, 2019

The motion carried by a unanimous vote.

8. Reports

- A. [2019-283](#) Monthly Financial Report for April 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [GLWA Monthly Financial Report April 2019.pdf](#)

Motion By: Gary Brown

Support By: Robert Daddow

Action: Received and Filed

The motion carried by a unanimous vote.

- B. [2019-284](#) PFM Financial Advisors Presentation: B&C Note History and Recent Transactions; Refinancing and New Money Opportunities in FY 2020

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Audit Committee Communication- PFM Update 7.19.19.pdf](#)
[PFM July 2019 Presentation to Audit Committee - B&C Notes and 2019 Financing Opportunities REVISED 7.16.19PW.pdf](#)

Motion By: Gary Brown

Support By: Robert Daddow

Action: Received and Filed

The motion carried by a unanimous vote.

C. [2019-285](#) Quarterly Debt Report as of March 31, 2019

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: [Quarterly Debt Report as of 3.31.2019_updated 7.19.2019.pdf](#)

Motion By: Gary Brown

Support By: Robert Daddow

Action: Received and Filed

The motion carried by a unanimous vote.

D. CFO Updates (verbal)

Nicolette Bateson, Chief Financial Officer/Treasurer, provided a verbal update on the following topics:

- Strategic Asset Management Plan
- General Retirement System
- 2018 CAFR
- Submittal of the Budget to the GFOA, which has been extended to July 31st
- Draft report from Raftelis on sewer charges methodology

9. Look Ahead

The next Audit Committee Meeting is scheduled for Friday, August 16, 2019 at 8:00 a.m.

10. Information

None

11. Other Matters

Chairman Daddow noted that Oakland County has hired Dave Gajda to assist him with GLWA duties.

12. Adjournment

Chairman Daddow requested a Motion to adjourn.

Motion By: Gary Brown

Support: Robert Daddow

Action: Approved

The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 9:37 a.m.



Financial Services Audit Committee Communication

Date: August 12, 2019

To: Great Lakes Water Authority Audit Committee

From: Alicia Haskin, Management Professional – Intergovernmental Relations

Re: Fiscal Year 2017 Payment Update, Fiscal Year 2018 Shared Services True-Up Update, FY 2019 and beyond

Background: The Great Lakes Water Authority (GLWA) and the Detroit Water and Sewerage Department (DWSD) are parties to a Shared Services Agreement (the Agreement) dated December 1, 2015. This agreement provides the framework for shared services for the efficient operation of both entities.

On a monthly basis, an invoice is prepared. While the intent is for the monthly invoice to represent actual costs, the reality is that the timing of certain vendor invoices and accumulation of internal charges requires a “true-up” process. Furthermore, the intent is to condense the true-up timeline each fiscal year.

The Shared Service Agreement (Section 5.1) states that:

“Each invoice, whether for Services provided regularly or “as-needed,” shall itemize the costs and charges by Services provided under each Service Delivery Schedule and shall provide sufficient detail to the Subscribing Party to identify the Services performed and the basis for the charges. A Performing Party may only charge the Service Costs for Services provided.”

In addition, the parties have come to realize that in most cases an exact itemization generates a level of detailed analysis that is not cost effective to produce. The data and experience garnered from the first three years of the program are leading a more efficient method of calculating costs while staying true to the intent of Section 5.1 above.

Analysis: The following is an update of the FY 2017 payment and GLWA Shared Services True-up status.

FY 2017 Payment Update and Summary of Shared Services Billings and Payments

Table 1 and **Table 2** below explain the following Shared Services information from the beginning of the Agreement, as of January 1, 2016. The first table is for the Shared Services, GLWA is the provider and billing DWSD for the services. The second table is for the Shared Services, DWSD is the provider and billing GLWA for the services.

The Shared Service Agreement (Section 5.2) states that:

“Payments for Services shall be payable monthly. Unless other specified in a Service Delivery Schedule, payment of each invoice shall be due no later than thirty (30) days after the date of delivery of the Invoice...”.

The above provision was not followed for FY 2016 and FY 2017 due to significant efforts to implement the Shared Services agreement and related business processes and operating protocols. For FY 2017 true-up, per the Agreement each entity prepared analysis for each shared service to calculate the proposed billings. For those Shared Services where there were differences, an amount was negotiated to settle on the billing that was reasonable and agreed to by both parties. As of July 31, 2019, the FY 2017 Shared Services True-Up has been finalized and payments have been exchanged.

Table 1 – GLWA as Service Provider (FY 2019 Billings through June 2019)

Summary of Shared Services Billings and Payments				
Year	Total Billings	True Up Amount Actual/Potential	Total Payments	Unpaid Amount
FY2016	\$ 4,781,194	\$ 3,311,838	\$ 8,093,032	\$ -
FY2017	\$ 9,378,922	\$ 3,076,854	12,455,776	\$ -
FY2018	7,477,571	\$ -	\$ -	\$ 7,477,571
FY2019	\$ 8,924,209	\$ -	\$ -	\$ 8,924,209
Subtotals	\$ 30,561,896	\$ 6,388,692	\$ 20,548,809	\$ 16,401,780

Table 2 – DWSD as Service Provider (FY 2019 Billings through June 2019)

Summary of Shared Services Billings and Payments				
Year	Total Billings	True Up Amount Actual/Potential	Total Payments	Unpaid Amount
FY2016	\$ 2,543,735	\$ 5,003,644	\$ 7,547,379	\$ -
FY2017	\$ 4,722,364	\$ (1,077,584)	3,644,780	\$ -
FY2018	\$ 4,633,354	\$ -	\$ -	\$ 4,633,354
FY2019	\$ 3,840,366	\$ -	\$ -	\$ 3,840,366
Subtotals	\$ 15,739,819	\$ 3,926,060	\$ 11,192,159	\$ 8,473,720

FY 2018 True-Up Status Update

The FY 2018 True-Up process has begun for both GLWA and DWSD Shared Services Teams. **Table 3** lists the status of each Shared Service based upon GLWA's staff analysis. As the True-ups are completed, they are provided to DWSD. As of August 9, 2019, GLWA has completed five of the seventeen (17) True-up analysis.

GLWA staff expects to have all analyses sent to DWSD by October 1, 2019. The update in Table 3 represents the progress that GLWA has made on the true-ups related to GLWA provided services. DWSD and GLWA Shared Service Teams will continue to meet and work through the timeline for the completion of the FY 2018 True-up. Meetings are held regularly to discuss the status of the completion and resolution of the True-ups.

Table 3 – FY 2018 GLWA as Service Provider

GLWA Provider Shared Service Description	GLWA progress (1- 3)	Date sent to DWSD OR expected date to be sent to DWSD
OPS-002 Miss Dig		
OPS-004 Water Quality	3	8/9/2019
OPS-005 Security	3	8/5/2019
OPS-005 Security Training	3	8/5/2019
OPS-006 Facilities		
OPS-008 Systems Control Center	1	10/1/2019
ITS-001 Retail AMR	2	9/15/2019
ITS-002 Customer Service Tech Suite	2	9/15/2019
ITS-003 See Click Fix	1	10/1/2019
ITS-004 WAM	1	10/1/2019
ITS-005 Mobile Work Force	1	10/1/2019
ITS-006 ESRI-GIS	1	10/1/2019
ITS-007 DADS	2	9/15/2019
ITS-008 TIBCO	1	10/1/2019
ITS-009 IT Infrastructure	1	10/1/2019
LS-001-A Joint Litigation and Defense, LS-001-B Environment, LS-002 Environment, LS-003 Contract Drafting	3	8/9/2019

Other items to bill not a defined shared service code		
DWSD-R Staff Training by GLWA	1	10/1/2019
Bank Fees	3	8/9/2019
Public Finance	1	10/1/2019
Provider status:		
1	True up calculation not completed by Shared Services team.	
2	True up calculation completed by Shared Services team; under review by Executive Leadership team.	
3	True up calculation provided to subscriber.	

Fiscal Year 2019 and Beyond Update

Table 4 lists the scope of each Shared Service based upon GLWA's analysis. There have been five Shared Services that have terminated and another five that will be terminating by the end of FY 2020 if the transitions go as planned by DWSD.

Table 4 – Shared Service Terminations and Updated Scope of Service

Shared Service	Description	Provider	Scope of Service
ITS-009	Infrastructure	GLWA	**Partial 3/1/19; Final on 6/30/20
ITS-004	WAM	GLWA	**Terminating on 3/31/20
ITS-005	Mobile Workforce Management	GLWA	**Terminating on 3/31/20
ITS-007	DADS	GLWA	**Terminating on 6/30/20
ITS-008	Tibco	GLWA	**Terminating on 6/30/20
OPS-005	Security and Integrity	GLWA	*Badging and Fusion Center
OPS-002	MISS DIG	DWSD	No changes
OPS-003	As Needed Field Service	DWSD	No changes
OPS-006	Facilities	DWSD	No changes
OPS-008	Systems Control	GLWA	No changes
DoIT-001	Financial Information System	City of Detroit	No changes
DoIT-002	Radios	City of Detroit	No changes
DoIT-003	Customer Service Tech Suite	City of Detroit	No changes
Training	Training	GLWA	No changes
LS-001 - LS-003	Legal Services	Both	No changes
OPS-001	Fleet	DWSD	No changes
ITS-002	Customer Service Tech Suite	GLWA	Terminated on 10/1/18
ITS-001	Retail AMR	GLWA	Terminated on 6/30/19
ITS-003	See Click Fix	GLWA	Terminated on 12/31/18
ITS-006	ESRI-GIS	GLWA	Terminated on 6/30/19
OPS-004	Water Quality	GLWA	Terminated on 6/30/19
OPS-007	WWTP IWC Underground Storage Tank	N/A – not needed	
PRO-001	Applications Analyst	N/A – not needed	

*OPS-005 Terminated on 6/30/17. However, Badging and Fusion Center costs continue to be provided.

**Formal termination notice has not been received. However, the DWSD CIO has provided these termination dates to GLWA CIO.

Proposed Action: Receive and file report.

GLWA

Great Lakes Water Authority



Monthly Financial Report Binder

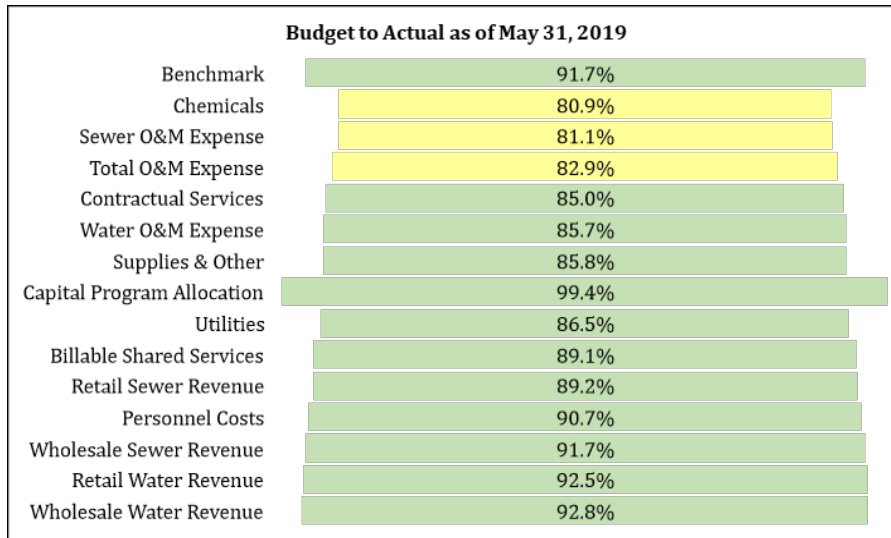
May 2019

**Presented to the
Great Lakes Water Authority
Audit Committee on August 16, 2019**

TABLE OF CONTENTS

Executive Summary.....	1
Budget to Actual	2
Basic Financial Statements	8
Financial Activity Charts.....	16
Financial Operations Key Performance Indicator.....	19
Budget to Financial Statements Crosswalk.....	20
Construction Work in Progress Summary	24
Master Bond Ordinance Transfers	26
Cash and Investment Report.....	31
Retail Revenues, Receivables, & Collections	35
Wholesale Billings, Collections, and Receivables	40
Trust Receipts and Disbursements Report.....	47
Appendix	
Aged Accounts Receivable Report.....	A-1
Highland Park Life-to-Date Billings & Collections	B-1

Revenue and Expense Budget to Actual¹ – Pro-rata Benchmark of 91.7%



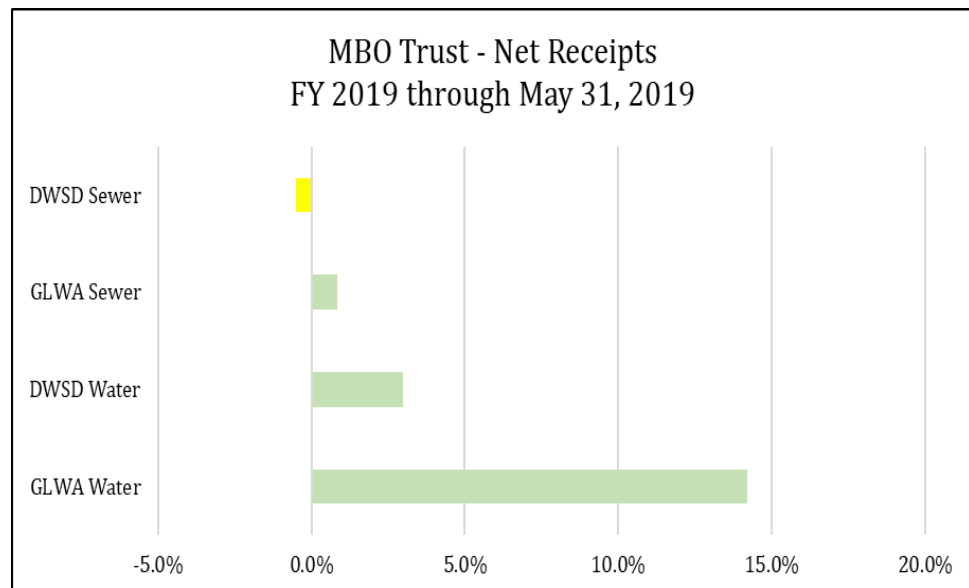
While a few categories are falling outside the revised 7.5% of the pro-rata benchmark these are expected to be more closely aligned with the amended budget in June with the close of the fiscal year.

Chemicals: Expected variance as usage does not follow a consistent monthly budget pattern.

Operations & Maintenance (O&M) Expense: Sewer and Total O&M Expense positive variances are a result of the cumulative, positive variances in the categories of Capital Program Allocation, Supplies & Other, Capital Program Allocation and Chemicals.

Master Bond Ordinance (MBO) Trust Net Receipts

Overall net cash flow (receipts) is positive. This means that all legal commitments of the MBO Trust and the lease payment are fully funded to date. DWSD continues to reduce the Sewer fund shortfall and remains on track to meet the goal of a positive, net cash flow for FY 2019.



Capital Spending Ratio The Water system incurred nearly \$57 million of construction costs to date which is 93% of the FY 2019 prorated, Board-approved spend. The Sewer system spent \$73 million which is 76% of the FY 2019 prorated, Board-approved spend.

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

¹ All amounts are GLWA entity-wide unless noted as water, sewer, and/or retail.

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

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

Revenue Requirement Budget Basis Analysis

GLWA's annual revenue requirement represents the basis for calculating Member Partner charges and also 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 expense are largely reported on an accrual basis. The primary difference between the revenue requirement budget basis to the financial reporting basis is the treatment of debt service, legacy pension obligations, and lease related activities. The Revenue Requirement Basis is foundational to GLWA's daily operations, financial plan, and of most interest to key stakeholders.

Table 1A – Water Revenue Requirement Budget and **Table 1B – Sewer Revenue Requirement Budget** presents a year-over-year budget to actual performance report. The revenue requirement budget is accounted for in the operations and maintenance fund for each system. Since this report is for May 2019, the pro-rata benchmark is 91.7% (11 of 12 months of the fiscal year).

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

1. **Revenues:** For *both* systems, FY 2019 revenues are either at or above target and are consistent with the prior year (FY 2018) at the same time. Detailed schedules related to revenues are provided in the *Wholesale Billings, Collections, and Receivables* section of this financial report binder.
2. **Investment Earnings:** For *both* systems, investment earnings are above target for FY 2019. 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. For example, in FY 2018 the variance reported for the *sewer* system was due, in large part, to fire remediation insurance proceeds received.

4. **Operations & Maintenance Expense:** Actual expenses¹ for *both* systems are less than the pro-rata benchmark; the *water* system is slightly under the pro-rata benchmark for FY 2019 at 85.7%, while the *sewer* system O&M expense is at 81.1%.
5. **Debt Service:** *Both* systems are on target with the pro-rata benchmark; the *water* system is at 91.6%, while the *sewer* system is at 92.2%. The activity is based on the payment schedules that have been adjusted for the State Revolving Fund loans that are still being drawn down. In October 2018, the GLWA had a successful bond sale which will provide a positive budget variance for *both* systems. The budget amendment for this transaction was recorded in January 2019.
6. **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 2018, the DWSD *sewer* shortfall through May 31, 2018, was \$25.4 million (the ending shortfall for FY 2018 was \$24.1 million). A plan for payment of this shortfall is in place with the outer boundary of payment terms being paid over three years plus interest at the three-year treasury rate plus 1.5% with payments beginning in July 2019. For FY 2019, while the DWSD *water* system has positive budgetary cash flow, through May 31, 2019, the DWSD *sewer* system budgetary shortfall is approximately \$1.3 million. It is anticipated that this shortfall will be cured by June 30, 2019 based upon discussion at the May 2019 Reconciliation Committee meeting and related discussions at the administration level. As of June 2019, DWSD has reduced its sewer system O&M transfers in May and June to assist in achieving that goal of positive, net cash flows for FY 2019. The transfers reduced were \$5,676,792 each for a total of \$11,353,584.
7. **Improvement & Extension (I&E) Fund Transfer Pending:** The contribution to the I&E Fund is for improvements, enlargements, extensions or betterment of the Water System. Transfers to the I&E Fund from net revenues typically occur later in the year or after year end close when final net revenue is validated.
8. **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.
9. **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 are 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 Requirement Budget (year-over-year) – (\$000)

	FY 2018 BOARD ADOPTED BUDGET	FY 2018 THRU 5/31/2018	Percent Year-to- Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 THRU 5/31/2019	Percent Year-to- Date
Water System							
Revenues							
Wholesale Customer Charges	\$ 310,020	\$ 290,542	93.7%	\$ 307,383	\$ 307,383	\$ 279,090	90.8%
Retail Services Agreement	15,131	13,870	91.7%	20,181	20,181	18,536	91.8%
Investment Earnings	2,969	3,987	134.3%	3,802	9,425	9,217	97.8%
Other Revenues	-	55	0.0%	34	-	21	0.0%
Total Revenues	\$ 328,119	\$ 308,454	94.0%	\$ 331,401	\$ 336,989	\$ 306,864	91.1%
Revenue Requirements							
Operations & Maintenance Expense	\$ 121,563	\$ 100,302	82.5%	\$ 121,563	\$ 121,563	\$ 104,184	85.7%
O&M Legacy Pension	6,048	5,544	91.7%	6,048	6,048	5,544	91.7%
Debt Service	135,464	124,223	91.7%	134,215	131,242	120,185	91.6%
Accelerated Legacy Pension	6,268	5,746	91.7%	6,268	6,268	5,746	91.7%
Extraordinary Repair & Replacement							
Deposit	646	592	91.7%	-	-	-	0.0%
Lease Payment	22,500	20,625	91.7%	22,500	22,500	20,625	91.7%
Operating Reserve Deposit	1,098	1,006	91.7%	-	-	-	0.0%
Water Residential Assistance Program	1,711	1,569	91.7%	1,673	1,673	1,534	91.7%
Improvement & Extension Fund							
Transfer Pending	32,821	30,086	91.7%	39,134	47,695	43,721	91.7%
Total Revenue Requirements	\$ 328,119	\$ 289,693	88.3%	\$ 331,401	\$ 336,989	\$ 301,538	89.5%
Net Difference		\$ 18,761				\$ 5,326	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 7,678				\$ (2,043)	
Revenue Requirement Variance		11,083				7,369	
Overall Variance		\$ 18,761				\$ 5,326	

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

	FY 2018 BOARD ADOPTED BUDGET	FY 2018 THRU 5/31/2018	Percent Year-to- Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 THRU 5/31/2019	Percent Year-to- Date
Sewer System							
Revenues							
Wholesale Customer Charges	\$ 267,034	\$ 248,812	93.2%	\$ 271,296	\$ 271,296	\$ 252,041	92.9%
Retail Services Agreement	178,969	164,055	91.7%	181,159	181,159	166,525	91.9%
Industrial Waste Control Charges	14,458	13,138	90.9%	15,006	15,001	8,346	55.6%
Pollutant Surcharges	5,099	5,502	107.9%	-	-	5,189	0.0%
Investment Earnings	2,751	4,065	147.8%	4,086	6,879	9,080	132.0%
Other Revenues	-	3,845	0.0%	480	-	440	0.0%
Total Revenues	\$ 468,311	\$ 439,418	93.8%	\$ 472,027	\$ 474,335	\$ 441,621	93.1%
Revenue Requirements							
Operations & Maintenance Expense	\$ 191,079	\$ 153,438	80.3%	\$ 191,079	\$ 191,079	\$ 154,923	81.1%
O&M Legacy Pension	10,824	9,922	91.7%	10,824	10,824	9,922	91.7%
Debt Service	207,616	186,694	89.9%	214,601	208,389	192,121	92.2%
Accelerated Legacy Pension	11,621	10,652	91.7%	11,621	11,621	10,652	91.7%
Extraordinary Repair & Replacement							
Deposit	814	746	91.7%	-	-	-	0.0%
Lease Payment	27,500	25,208	91.7%	27,500	27,500	25,208	91.7%
Operating Reserve Deposit	1,733	1,589	91.7%	-	-	-	0.0%
Water Residential Assistance Program	2,392	2,192	91.7%	2,374	2,374	2,176	91.7%
DWSD Budget Shortfall Pending	-	25,367	0.0%	-	-	1,260	0.0%
Improvement & Extension Fund							
Transfer Pending	14,733	13,505	91.7%	14,028	22,548	20,669	91.7%
Total Revenue Requirements	\$ 468,311	\$ 429,313	91.7%	\$ 472,027	\$ 474,335	\$ 416,932	87.9%
Net Difference		\$ 10,105				\$ 24,689	
<i>Recap of Net Positive Variance</i>							
Revenue Variance		\$ 10,133				\$ 6,813	
Revenue Requirement Variance		(28)				17,875	
Overall Variance		\$ 10,105				\$ 24,689	

Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of May 31, 2019, is 91.7% (eleven months). When comparing FY 2019 to FY 2018 in **Table 2 – Operations & Maintenance Budget – Major Budget Categories**, it appears spending has increased. This is true in some instances; however, the greater impact is that the Financial Reporting & Accounting Team has implemented a full accrual basis for interim financial statements during the latter half of FY 2018. This variance anomaly has decreased as we approach the final quarter of FY 2019.

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 2018 AMENDED BUDGET	FY 2018 ACTIVITY THRU 5/31/2018	Percent Year-to- Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 ACTIVITY THRU 5/31/2019	Percent Year-to- Date
Water	\$ 73,511	\$ 55,955	76.1%	\$ 66,596	\$ 66,596	\$ 63,122	94.8%
Sewer	124,106	102,080	82.3%	118,319	118,319	99,846	84.4%
Centralized	82,629	75,671	91.6%	99,045	99,045	75,552	76.3%
Administrative	32,305	22,893	70.9%	28,682	28,682	23,282	81.2%
Employee Benefits	-	(2,859)	0.0%	-	-	(2,695)	0.0%
Total O&M Budget	\$ 312,551	\$ 253,740	81.2%	\$ 312,642	\$ 312,642	\$ 259,107	82.9%

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 O&M expenses are at 82.9% which is reasonably within the pro-rata benchmark of 91.7%. This positive variance equates to a dollar amount of \$27.5 million. The expense category commentary is provided below for items highlighted on Table 3.

Personnel Costs: The overall category is slightly lower than the benchmark; coming in at 90.7% through May 2019.

Utilities: The overall category is lower than the benchmark; coming in at 86.5% through May 2019. In comparing FY 2019 to FY 2018 the expenses appear more in line with the budget in FY 2019. This is due in large part to the month-end closing process improvements implemented during the latter half of FY 2018.

Chemicals: This category is lower than the benchmark; coming in at 80.9% through May 2019. This variance is not unexpected as usage varies throughout the year. Staff is working on enhancements to future monthly financial and operational reports to correlate spending with operational metrics.

Supplies & Other: This category is lower than the benchmark; coming in at 85.8% through May 2019. Given that the nature of the items in this category are subject to one-time expenses that do not occur evenly throughout the year, this variance is not a concern at this time.

Contractual Services: The overall category is slightly lower than the benchmark; coming in at 85.0% through May 2019.

Capital Program Allocation: This category is higher than the benchmark; coming in at 99.4% through May 2019. In July 2018, GLWA launched a time keeping software (including an app), BigTime, to make it easier for team members to report their time spent on direct capital delivery.

Shared Services: This category is slightly lower than the benchmark; coming in at 89.1% through May 2019. 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. In December 2018, adjustments were made to both the billings and accounting accruals to bring them in line with the amended shared services budget.

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

Expense Categories	FY 2018 AMENDED	FY 2018 ACTIVITY	Percent Year-to- Date at	FY 2018 ACTIVITY	Percent Year-to- Date at	FY 2019 AMENDED	PRORATED AMENDED BUDGET (11 MONTHS)	FY 2019 ACTIVITY	Percent Year-to- Date	PRORATED BUDGET LESS FY 2019 ACTIVITY
Entity-wide	BUDGET	5/31/2018	5/31/2018	6/30/2018	6/30/2018	BUDGET		5/31/2019		
Salaries & Wages	\$ 57,114	\$ 49,806	87.2%	\$ 55,174	90.3%	\$ 62,935	\$ 57,690	\$ 54,660	86.9%	\$ 3,030
Workforce Development	662	548	82.9%	605	90.7%	723	663	691	95.5%	(28)
Overtime	6,517	5,661	86.9%	6,162	91.9%	7,199	6,599	6,981	97.0%	(381)
Employee Benefits	20,999	21,121	100.6%	20,432	103.4%	22,282	20,425	22,670	101.7%	(2,245)
Transition Services	13,865	11,321	81.6%	13,153	86.1%	6,568	6,021	8,103	123.4%	(2,082)
Personnel Transition										
Adjustment	(1,557)	-	0.0%	-	0.0%	-	-	-	0.0%	-
Employee Benefits Fund	-	(2,859)	0.0%	-	0.0%	-	-	(2,695)	0.0%	2,695
Personnel Costs	97,599	85,598	87.7%	95,526	89.6%	99,707	91,398	90,410	90.7%	988
Electric	42,324	36,864	87.1%	40,874	90.2%	39,801	36,484	35,907	90.2%	577
Gas	7,030	5,959	84.8%	6,612	90.1%	6,620	6,068	6,181	93.4%	(113)
Sewage Service	2,031	1,478	72.8%	1,716	86.2%	2,502	2,294	1,886	75.4%	408
Water Service	4,588	4,012	87.4%	4,493	89.3%	5,717	5,240	3,307	57.8%	1,933
Utilities	55,972	48,313	86.3%	53,694	90.0%	54,639	50,086	47,281	86.5%	2,805
Chemicals	13,341	11,639	87.2%	12,878	90.4%	14,765	13,534	11,949	80.9%	1,585
Supplies & Other	46,971	25,777	54.9%	34,950	73.8%	34,221	31,369	29,346	85.8%	2,023
Contractual Services	108,480	90,221	83.2%	99,877	90.3%	107,611	98,643	91,469	85.0%	7,174
Capital Program Allocation	(2,013)	(1,217)	60.4%	(1,683)	72.3%	(3,110)	(2,851)	(3,092)	99.4%	241
Shared Services	(10,110)	(6,591)	65.2%	(9,908)	66.5%	(9,272)	(8,499)	(8,256)	89.1%	(243)
Unallocated Reserve	2,311	-	0.0%	-	0.0%	14,081	12,908	-	0.0%	12,908
Total Expenses	\$ 312,551	\$ 253,740	81.2%	\$ 285,333	88.9%	\$ 312,642	\$ 286,589	\$ 259,107	82.9%	\$ 27,482

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 Bond Fund, and Capital Asset Fund*.

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 May 31, 2019
(\$000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2018
Assets				
Cash (a)	\$ 175,543	\$ 203,661	\$ 379,204	\$ 671,753
Investments (a)	421,057	333,880	754,937	343,235
Accounts Receivable	91,924	86,429	178,353	191,359
Due from Other Funds (b)	3,981	-	3,981	32,255
Other Assets (c)	610,131	465,453	1,075,584	985,888
Cash Held FBO DWSD Advance (d)	-	25,599	25,599	18,468
Capital Assets, net of Depreciation	1,681,234	2,456,463	4,137,697	4,402,212
Construction Work in Process (e)	184,580	221,747	406,327	288,052
Total assets	3,168,450	3,793,232	6,961,682	6,933,222
Deferred Outflows (f)	87,844	169,134	256,979	332,992
Liabilities				
Liabilities - Short-Term (g)	148,519	168,386	316,904	270,446
Due to Other Funds (b)	-	3,981	3,981	32,255
Other Liabilities (h)	2,772	6,246	9,019	8,638
Cash Held FBO DWSD	11,178	-	11,178	8,902
Liabilities - Long-Term (i)	3,099,802	3,847,605	6,947,407	6,998,296
Total liabilities	3,262,271	4,026,218	7,288,489	7,318,537
Deferred Inflows (f)	65,160	56,336	121,496	126,432
Total net position (j)	\$ (71,136)	\$ (120,188)	\$ (191,324)	\$ (178,755)

Totals may be off due to rounding

In general, the Statement of Net Position reflects a mature organization with no unexpected trends. Cash balances as of May 31, 2019 are lower when compared to June 30, 2018 (highlighted in gold on Table 1). This is because of the high liquidity needs for June 30, 2018 to meet annual debt and interest payments, legacy pension obligation payments, and annual operational requirements whereas more funds are being invested as of May 31, 2019.

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 2030 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* include restricted amounts and are reported at book value. Investments at June 30, 2018 are reported at market value.
- b. *Due from Other Funds* and *Due to Other Funds* is shown at the gross level 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 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 are only adjusted on an interim basis 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 as a result 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 May 2019 Financial Report Binder. Prior year ending balances are provided in the June 30, 2018 column as a reference for comparative purposes. Explanatory notes follow this statement.

**Table 2 – Statement of Revenues, Expenses and Changes in Net Position
– All Funds Combined
For the Eleven Months ended May 31, 2019
(\$000)**

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- type Activities	Comparative June 30, 2018
Revenue						
Wholesale customer charges	\$ 285,771	93.9%	\$ 252,041	58.3%	\$ 537,812	\$ 592,096
Local system charges	18,536	6.1%	166,525	38.5%	185,061	194,100
Industrial waste charges	-	0.0%	8,346	1.9%	8,346	14,335
Pollutant surcharges	-	0.0%	5,189	1.2%	5,189	6,908
Other revenues	21	0.0%	440	0.1%	461	4,455
Total Revenues	\$ 304,328	100%	\$ 432,540	100%	\$ 736,869	\$ 811,894
Operating expenses						
Operations and Maintenance	104,184	34.2%	154,923	35.8%	259,107	284,910
Depreciation	129,323	42.5%	155,405	35.9%	284,728	331,242
Total operating expenses	233,507	76.7%	310,328	71.7%	543,835	616,152
Operating income	70,821	23.3%	122,212	28.3%	193,033	195,742
Total Nonoperating (revenue) expense	81,522	26.8%	124,081	28.7%	205,603	271,662
Increase/(Decrease) in Net Position	(10,701)	-3.5%	(1,868)	-0.4%	(12,569)	(75,920)
Net position (deficit), beginning of year	<u>(60,435)</u>		<u>(118,319)</u>		<u>(178,755)</u>	<u>(102,835)</u>
Net position (deficit), end of year	\$ (71,136)		\$ (120,188)		\$ (191,324)	\$ (178,755)
<i>Totals may be off due to rounding</i>						

Water Fund

- ✓ The decrease in Water Fund Net Position is \$10.7 million.
- ✓ Wholesale water customer charges of \$285.7 million account for 93.9% of Water System revenues.
- ✓ Operating expenses of \$233.5 million represent 76.7% of total operating revenue. Depreciation is the largest operating expense at \$129.3 million or 55.4% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$70.8 million or 23.3% of operating revenue. This represents an increase of \$5.5 million over April 2019 year-to-date.
- ✓ The largest category within nonoperating activities is interest expense of \$104.3 million (this equates to the bonded debt interest less the offset from DWSD contractual obligation income).

Sewage Disposal Fund

- ✓ The decrease in the Sewage Disposal Fund Net Position is \$1.8 million.
- ✓ Wholesale customer charges of \$252.0 million account for 58.3% 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 \$166.5 million account for 38.5% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$310.3 million represent 71.7% of total operating revenue. Depreciation is the largest operating expense at \$155.4 million or 50.1% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$122.2 million or 28.3% of operating revenue. This represents an increase of \$10.9 million over April 2019 year-to-date.
- ✓ The largest category within nonoperating activities is interest expense of \$130.5 million (this equates to the bonded debt interest 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 April 2019 Financial Report Binder. Explanatory notes follow this schedule.

**Table 3 – Supplemental Schedule of Operations & Maintenance Expenses
– All Funds Combined
For the Eleven Months ended May 31, 2019
(\$000)**

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business- type Activities	Percent of Total
Operating expenses						
Personnel						
Salaries & Wages	21,939	21.1%	41,516	26.8%	63,454	24.5%
Overtime	3,937	3.8%	3,044	2.0%	6,981	2.7%
Benefits	11,371	10.9%	8,605	5.6%	19,976	7.7%
Total Personnel	\$ 37,247	35.8%	\$ 53,164	34.3%	\$ 90,411	34.9%
Utilities						
Electric	22,716	21.8%	13,191	8.5%	35,907	13.9%
Gas	1,196	1.1%	4,985	3.2%	6,181	2.4%
Sewage	625	0.6%	1,261	0.8%	1,886	0.7%
Water	1	0.0%	3,306	2.1%	3,307	1.3%
Total Utilities	\$ 24,539	23.6%	\$ 22,742	14.7%	\$ 47,281	18.2%
Chemicals	4,666	4.5%	7,284	4.7%	11,949	4.6%
Supplies and other	9,727	9.3%	19,618	12.7%	29,346	11.3%
Contractual services	37,734	36.2%	53,736	34.7%	91,469	35.3%
Capital program allocation	(1,867)	-1.8%	(1,225)	-0.8%	(3,092)	-1.2%
Shared services allocation	(7,862)	-7.5%	(395)	-0.3%	(8,257)	-3.2%
Operations and Maintenance Expenses	\$ 104,184	100.0%	\$ 154,923	100.0%	\$ 259,107	100.0%

Totals may be off due to rounding.

- ✓ Core expenses for water and sewage disposal systems are utilities (18.2% of total O&M expenses) and chemicals (4.6%).
- ✓ Personnel costs (34.9% 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 (35.3%) includes:
 - Water System costs of sludge removal and disposal services at the Northeast, Southwest and Springwells Water Treatment Plants (approximately \$10.0 million);
 - Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$14.2 million); and
 - Centralized and administrative contractual costs allocated to both systems for information technology, building maintenance, field, planning and other services.

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 Eleven Months ended May 31, 2019
(\$000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2018
Nonoperating (Revenue)/Expense				
Interest income contractual obligation	\$ (21,029)	\$ (16,045)	\$ (37,074)	\$ (38,857)
Interest income DWSD Shortfall	-	(962)	(962)	-
Investment earnings	(11,916)	(10,137)	(22,053)	(11,396)
Other nonoperating revenue	(346)	5,982	5,636	(430)
Interest expense				
Bonded debt	104,661	125,284	229,945	255,868
Lease obligation	16,204	19,805	36,009	39,702
Other obligations	4,530	1,459	5,989	4,825
Total interest expense	125,395	146,549	271,943	300,395
Other capital / non-capital expense	478	2,807	3,285	1,684
Capital Contribution	-	2,000	2,000	-
Amortization, issuance costs, debt	(9,605)	4,003	(5,603)	(8,684)
Amortization, raw water rights	3,269	-	3,269	2,081
(Gain) loss on disposal of capital assets	435	(521)	(87)	(2,463)
Loss on impairment of capital assets	-	-	-	654
Water Residential Assistance Program	855	1,169	2,024	3,756
Legacy pension expense	(6,014)	(10,764)	(16,778)	24,922
Total Nonoperating (Revenue)/Expense	\$ 81,522	\$ 124,081	\$ 205,603	\$ 271,662

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 and 2017 and is paid in accordance with the 2018 Memorandum of Understanding (MOU). The repayment of the shortfall will last for three years.
- ✓ Investment earnings in this report are reflected at book value and may therefore not agree with the Cash and Investment Income section of this Financial Report Binder and the Quarterly Debt Report which present balances at market value.

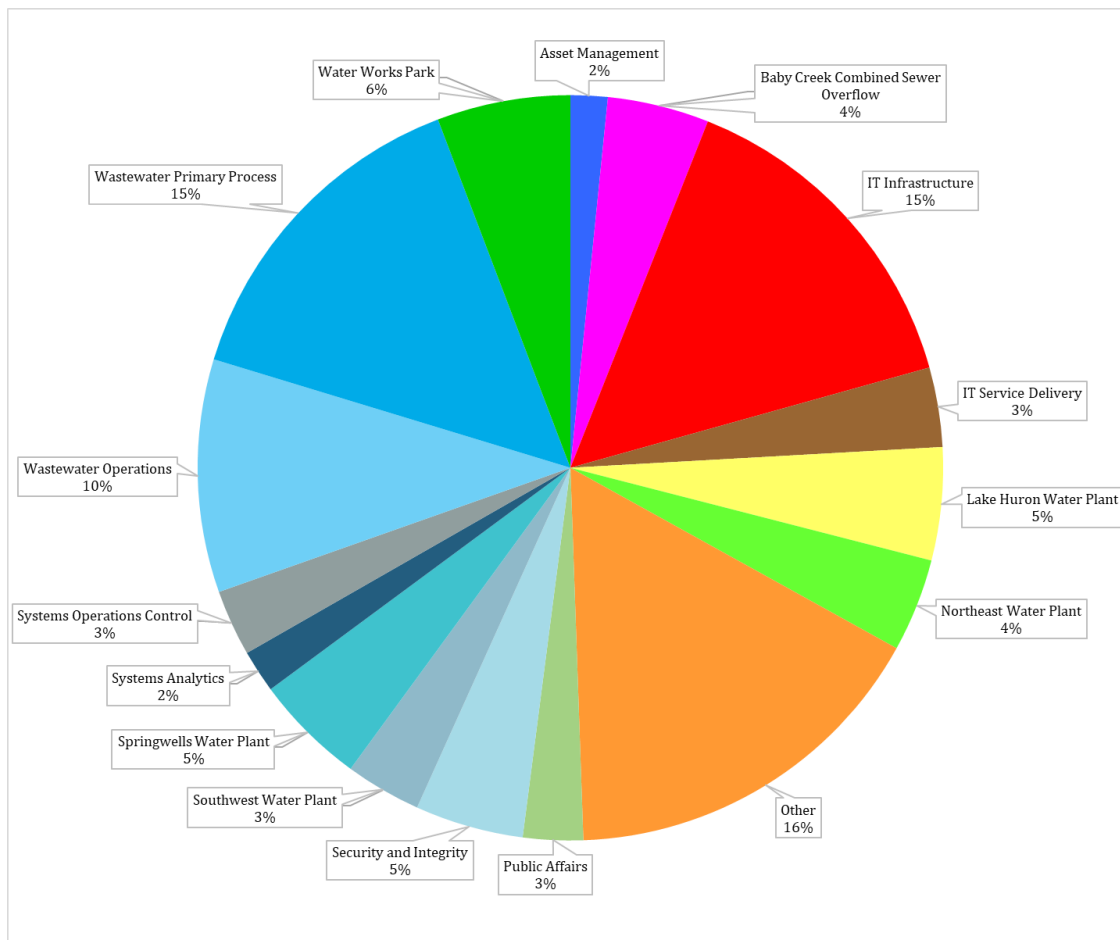
- ✓ Interest expense, the largest category of nonoperating expenses, is made up of three components:
 - Bonded debt;
 - Lease obligation for the regional assets from the City of Detroit; and
 - Other obligations such as an obligation payable to the City of Detroit for an allocation BC Notes related to assumed DWSD liabilities; acquisition of raw water rights related to the KWA Pipeline.
- ✓ Legacy Pension expense for FY 2019 is currently reflected as income due to changes in actuarial assumptions and rates from the June 30, 2018 City of Detroit General Retirement System Component II audited financial statement.
- ✓ Sewer Other Non-operating expense includes the 2018 MOU Item 8a from June 27, 2018 for a final bad debt lookback adjustment for DWSD of \$6.5 million.
- ✓ Sewer Capital Contribution represents activity for a redundant power line WRRF.

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 May 31, 2019, total capital outlay spend is \$16.6 million. Below is a sample list of projects and purchases from the total spend of \$16.6 million:



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

Water Operations: underground storage tanks, dispenser and management system (\$2.8m); filter upgrade at Water Works Park (\$165k) and dual channel permanent flowmeter (\$117k)

Wastewater Operations: pump pull-out assembly (\$988k); chiller replacement at Water Resource Recovery Facility (WRRF) (\$756k); underground storage tanks, dispenser and management system (\$640k); grit crane (\$563k); WRRF engineering offices design (\$223k); booster pump and expansion tank for Scum building (\$196k); boilers (\$146k); dump truck (\$125k) and screw conveyor (\$114k)

Information Technology: low voltage wiring (\$1.6m); software (\$454k) and Optiplex computers (\$98k)

Security: security infrastructure (\$690k)

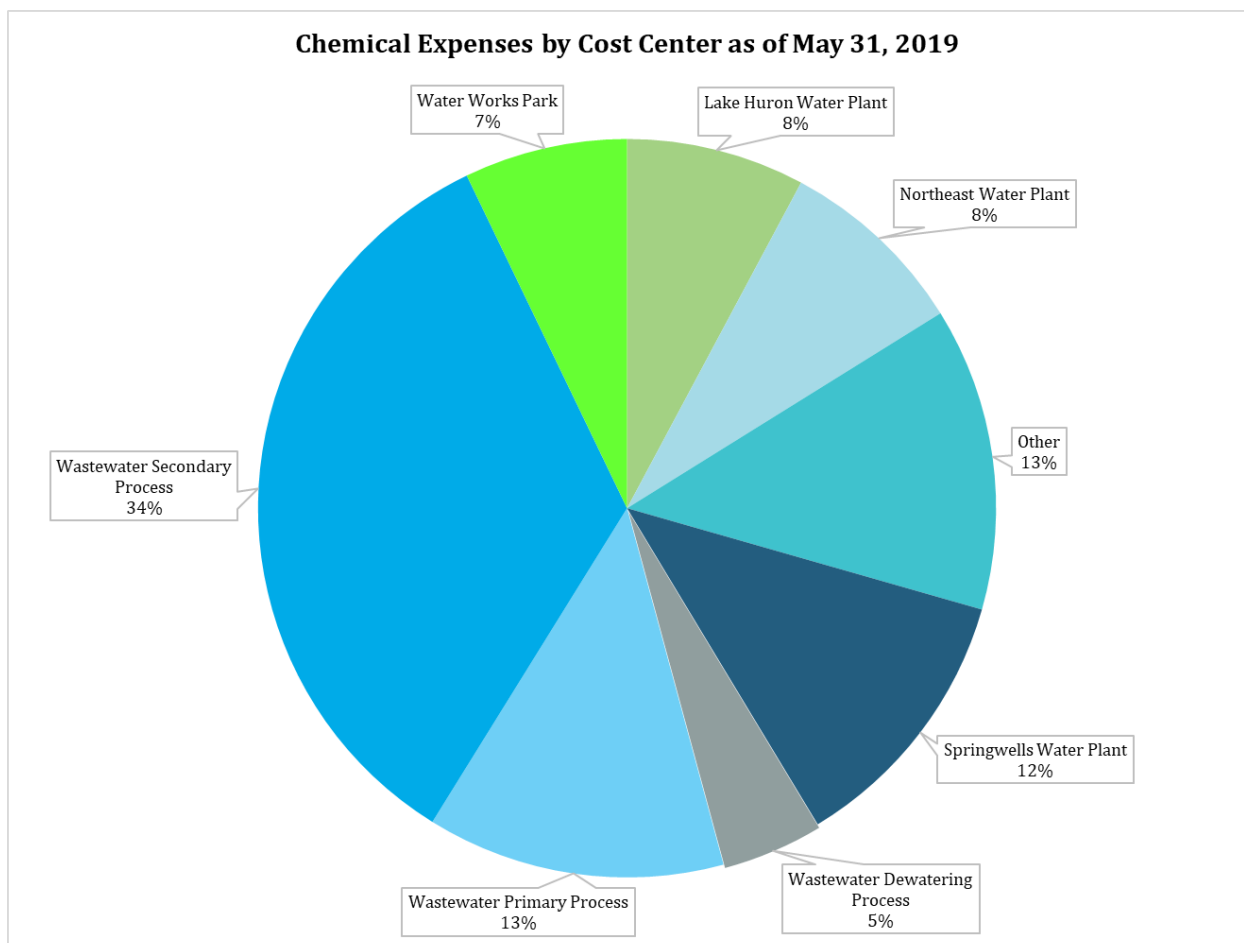
System Analytics: flow meters (\$193k)

CSO Facilities: channel meters (\$725k); chemical feed pump (\$178k); submersible sewage pump (\$144k); chopper pump (\$125k) and chemical induction unit (\$124k)

Centralized & Administrative Facilities: Public Affairs & 13th floor renovation and furniture (\$402k); WRRF Asset Management offices (\$258k); split case pump (\$137k); variable feed drives (\$113k) and VFD upgrade (\$96k)

Chart 2 – Chemical Spend – Water and Sewer System Combined

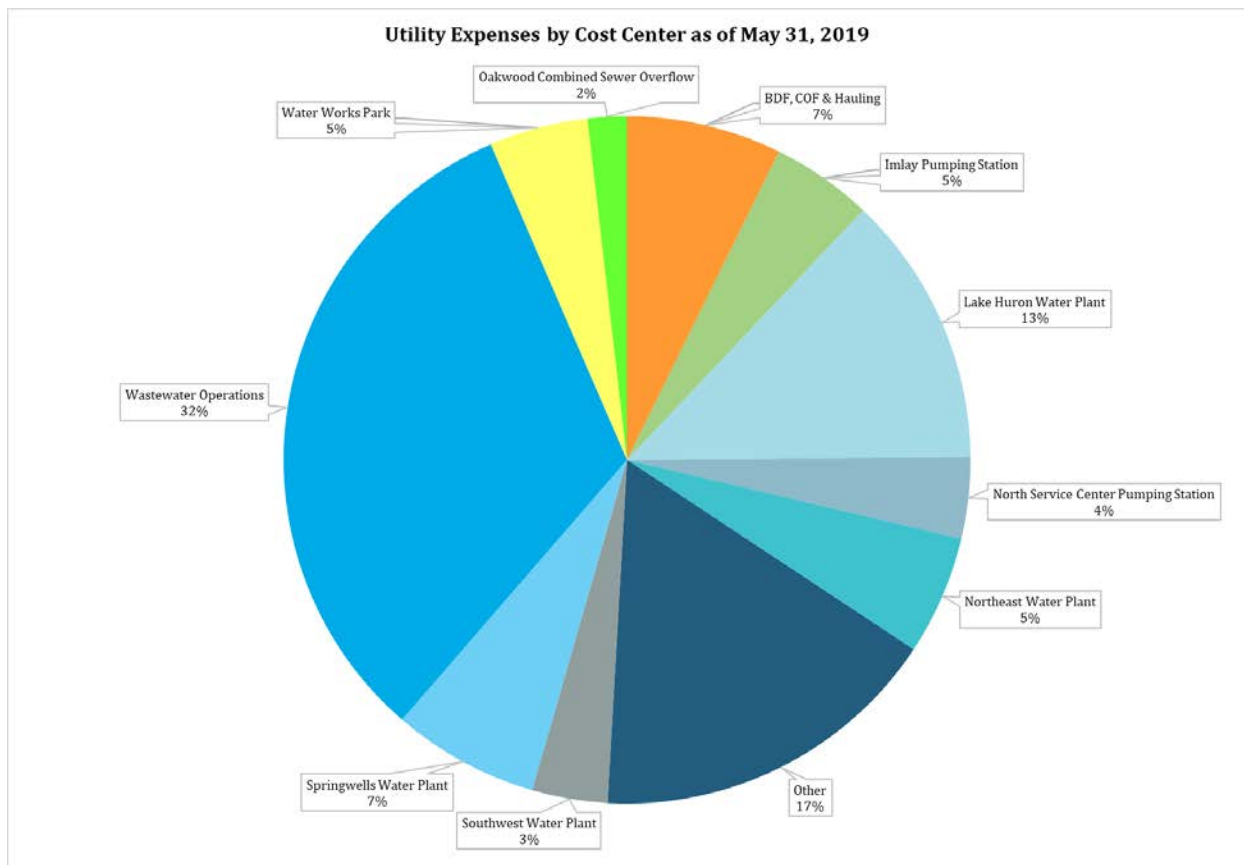
Chemical spend is \$11.9 million through May 31, 2019. The allocation is shown in the chart below.



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 Spend – Water and Sewer System Combined

Utility spend is \$47.2 million through May 31, 2019. The allocation is shown in the chart below.



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

Financial Operations KPI

This key performance indicator shown in Chart 1 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.

A new Super Receiving account was opened in May 2019. There were no other changes in accounts from April 2019.

Chart 1 – Bank Reconciliation Completion Status

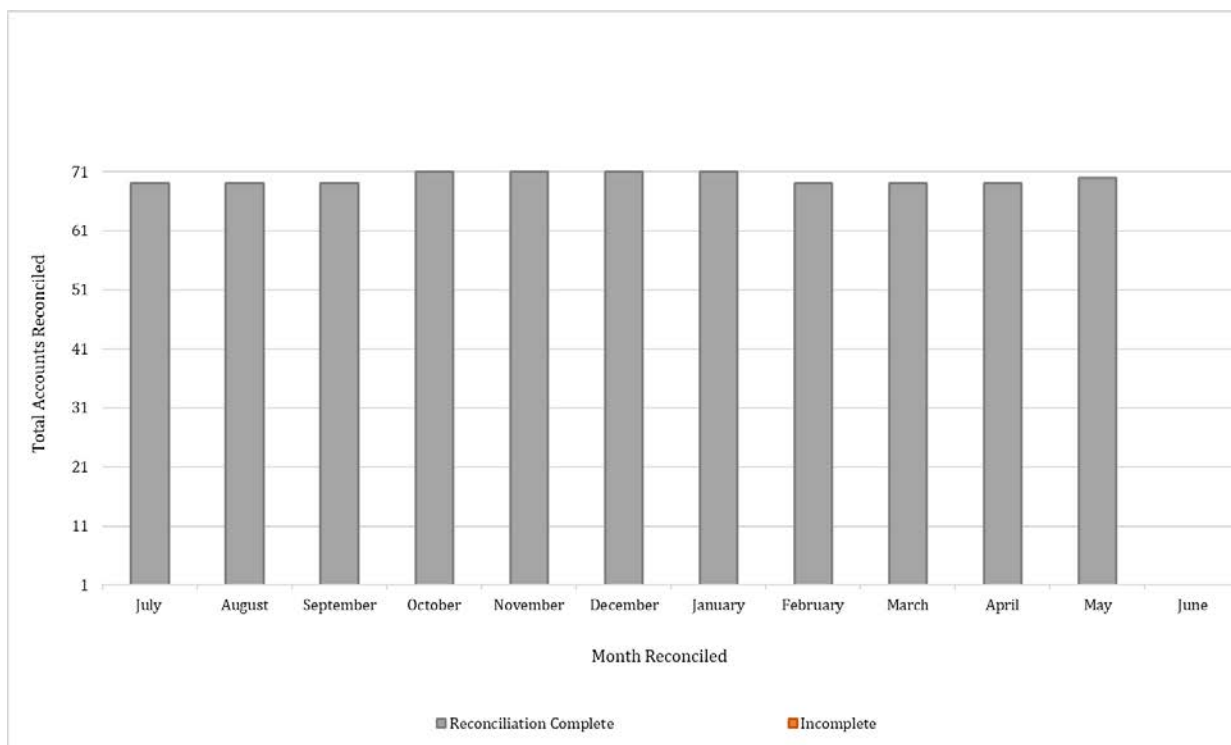


Table 1 – Fiscal Year 2019 Bank Account Rollforward

Total accounts as of July 1, 2018	70
Bank accounts opened	3
Bank accounts closed	(3)
Total accounts as of May 31, 2019	<u>70</u>

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 Revenue Requirement Basis” from the Budget to Actual Analysis (Table 1A and Table 1B) 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 Eleven Months Ended May 31, 2019

	Water	Sewer	Total
Net Revenue Requirement Budget Variance (a)	\$ 5,325	\$ 24,690	\$ 30,015
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (c)	10,487	18,769	29,256
Prior year pension contribution accounted for in current year (d)	6,014	10,764	16,778
Administrative prepaid adjustment (e)	-	-	-
Debt service (f)	36,553	82,882	119,435
Accelerated pension B&C notes obligation portion (g)	154	346	500
Lease payment (h)	4,421	5,403	9,824
WRAP (i)	679	1,007	1,686
DWSD short term allocation (j)	-	1,260	1,260
Improvement & Extension Fund (j)	43,721	20,669	64,390
Nonbudgeted financial reporting categories adjustments			
Depreciation (k)	(129,323)	(155,405)	(284,728)
Amortization (k)	6,336	(4,003)	2,333
Other nonoperating income (k)	346	(5,982)	(5,636)
Other nonoperating expense (k)	(478)	(4,807)	(5,285)
Gain(loss) on disposal of capital assets (k)	(435)	521	86
Raw water rights (l)	2,800	-	2,800
Investment earnings construction fund (m)	2,699	2,018	4,717
Net Position Increase/(Decrease) per Financial Statements (b)	\$ (10,701)	\$ (1,868)	\$ (12,569)

Table 2- Explanatory Notes for Crosswalk

- (a) Source: Budget to Actual Table 1A and Table 1B in Monthly Financial Binder
- (b) Source: Basic Financial Statements Table 2 in Monthly Financial Binder
- (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 is included as an expense for budget and includes both principal and interest payments. Most of the adjustment relates to the principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates 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 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 basis the Flint wholesale charges are recorded at 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.

The Monthly Construction Work in Progress (CWIP) Summary includes the following.

1. Water System Construction Work in Progress costs incurred to date
2. Sewer System Construction Work in Progress costs incurred to date

Construction Work in Progress

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 adopts a biennial budget that establishes allowable amounts for construction spending during that period to support a five-year capital improvement plan (CIP). The CIP is a five-year, rolling plan which is updated annually, reviewed, and formally adopted by the GLWA Board of Directors.

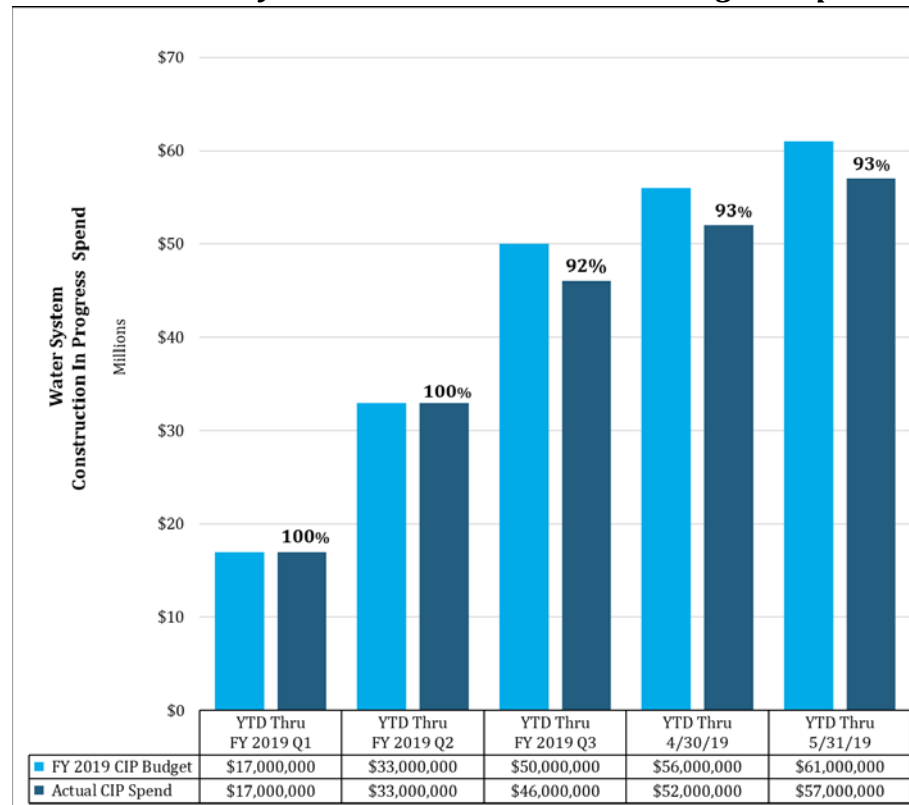
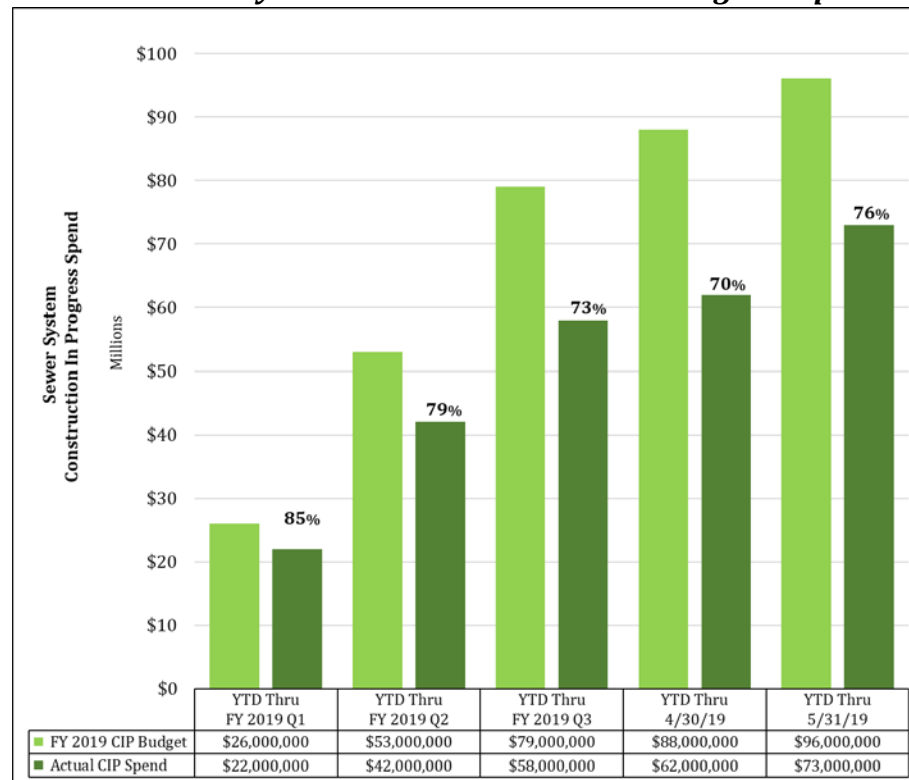
This report presents quarterly and monthly CWIP spending trends against a prorated spending plan. The prorated spending plan is calculated by dividing the total fiscal year 2019 board-approved CIP plan by twelve equal months. It should be noted that these interim reports are prepared on a modified cash basis. Known expenses, where material in nature, have been accrued.

Chart 1 – Water System Construction in Work in Progress Spend

As of May 2019, the Water system incurred nearly \$57 million of construction costs to date. This is 93% of the total fiscal year 2019 prorated, spending plan and continues a trend of on-target spend.

Chart 2 – Sewer System Construction in Work in Progress Spend

As of May 2019, the Sewer system incurred nearly \$73 million of construction costs to date. This is 76% of the total fiscal year 2019 prorated, spending plan and an increase over the prior period.

Chart 1 – Water System Construction Work in Progress Spend

Chart 2 – Sewer System Construction Work in Progress Spend


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. Transfers to the Extraordinary Repair & Replacement (ER&R) fund are completed annually based on budget and year-end fund status.

Table 1 – GLWA FY 2019 Water MBO Transfers reflects the required transfers for FY 2019 completed through May 1, 2019. The December O&M transfer amount is less than the other months due to correction to bring fiscal year to date transfers to the approved FY 2019 year to date budget. In May 2019, a budget adjustment resulted in a slight increase for the WRAP transfer in May and June 2019. For FY 2019, through May 1, 2019, MBO transfers for Water totaling \$128.6 million have been transferred to accounts held by GLWA.

Table 2 – GLWA FY 2019 Sewer MBO Transfers reflects the required transfers for FY 2019 completed through May 1, 2019. The December O&M transfer amount is less than the other months due to correction to bring fiscal year to date transfers to the approved FY 2019 year to date budget. In May 2019, a budget adjustment resulted in a slight increase for the WRAP transfer in May and June 2019. For FY 2019, through May 1, 2019, MBO transfers for Water totaling \$201.0 million have been transferred to accounts held by GLWA.

Table 3 – GLWA MBO Transfer History reflects historical transfers for FY 2016, FY 2017, FY 2018 and FY 2019 to date.

Table 1 – GLWA FY 2019 Water MBO Transfers

WATER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization (For Benefit of DWSO)	Extraordinary Repair & Replacement (ER&R)	Total Water
FY 2019							
July 2018	10,393,475	504,000	891,308	171,683	-	-	11,960,466
August 2018	10,393,475	504,000	891,308	171,683	-	-	11,960,466
September 2018	10,393,475	504,000	891,308	171,683	-	-	11,960,466
October 2018	10,393,475	504,000	891,308	171,683	-	-	11,960,466
November 2018	10,393,475	504,000	891,308	171,683	-	-	11,960,466
December 2018	8,813,927	504,000	891,308	171,683	-	-	10,380,918
January 2019	10,130,217	504,000	891,308	171,683	-	-	11,697,208
February 2019	10,130,217	504,000	891,308	171,683	-	-	11,697,208
March 2019	10,130,217	504,000	891,308	171,683	-	-	11,697,208
April 2019	10,130,217	504,000	891,308	171,683	-	-	11,697,208
May 2019	10,130,217	504,000	891,308	172,085	-	-	11,697,610
Total FY 2019	111,432,387	5,544,000	9,804,388	1,888,915	\$0	\$0	128,669,690

Table 2 – GLWA FY 2019 Sewer MBO Transfers

SEWER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization (For Benefit of DWSO)	Extraordinary Repair & Replacement (ER&R)	Total Water
FY 2019							
July 2018	16,093,500	902,000	1,223,958	238,483	-	-	18,457,941
August 2018	16,093,500	902,000	1,223,958	238,483	-	-	18,457,941
September 2018	16,093,500	902,000	1,223,958	238,483	-	-	18,457,941
October 2018	16,093,500	902,000	1,223,958	238,483	-	-	18,457,941
November 2018	16,093,500	902,000	1,223,958	238,483	-	-	18,457,941
December 2018	15,072,198	902,000	1,223,958	238,483	-	-	17,436,639
January 2019	15,923,283	902,000	1,223,958	238,483	-	-	18,287,724
February 2019	15,923,283	902,000	1,223,958	238,483	-	-	18,287,724
March 2019	15,923,283	902,000	1,223,958	238,483	-	-	18,287,724
April 2019	15,923,283	902,000	1,223,958	238,483	-	-	18,287,724
May 2019	15,923,283	902,000	1,223,958	243,081	-	-	18,292,322
Total FY 2019	175,156,113	\$9,922,000	13,463,538	2,627,911	\$0	\$0	201,169,562

Table 3 – 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 DWSO)	Extraordinary Repair & Replacement (ER&R)	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 (11 months)	111,432,387	5,544,000	9,804,388	1,888,915	-	-	128,669,690
Life to Date	\$415,926,591	\$23,666,300	\$41,094,484	\$8,108,815	\$2,686,900	\$606,000	\$492,089,090

SEWER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization (For Benefit of DWSO)	Extraordinary Repair & Replacement (ER&R)	Total Water
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 (11 months)	175,156,113	9,922,000	13,463,538	2,627,911	-	-	201,169,562
Life to Date	\$642,959,909	\$42,422,800	\$56,203,634	\$10,566,515	\$8,246,100	\$779,600	\$761,178,558

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 2019 Water MBO Transfers reflects the required transfers for FY 2019 completed through May 1, 2019. MBO transfers for Water totaling \$53.4 million have been transferred to accounts held by DWSD. For FY 2019, DWSD has requested \$3,972,200 of the lease payment be utilized to offset a portion of debt service. (Note: the original FY 2019 request was for \$3,949,200; the net impact of the revision in the requested amount is reflected in the March - June 2019 transfers.)

Table 5 – DWSD FY 2019 Sewer MBO Transfers reflects the required transfers for FY 2019 completed through May 1, 2019. MBO transfers for Sewer totaling \$80.0 million have been transferred to accounts held by DWSD. For FY 2019, DWSD has requested \$4,415,000 of the lease payment be utilized to offset a portion of debt service. (Note: the original FY 2019 request was for \$4,864,000; the net impact of the revision in the requested amount is reflected in the March - June 2019 transfers.)

Table 6 – DWSD MBO and Lease Payment Transfer History reflects historical transfers for FY 2016, FY 2017, FY 2018 and FY 2019 to date.

Table 4 – DWSD FY 2019 Water MBO Transfers

	WATER			
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Water</u>
FY 2019				
July 2018	\$ 2,957,025	\$ 356,000	\$ 1,545,900	\$ 4,858,925
August 2018	2,957,025	356,000	1,545,900	4,858,925
September 2018	2,957,025	356,000	1,545,900	4,858,925
October 2018	2,957,025	356,000	1,545,900	4,858,925
November 2018	2,957,025	356,000	1,545,900	4,858,925
December 2018	2,957,025	356,000	1,545,900	4,858,925
January 2019	2,957,025	356,000	1,545,900	4,858,925
February 2019	2,957,025	356,000	1,545,900	4,858,925
March 2019	2,957,025	356,000	1,594,200	4,907,225
April 2019	2,957,025	356,000	1,594,200	4,907,225
May 2019	2,957,025	356,000	1,486,100	4,799,125
Total FY 2019	\$ 32,527,275	\$ 3,916,000	\$ 17,041,700	\$ 53,484,975

Table 5 – DWSD FY 2019 Sewer MBO Transfers

	SEWER			
	<u>Operations & Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Sewer</u>
FY 2019				
July 2018	\$ 5,676,792	\$ 238,000	\$ 1,886,333	\$ 7,801,125
August 2018	5,676,792	238,000	1,886,333	7,801,125
September 2018	5,676,792	238,000	1,886,333	7,801,125
October 2018	5,676,792	238,000	1,886,333	7,801,125
November 2018	5,676,792	238,000	1,886,333	7,801,125
December 2018	5,676,792	238,000	1,886,333	7,801,125
January 2019	5,676,792	238,000	1,886,333	7,801,125
February 2019	5,676,792	238,000	1,886,333	7,801,125
March 2019	5,676,792	238,000	1,538,734	7,453,526
April 2019	5,676,792	238,000	1,538,734	7,453,526
May 2019	-	238,000	2,458,434	2,696,434
Total FY 2019	\$ 56,767,920	\$ 2,618,000	\$ 20,626,566	\$ 80,012,486

Table 6 – DWSD MBO and Lease Payment Transfer History

Transfers to DWSD				
WATER				
	<u>Operations & Maintenance</u>	<u>Operations & Maintenance Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Water</u>
FY 2016 (1)				
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 (11 months)				
MBO/Lease Requirement	32,527,275	3,916,000	20,625,000	57,068,275
Offset to Debt Service	-	-	(3,583,300)	(3,583,300)
Net MBO Transfer	32,527,275	3,916,000	17,041,700	53,484,975
Life-to-Date				
MBO/Lease Requirement	127,368,979	16,713,100	88,125,000	232,207,079
Offset to Debt Service	-	-	(7,785,200)	(7,785,200)
Total Water	\$ 127,368,979	\$ 16,713,100	\$ 80,339,800	\$ 224,421,879
SEWER				
	<u>Operations & Maintenance</u>	<u>Operations & Maintenance Pension</u>	<u>Lease Payment (I&E Fund)</u>	<u>Total Sewer</u>
FY 2016 (1)				
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 (11 months)				
MBO/Lease Requirement	56,767,920	2,618,000	25,208,333	84,594,253
Offset to Debt Service	-	-	(4,581,767) ⁽²⁾	(4,581,767)
Total MBO Transfer	56,767,920	2,618,000	20,626,566	80,012,486
Life-to-Date				
MBO/Lease Requirement	178,595,812	11,197,800	107,708,333	297,501,945
Offset to Debt Service	-	-	(33,739,931)	(33,739,931)
Total Sewer	\$ 178,595,812	\$ 11,197,800	\$ 73,968,402	\$ 263,762,014

(1) FY 2016 lease transfer amounts shown do not include prepayment on the lease amount for the 6 month period before bifurcation.

(2) June 2019 transfer adjusts the total to FY 2019 DWSD requested offset of \$ 4,415,000.

This report includes the following:

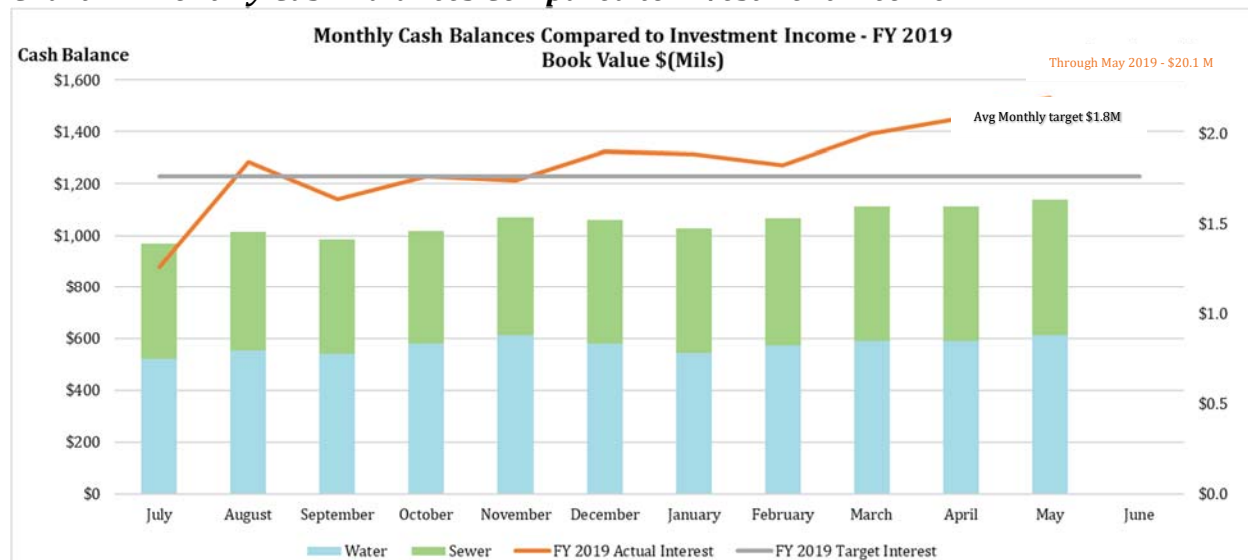
1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

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. The cumulative investment earnings through May 2019 of \$20.1 million is 95% of the FY 2019 target of \$21.2 million. Even given current market conditions, GLWA expects to meet the FY 2019 target.

Chart 1 – Monthly Cash Balances Compared to Investment Income



\$(Mils)	July	August	September	October	November	December	January	February	March	April	May	June
Water	\$521	\$553	\$539	\$579	\$611	\$579	\$544	\$573	\$590	\$590	\$612	
Sewer	\$447	\$462	\$445	\$440	\$459	\$481	\$484	\$495	\$524	\$524	\$528	
Total	\$968	\$1,015	\$984	\$1,018	\$1,071	\$1,060	\$1,028	\$1,068	\$1,114	\$1,114	\$1,140	
Investment Income	\$1.3	\$1.8	\$1.6	\$1.8	\$1.7	\$1.9	\$1.9	\$1.8	\$2.0	\$2.1	\$2.2	

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

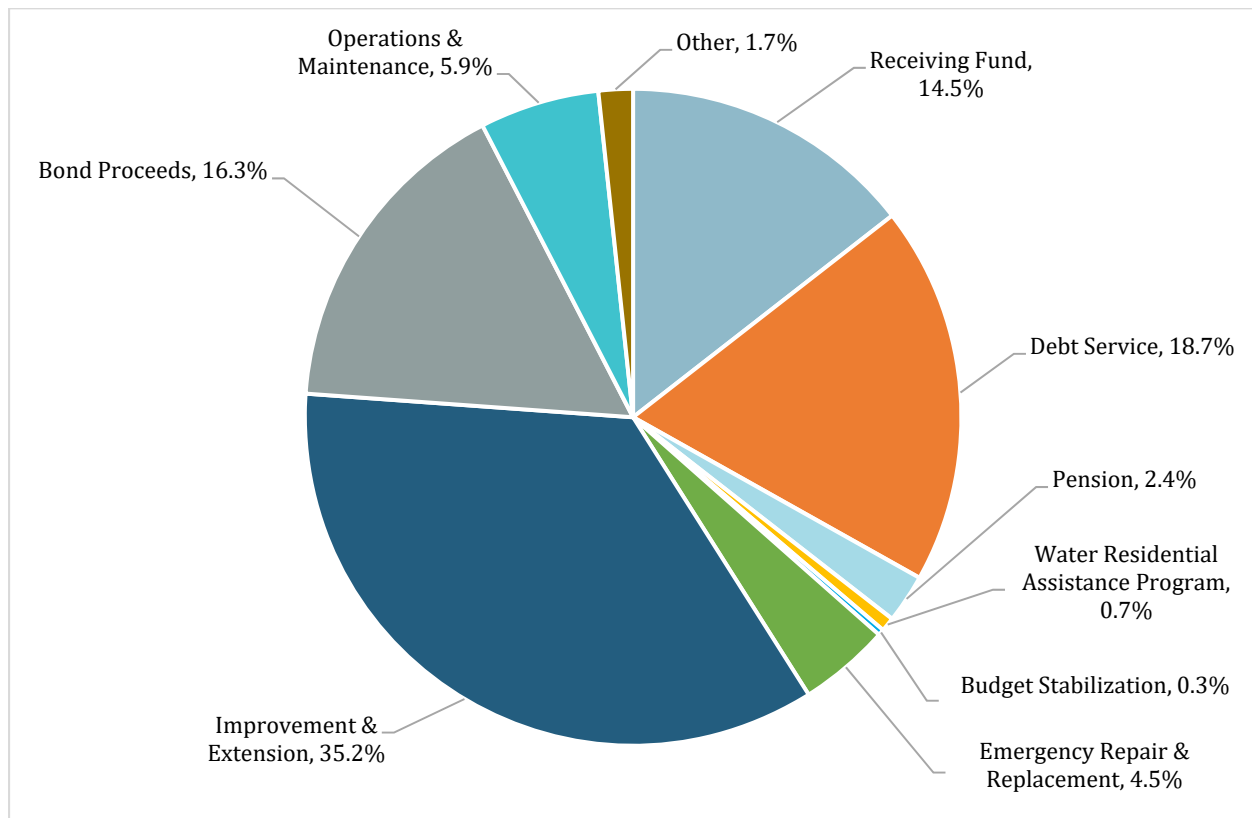
Funds Held Outside Trust:

- 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 - Shows the allocation of the balance among the different categories defined in the section above. The total cash balance for Water Funds as of May 31, 2019 is \$612 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. In June 2019, GLWA transferred \$47.7 million through the flow of funds to I&E.

Chart 2 – Cash Balances - Water Funds

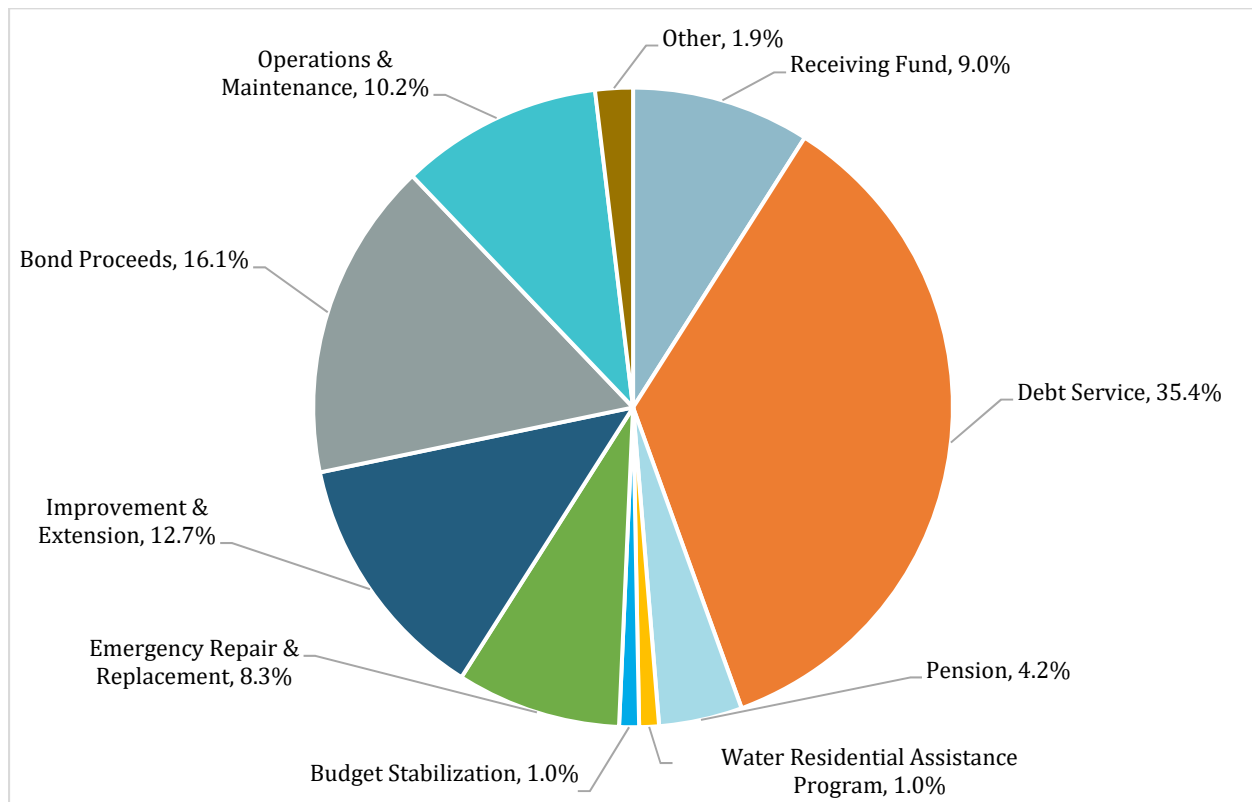


Note: Due to rounding totals may not equal 100%.

Chart 3 – Cash Balances - Sewer Funds - Shows the allocation of the balance among the different funds defined in the section above. The total cash balance for Sewer Funds as of May 31, 2019 is \$528 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. The pace for Sewer Funds I&E deposits has been less than budget to address a budget shortfall over multiple years by DWSD. Beginning in February 2019, DWSD began making payments which will replenish the I&E Fund. In June 2019, GLWA transferred \$22.5 million through the flow of funds to I&E.

Chart 3 – Cash Balances - Sewer Funds



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 2019 water usage and billed revenue which are provided by DWSD staff. As of May 31, 2019, the DWSD usage was at 99.96% of the budget and billed revenue was at 101.57% 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 Billings

RETAIL WATER CUSTOMERS								
Month (1)	FY 2019 - Budget/Goal			FY 2019 - Actual			FY 2019 - Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue (2)	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	269,000	9,424,500	35.04	300,613	10,203,409	33.94	31,613	778,909
August	273,100	9,377,700	34.34	302,476	9,833,149	32.51	29,376	455,449
September	270,500	8,494,300	31.40	221,531	8,996,692	40.61	(48,969)	502,392
October	233,800	8,165,900	34.93	215,104	8,010,524	37.24	(18,696)	(155,376)
November	224,500	7,750,100	34.52	232,770	8,325,013	35.76	8,270	574,913
December	206,500	8,224,900	39.83	202,686	7,659,930	37.79	(3,814)	(564,970)
January	226,600	7,978,800	35.21	227,697	8,250,078	36.23	1,097	271,278
February	216,400	7,980,200	36.88	232,094	8,649,072	37.27	15,694	668,872
March	213,300	8,163,900	38.27	218,435	8,165,904	37.38	5,135	2,004
April	223,100	7,856,900	35.22	208,812	8,014,291	38.38	(14,288)	157,391
May	211,000	9,109,200	43.17	204,605	7,867,637	38.45	(6,395)	(1,241,563)
June	240,200	9,063,600	37.73					
Total	2,808,000	101,590,000	36.18	2,566,823	93,975,699	36.61	(977)	1,449,299
<i>Subtotals ytd</i>	<i>2,567,800</i>	<i>92,526,400</i>	<i>36.03</i>	<i>2,566,823</i>	<i>93,975,699</i>	<i>36.61</i>	<i>(977)</i>	<i>1,449,299</i>
<i>Achievement of Budget</i>				<i>99.96%</i>	<i>101.57%</i>			

(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
June	7,940,939	7,141,568	799,371	11.19%
July	7,375,402	8,357,505	(982,103)	-11.75%
August	8,692,784	9,509,488	(816,704)	-8.59%
September	9,766,449	8,949,906	816,543	9.12%
October	9,015,400	9,528,528	(513,128)	-5.39%
November	7,938,517	8,049,328	(110,811)	-1.38%
December	7,297,698	8,265,636	(967,938)	-11.71%
January	8,158,817	8,066,448	92,369	1.15%
February	7,927,299	6,432,245	1,495,054	23.24%
March	8,707,578	8,280,635	426,943	5.16%
April	8,475,657	9,226,675	(751,018)	-8.14%
May	8,415,767	8,969,019	(553,252)	-6.17%
Rolling, 12-Month Total	99,712,307	100,776,981		
Rolling, 12-Month Average	8,309,359	8,398,082		

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 2019 sewer billed revenue which are provided by DWSD staff. As of May 31, 2019, the DWSD usage was at 104.30% of the budget and billed revenue was at 97.66% 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 2019 - Budget/Goal		FY 2019 - Actual		FY 2019 - Variance	
	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	242,100	27,423,400	273,862	27,711,606	31,762	288,206
August	244,200	27,232,200	262,525	27,263,163	18,325	30,963
September	239,600	25,367,500	221,660	25,413,790	(17,940)	46,290
October	211,000	25,177,200	205,267	24,092,209	(5,733)	(1,084,991)
November	197,600	23,861,000	205,806	24,176,849	8,206	315,849
December	182,400	25,293,500	193,791	23,787,394	11,391	(1,506,106)
January	198,600	24,852,800	201,171	24,269,509	2,571	(583,291)
February	191,600	25,329,400	220,021	25,455,499	28,421	126,099
March	191,000	25,474,500	205,424	24,510,043	14,424	(964,457)
April	197,300	24,789,700	193,725	23,743,871	(3,575)	(1,045,829)
May	187,300	26,205,200	197,705	24,005,701	10,405	(2,199,499)
June	210,300	26,730,700				
Total	2,493,000	307,737,100	2,380,957	274,429,634	98,257	(6,576,766)
Subtotals ytd	2,282,700	281,006,400	2,380,957	274,429,634	98,257	(6,576,766)
Achievement of Budget/Goal			104.30%	97.66%		

(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
June	27,591,834	18,005,548	9,586,286	53.24%
July	21,461,926	18,582,964	2,878,962	15.49%
August	21,746,714	24,263,141	(2,516,427)	-10.37%
September	23,727,505	21,320,358	2,407,147	11.29%
October	23,938,933	23,786,903	152,030	0.64%
November	20,624,039	19,485,270	1,138,769	5.84%
December	19,612,154	19,522,952	89,203	0.46%
January	21,140,835	18,308,458	2,832,377	15.47%
February	20,758,852	17,495,563	3,263,289	18.65%
March	22,111,691	23,015,525	(903,834)	-3.93%
April	20,930,511	16,159,844	4,770,667	29.52%
May	22,807,283	18,341,298	4,465,985	24.35%
Rolling 12-Month Total	266,452,277	238,287,823		
Rolling, 12-Month Average	22,204,356	19,857,319		

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 total, current and non-current Water and Sewer receivables by category as of May 31, 2019 with comparative totals as of May 31, 2018. While the balances appear to have increased over the past year a bad debt allowance of \$112 million has already been recognized by DWSD and allows the past due balances to remain on account with the potential to collect (and reverse a portion of the bad debt expense previously recognized).

Table 5 – DWSD Retail Accounts Receivable Aging Report – Water & Sewer Combined

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Accounts Receivable Balance
Residential	287,282	\$ 347.94	\$ 13,422,000 13.4%	\$ 7,294,000 7.3%	\$ 19,483,000 19.5%	\$ 59,758,000 59.8%	\$ 99,957,000 100.0%
Commercial	28,195	1,254.72	8,192,000 23.2%	2,596,000 7.3%	6,775,000 19.2%	17,813,000 50.4%	35,377,000 100.0%
Industrial	4,805	3,331.96	4,095,000 25.6%	1,438,000 9.0%	2,713,000 16.9%	7,764,000 48.5%	16,010,000 100.0%
Tax Exempt Entities	8,172	1,846.99	1,989,000 13.2%	1,476,000 9.8%	3,110,000 20.6%	8,519,000 56.4%	15,094,000 100.0%
Government Entities	2,812	1,373.99	976,000 25.3%	207,000 5.4%	847,000 21.9%	1,833,000 47.5%	3,864,000 100.0%
Subtotal - Active Accounts	331,266	\$ 514.09	\$ 28,674,000 16.8%	\$ 13,011,000 7.6%	\$ 32,928,000 19.3%	\$ 95,687,000 56.2%	\$ 170,301,000 100.0%
Inactive Accounts	262,013	82.64	181,000 0.8%	195,000 0.9%	1,194,000 5.5%	20,083,000 92.8%	21,652,000 100.0%
Total	593,279	\$ 323.55	\$ 28,854,000	\$ 13,206,000	\$ 34,122,000	\$ 115,771,000	\$ 191,953,000
% of Total A/R			15.0%	6.9%	17.8%	60.3%	100.0%
Water Fund	224,090	183.56	\$ 6,807,000	\$ 2,562,000	\$ 5,963,000	\$ 25,802,000	\$ 41,134,000
Sewer Fund	284,106	530.86	\$ 22,047,000	\$ 10,644,000	\$ 28,159,000	\$ 89,969,000	\$ 150,820,000
May 31, 2019 Totals (a)	593,279	323.55	\$ 28,854,000	\$ 13,206,000	\$ 34,122,000	\$ 115,771,000	\$ 191,953,000
Water Fund- Allowance							\$ (26,255,000)
Sewer Fund- Allowance							\$ (86,120,000)
Allowance for Doubtful Accounts Total							\$ (112,375,000)
May 31, 2018 Comparative Totals (b)	574,678	253.09	\$ 26,907,000	\$ 8,051,000	\$ 30,722,000	\$ 79,765,000	\$ 145,444,000
Difference (a) - (b)	18,601	70.46	\$ 1,948,000	\$ 5,155,000	\$ 3,400,000	\$ 36,005,000	\$ 46,509,000

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	80
Emergency	1
Older Contracts	6
Total	<u>87</u>

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 2019 water billed usage and revenues. As of May 31, 2019, the billed usage was at 100.54% of budget and billed revenue at 102.64% of budget. Billings and usage from the City of Flint are included as they were assumed in the FY 2019 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. The difference in rolling average from current year to prior year reflects the gentle downward trend in water usage over time. The variability in collections month-to-month are associated with timing of the billing cycle. While at times unavoidable, the GLWA billing team is identifying steps to prevent delays wherever possible.

Table 1 – FY 2019 Wholesale Water Billings Report

WHOLESALE WATER CUSTOMERS								
Month (1)	FY 2019 - Budget/Goal			FY 2019 - Actual			FY 2019 - Variance	
	Volume	Revenue	Unit	Volume	Revenue	Unit	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	1,632,120	30,347,500	18.59	1,800,256	32,754,760	18.19	168,136	2,407,260
August	1,518,130	29,405,800	19.37	1,490,896	29,776,242	19.97	(27,234)	370,442
September	1,354,440	27,424,800	20.25	1,380,514	28,039,719	20.31	26,074	614,919
October	1,091,580	24,826,000	22.74	1,027,086	24,866,975	24.21	(64,494)	40,975
November	912,260	23,273,500	25.51	938,511	24,145,548	25.73	26,251	872,048
December	1,002,110	23,912,600	23.86	997,281	24,545,455	24.61	(4,829)	632,855
January	1,019,240	24,133,400	23.68	1,001,885	24,622,107	24.58	(17,355)	488,707
February	885,170	23,021,600	26.01	927,982	23,986,734	25.85	42,812	965,134
March	1,000,060	23,933,100	23.93	1,027,131	24,778,252	24.12	27,071	845,152
April	952,450	23,568,200	24.74	950,790	24,166,134	25.42	(1,660)	597,934
May	1,116,620	25,296,500	22.65	1,009,027	24,831,887	24.61	(107,593)	(464,613)
June	1,557,060	29,624,900	19.03					
Total	14,041,240	308,767,900	21.99	12,551,358	286,513,813	22.83	67,178	7,370,813
Subtotals ytd	12,484,180	279,143,000	22.36	12,551,358	286,513,813	22.83	67,178	7,370,813
Achievement of Budget				100.54%	102.64%			

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

Table 2 - Wholesale Water Collections

Water				
Month	Current Year	Prior Year	Variance	Ratio
June	21,815,013	24,337,730	(2,522,716)	-10.37%
July	21,923,590	28,138,726	(6,215,136)	-22.09%
August	31,920,586	25,280,453	6,640,133	26.27%
September	26,037,313	26,757,992	(720,679)	-2.69%
October	27,827,722	38,336,777	(10,509,055)	-27.41%
November	29,238,260	27,261,391	1,976,869	7.25%
December	27,720,646	22,125,972	5,594,674	25.29%
January	23,430,974	32,002,334	(8,571,360)	-26.78%
February	26,147,082	21,352,903	4,794,179	22.45%
March	24,967,335	27,715,696	(2,748,361)	-9.92%
April	23,045,654	18,489,754	4,555,900	24.64%
May	20,755,103	30,447,581	(9,692,478)	-31.83%
Rolling 12-Month Total	304,829,278	322,247,309		
Rolling, 12-Month Average	25,402,440	26,853,942		

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 2019 sewer billed revenue. Consistent with expectations as a result of sewer rate simplification, billed revenue is at 100.00% of budget through May 31, 2019.

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 year-over-year rolling average from FY 2018 to FY 2019 remains consistent.

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. Table 6 confirms that most of the sewer past due balances relate to Highland Park, although there is one \$13.0 million past due payment this period from Oakland County that was fully addressed in June 2019.

Table 3 – FY 2019 Wholesale Sewer Billings Report

WHOLESALE SEWER CUSTOMERS						
Month (1)	FY 2019 - Budget/Goal		FY 2019 - Actual		FY 2019 - Variance	
	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	N/A	22,912,800	N/A	22,912,800	N/A	-
August	N/A	22,912,800	N/A	22,912,800	N/A	-
September	N/A	22,912,800	N/A	22,912,800	N/A	-
October	N/A	22,912,800	N/A	22,912,800	N/A	-
November	N/A	22,912,800	N/A	22,912,800	N/A	-
December	N/A	22,912,800	N/A	22,912,800	N/A	-
January	N/A	22,912,800	N/A	22,912,800	N/A	-
February	N/A	22,912,800	N/A	22,912,800	N/A	-
March	N/A	22,912,800	N/A	22,912,800	N/A	-
April	N/A	22,912,800	N/A	22,912,800	N/A	-
May	N/A	22,912,800	N/A	22,912,800	N/A	-
June	N/A	22,912,800	N/A	22,912,800	N/A	-
Total		274,953,600		252,040,800		-
<i>Subtotals ytd</i>		<i>252,040,800</i>		<i>252,040,800</i>		<i>0</i>
<i>Achievement of Budget</i>				<i>100.00%</i>		

(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
June	28,810,500	21,645,500	7,165,000	33.10%
July	16,179,117	22,732,006	(6,552,889)	-28.83%
August	28,384,600	21,949,300	6,435,300	29.32%
September	22,672,400	21,040,913	1,631,487	7.75%
October	16,105,200	21,902,800	(5,797,600)	-26.47%
November	28,633,300	22,662,700	5,970,600	26.35%
December	24,440,000	23,643,400	796,600	3.37%
January	26,874,927	22,057,972	4,816,955	21.84%
February	13,895,100	30,280,800	(16,385,700)	-54.11%
March	22,388,600	15,552,000	6,836,600	43.96%
April	23,203,703	27,812,417	(4,608,714)	-16.57%
May	9,284,000	15,342,700	(6,058,700)	-39.49%
Rolling 12-Month Total	260,871,447	266,622,508		
Rolling, 12-Month Average	21,739,287	22,218,542		

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 May 31, 2019, Highland Park had a delinquent balance of \$41.3 million, including \$32.4 million for wastewater treatment services, \$1.7 million for industrial waste control services, and \$7.2 million for water supply services. It should be noted that Highland Park did make an additional payment on June 27, 2019 for \$1.4 million that will be reflected in the June 2019 Audit Committee report.

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 2019 through May 31, 2019. 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

	Water	Sewer	IWC	Total
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,023	\$ 38,833,598
July 2018 Billing	\$ 109,568	\$ 470,200	\$ 6,754	586,521
July 2018 Payments	-	(629,017)	-	(629,017)
July 31, 2018 Balance	6,221,815	30,938,511	1,630,776	38,791,102
August 2018 Billing	108,651	467,900	4,233	580,784
August 2018 Payments	-	-	-	-
August 31, 2018 Balance	6,330,467	31,406,411	1,635,009	39,371,887
September 2018 Billing	109,780	467,900	4,261	581,941
September 2018 Payments	-	-	-	-
September 30, 2018 Balance	6,440,247	31,874,311	1,639,270	39,953,828
October 2018 Billing	109,298	467,900	4,281	581,479
October 2018 Payments	-	-	-	-
October 31, 2018 Balance	6,549,545	32,342,211	1,643,551	40,535,307
November 2018 Billing	104,007	467,900	3,963	575,869
November 2018 Payments	-	-	-	-
November 30, 2018 Balance	6,653,552	32,810,111	1,647,514	41,111,176
December 2018 Billing	101,944	467,900	3,961	573,805
December 2018 Payments	-	-	-	-
December 31, 2018 Balance	\$ 6,755,496	\$ 33,278,011	\$ 1,651,474	41,684,981
January 2019 Billing	98,430	467,900	3,961	570,290
January 2019 Payments	-	(2,116,727)	-	(2,116,727)
January 31, 2019 Balance	\$ 6,853,926	\$ 31,629,183	\$ 1,655,435	40,138,544
February 2019 Billing	98,898	467,900	3,932	570,731
February 2019 Payments	-	-	-	-
February 28, 2019 Balance	\$ 6,952,824	\$ 32,097,083	\$ 1,659,368	40,709,275
March 2019 Billing	98,353	467,900	3,881	570,134
March 2019 Payments	-	-	-	-
March 31, 2019 Balance	\$ 7,051,177	\$ 32,564,983	\$ 1,663,248	41,279,409
April 2019 Billing	99,879	467,900	4,101	571,880
April 2019 Payments	-	(1,089,003)	-	(1,089,003)
April 30, 2019 Balance	\$ 7,151,056	\$ 31,943,880	\$ 1,667,350	40,762,286
May 2019 Billing	98,118	467,900	3,963	569,981
May 2019 Payments	-	-	-	-
May 31, 2019 Balance	\$ 7,249,174	\$ 32,411,780	\$ 1,671,312	41,332,267

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. (Note: percentages vary from 100% due to rounding.)

Table 6 - Wholesale Accounts Receivable Aging Report Summary is a summary of the total, current and non-current receivables by category as of May 31, 2019.

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. The \$13,090,300 sewer balance that is 46-74 days past due is made up of a \$2,881,500 balance for Evergreen-Farmington, \$3,747,700 for the George W Kuhn Drainage District, and \$6,461,100 for the Oakland-Macomb Interceptor District. The three member partners list above are administered by Oakland County. Payments were made on June 7th and June 17th to cover past due amounts resulting from recent changes in personnel.

Table 8 - Wholesale Accounts Receivable Aging Report, Net of Highland Park and WTUA is a summary *without* the past due balances for the City of Highland Park and net of pending credits for certain Western Township Utilities Authority (WTUA). Credits for billed services are pending receipt of a final agreement from Wayne County to effectuate a transfer retroactive to July 1, 2018 which is under final review by Wayne County as of early July 2019.

Table 6 - Wholesale Accounts Receivable Aging Report Summary

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 39,732,206.81	\$ 32,681,029.60	\$ 98,353.27	\$ 98,898.32	\$ 6,853,925.62
Sewer	\$ 65,819,979.83	\$ 20,785,799.50	\$ 13,558,200.00	\$ 467,900.00	\$ 31,008,080.33
IWC	\$ 3,170,075.04	\$ 519,181.09	\$ 40,252.58	\$ 40,304.12	\$ 2,570,337.25
Pollutant Surcharge	\$ 1,390,741.37	\$ 716,099.99	\$ 58,732.95	\$ 84,294.50	\$ 531,613.93
Total	\$ 110,113,003.05	\$ 54,702,110.18	\$ 13,755,538.80	\$ 691,396.94	\$ 40,963,957.13
	100.00%	49.68%	12.49%	0.63%	37.20%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 32,483,032.86	\$ 32,483,032.86	\$ -	\$ -	\$ -
Sewer	\$ 33,408,199.50	\$ 20,317,899.50	\$ 13,090,300.00	\$ -	\$ -
IWC	\$ 1,498,762.78	\$ 511,117.22	\$ 36,371.76	\$ 36,371.76	\$ 914,902.04
Pollutant Surcharge	\$ 1,390,741.37	\$ 716,099.99	\$ 58,732.95	\$ 84,294.50	\$ 531,613.93
Total	\$ 68,780,736.51	\$ 54,028,149.57	\$ 13,185,404.71	\$ 120,666.26	\$ 1,446,515.97
	100.00%	78.55%	19.17%	0.18%	2.10%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 32,483,032.86	\$ 32,483,032.86	\$ -	\$ -	\$ -
Sewer	\$ 33,408,199.50	\$ 20,317,899.50	\$ 13,090,300.00	\$ -	\$ -
IWC	\$ 437,870.62	\$ 438,373.70	\$ -	\$ -	\$ (503.08)
Pollutant Surcharge	\$ 1,390,741.37	\$ 716,099.99	\$ 58,732.95	\$ 84,294.50	\$ 531,613.93
Total	\$ 67,719,844.35	\$ 53,955,406.05	\$ 13,149,032.95	\$ 84,294.50	\$ 531,110.85
	100.00%	79.67%	19.42%	0.12%	0.78%

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 as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2019 reflects eleven months of activity to date.

Water fund cash receipts exceeded MBO disbursements by 17% through May 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements at 12% since January 1, 2016.

Sewer fund cash receipts exceeded MBO disbursements by 1% through May 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements at 2% since January 1, 2016.

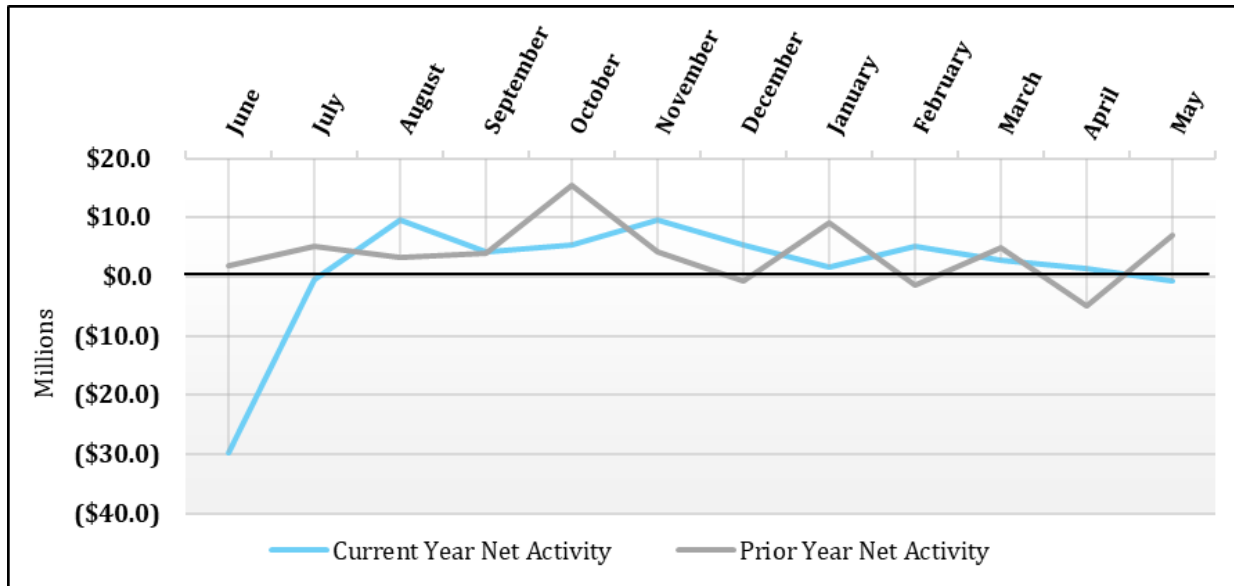
Chart 1 – GLWA 12-Month Net Receipts – Water outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

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.

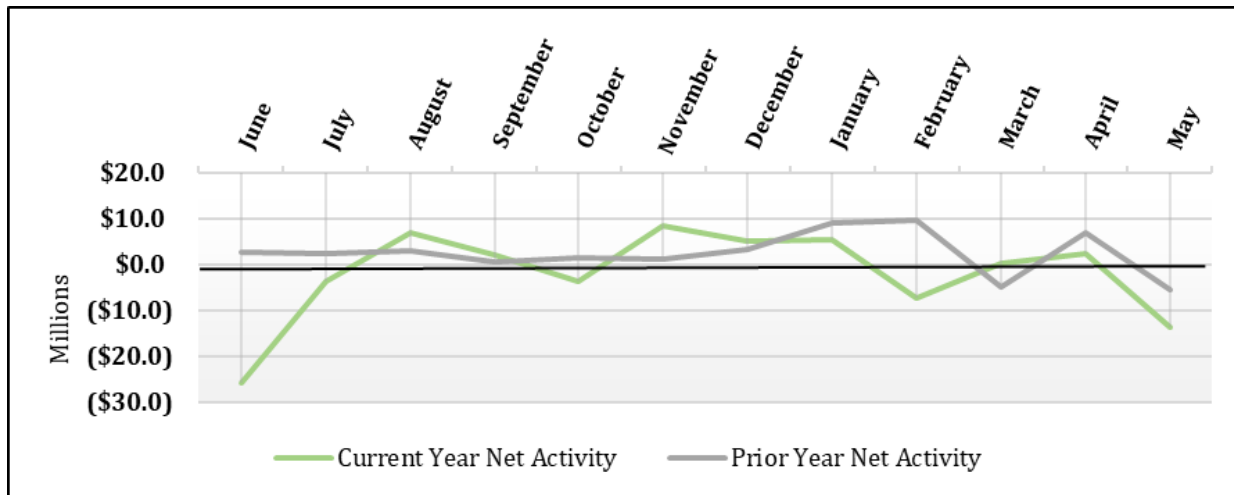
Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
Water					
1 Receipts	\$ 149,688,711	\$ 352,941,909	\$ 338,452,001	\$ 308,946,598	\$1,150,029,219
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	149,688,711	352,941,909	338,452,001	308,946,598	1,150,029,219
4 Disbursements	146,256,185	288,777,985	322,804,510	265,065,965	1,022,904,645
5 Net Receipts	\$ 3,432,526	\$ 64,163,924	\$ 15,647,491	\$ 43,880,633	\$ 127,124,574
6 <i>Ratio of Receipts to Disbursements</i>	102%	122%	105%	117%	112%
Sewer					
7 Receipts	\$ 232,377,715	\$ 469,788,882	\$ 476,269,761	\$ 418,813,072	\$1,597,249,430
8 MOU Adjustments	0	-	-	-	-
9 Adjusted Receipts	232,310,973	469,205,156	476,269,761	418,813,072	1,596,598,962
10 Disbursements	219,538,325	441,443,340	481,601,435	415,236,046	1,557,819,146
11 Net Receipts	\$ 12,839,390	\$ 28,345,543	\$ (5,331,674)	\$ 3,577,026	\$ 39,430,285
12 <i>Ratio of Receipts to Disbursements</i>	106%	106%	99%	101%	102%
Combined					
13 Receipts	\$ 382,066,426	\$ 822,730,791	\$ 814,721,762	\$ 727,759,670	\$2,747,278,649
14 MOU Adjustments	-	-	-	-	-
15 Adjusted Receipts	382,066,426	822,730,791	814,721,762	727,759,670	2,747,278,649
16 Disbursements	365,794,510	730,221,325	804,405,945	680,302,011	2,580,723,791
17 Net Receipts	\$ 16,271,916	\$ 92,509,466	\$ 10,315,817	\$ 47,457,659	\$ 166,554,858
18 <i>Ratio of Receipts to Disbursements</i>	104%	113%	101%	107%	106%

MOU Adjustments applies to DWSD and is shown here for consistency.

Chart 1 – GLWA 12-Month Net Receipts - Water


Note: June 2018 net activity reflects a year-end improvement and extension fund transfer.

Chart 2 – GLWA 12-Month Net Receipts – Sewer


Note: June 2018 net activity reflects a year-end improvement and extension fund transfer.

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 as well as a total of all activity for DWSD since inception at January 1, 2016. Fiscal year 2019 reflects eleven months of activity to date.

Water fund cash receipts exceeded MBO disbursements by 3% through May 31, 2019 with a historical ratio of cash receipts exceeding MBO disbursements at 3% since January 1, 2016.

Sewer fund cash receipts hit a breakeven point through May 31, 2019 with a historic shortfall of 6% since January 1, 2016. FY 2019 activity to date reflects a \$6.5 million sewer lookback adjustment completed in December 2018. This was due from GLWA to DWSD as part of the April 2018 MOU. DWSD reduced the Operations & Maintenance (O&M) transfers in May and June to achieve a goal of a positive net cash flow for FY 2019.

The Reconciliation Committee monitors this balance and repayment progress as part of its quarterly meetings.

Table 3 – FY 2017 DWSD Loan Receivable - Sewer provides an activity summary of loan receivable established under the terms of the April 2018 MOU addressing the cash shortfall from FY 2016 and FY 2017. A loan schedule has been established for the FY 2018 shortfall. Reporting on that additional loan will begin with reporting for the month of July when the first payment is due.

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer provides an activity summary of loan receivable payments to date on the FY 2017 Sewer Loan Receivable including the interest on the loan. The monthly interest component of each payment is transferred directly to GLWA Sewer Improvement & Extension fund.

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.

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

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
Water					
1 Receipts	\$ 26,201,881	\$ 96,451,105	\$ 101,233,147	\$ 92,310,386	\$ 316,196,519
2 MOU Adjustments	18,446,100	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,233,147	92,310,386	334,642,619
4 Disbursements	47,809,552	93,066,144	93,049,457	89,553,470	323,478,623
5 Net Receipts	\$ (3,161,571)	\$ 3,384,961	\$ 8,183,690	\$ 2,756,916	\$ 11,163,996
6 Ratio of Receipts to Disbursements	93%	104%	109%	103%	103%
Sewer					
7 Receipts	\$ 65,256,734	\$ 233,723,367	\$ 242,104,791	\$ 244,908,531	\$ 785,993,423
8 MOU Adjustments	55,755,100	-	-	6,527,200	62,282,300
9 Adjusted Receipts	121,011,834	233,723,367	242,104,791	251,435,731	848,275,723
10 Disbursements	122,297,300	261,963,973	266,217,825	252,696,028	903,175,126
11 Net Receipts	\$ (1,285,466)	\$ (28,240,606)	\$ (24,113,034)	\$ (1,260,297)	\$ (54,899,403)
12 Ratio of Receipts to Disbursements	99%	89%	91%	100%	94%
Combined					
13 Receipts	\$ 91,458,615	\$ 330,174,472	\$ 343,337,938	\$ 337,218,917	\$1,102,189,942
14 MOU Adjustments	74,201,200	0	-	6,527,200	80,728,400
15 Adjusted Receipts	165,659,815	330,174,472	343,337,938	343,746,117	1,182,918,342
16 Disbursements	170,106,852	355,030,117	359,267,282	342,249,498	1,226,653,749
17 Net Receipts	\$ (4,447,037)	\$ (24,855,645)	\$ (15,929,344)	\$ 1,496,619	\$ (43,735,407)
18 Ratio of Receipts to Disbursements	97%	93%	96%	100%	96%

Note 1: The \$29,300,000 for the DWSD loan receivable balance is calculated as follows.

(1,285,466)	FY 2016 Shortfall
(28,240,606)	FY 2017 Shortfall
(29,526,072)	Subtotal
238,264	June IWC not due until July
(29,287,808)	FY 2017 Shortfall-to-Date

29,300,000 FY 2017 Shortfall-to-Date, Rounded

Table 3 – FY 2017 DWSD Loan Receivable - Sewer

Date	Transaction	Amount	Balance
6/30/2019	Record FY 16 and FY 17 Loan Receivable		29,300,000
2/8/2019	Loan Receivable Payment (for the months of Jul - Dec)	4,635,462	24,664,538
2/22/2019	Loan Receivable Payment (for the months of Jan - Mar)	2,353,768	22,310,770
4/15/2019	Loan Receivable Payment (for the month of Apr)	789,990	21,520,780
5/8/2019	Loan Receivable Payment (for the month of May)	792,705	20,728,075
	Remaining Balance at May 31, 2019	8,571,925	20,728,075

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer

Date	Transaction	Principal	Interest	Total Paid
2/8/2019	Loan Receivable Payment (for the months of Jul - Dec)	4,635,462	564,636	5,200,098
2/22/2019	Loan Receivable Payment (for the months of Jan - Mar)	2,353,768	246,280	2,600,049
4/15/2019	Loan Receivable Payment (for the month of Apr)	789,990	76,693	866,683
5/8/2019	Loan Receivable Payment (for the month of May)	792,705	73,978	866,683
		8,571,925	961,587	8,666,829

Note 2: DWSD has made an additional, scheduled loan receivable payment in June which will be reflected in Table 4 above with the Trust Receipts & Disbursements report for the month of June.

Chart 3 – DWSD 12-Month Net Receipts - Water

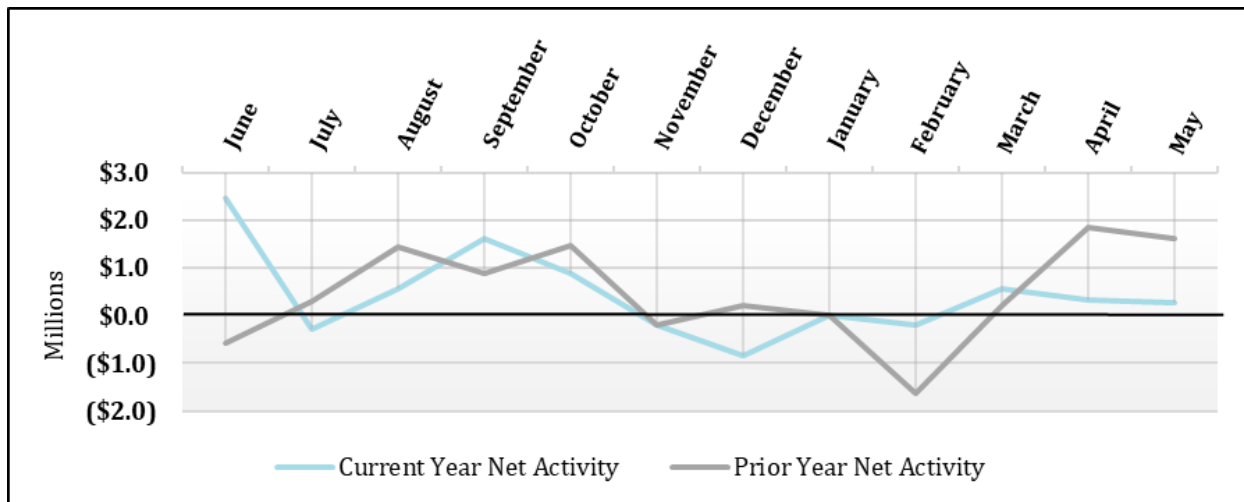
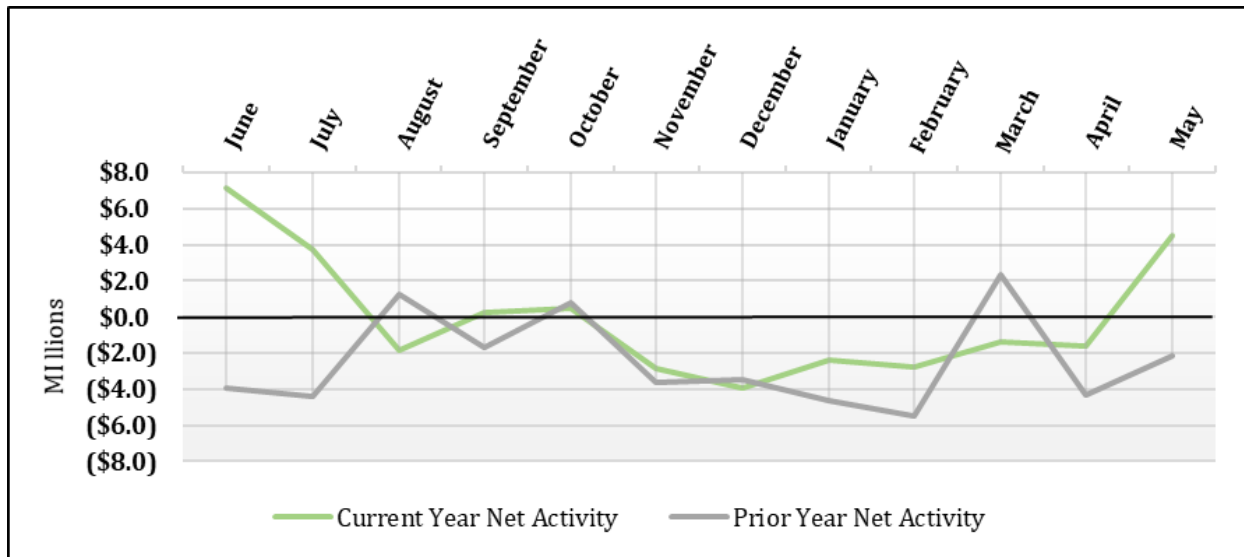


Chart 4 – DWSD 12-Month Net Receipts – Sewer



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 4 – Combined Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2019 reflects eleven months of activity to date.

Water fund cash receipts exceeded MBO disbursements by 13% through May 31, 2019 with a ratio of 10% since January 1, 2016. Sewer fund cash receipts is functioning at a breakeven status through May 31, 2019 and sewer fund cash receipts exceeded MBO disbursements by 1% since January 1, 2016.

Table 4 – Combined Net Cash Flows from Trust Receipts & Disbursements

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
Water					
1 Receipts	\$ 175,826,163	\$ 448,883,201	\$ 439,685,148	\$ 401,256,984	\$1,465,651,496
2 MOU Adjustments	18,446,100	0	0	0	18,446,100
3 Adjusted Receipts	194,272,263	448,883,201	439,685,148	401,256,984	1,484,097,596
4 Disbursements	194,001,308	381,334,316	415,853,967	354,619,435	1,345,809,026
5 Net Receipts	\$ 270,955	\$ 67,548,885	\$ 23,831,181	\$ 46,637,549	\$ 138,288,570
6 <i>Ratio of Receipts to Disbursements</i>	100%	118%	106%	113%	110%
Sewer					
7 Receipts	\$ 297,567,707	\$ 702,928,523	\$ 718,374,552	\$ 663,721,603	\$2,382,592,385
8 MOU Adjustments	55,755,100	0	0	6,527,200	62,282,300
9 Adjusted Receipts	353,322,807	702,928,523	718,374,552	670,248,803	2,444,874,685
10 Disbursements	341,768,883	702,823,586	747,819,260	667,932,074	2,460,343,803
11 Net Receipts	\$ 11,553,924	\$ 104,937	\$ (29,444,708)	\$ 2,316,729	\$ (15,469,118)
12 <i>Ratio of Receipts to Disbursements</i>	103%	100%	96%	100%	99%
Combined					
13 Receipts	\$ 473,525,041	\$1,152,905,263	\$1,158,059,700	\$1,064,978,587	\$3,849,468,591
14 MOU Adjustments	74,201,200	0	0	6,527,200	80,728,400
15 Adjusted Receipts	547,726,241	1,152,905,263	1,158,059,700	1,071,505,787	3,930,196,991
16 Disbursements	535,901,362	1,085,251,442	1,163,673,227	1,022,551,509	3,807,377,540
17 Net Receipts	\$ 11,824,879	\$ 67,653,821	\$ (5,613,527)	\$ 48,954,278	\$ 122,819,451
18 <i>Ratio of Receipts to Disbursements</i>	102%	106%	100%	105%	103%

APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$358,385.82	\$358,385.82	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$66,777.90	\$66,777.90	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$25,281.61	\$25,281.61	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$57,908.98	\$57,908.98	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$280,083.57	\$280,083.57	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$16,762.72	\$16,762.72	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$21,143.83	\$21,143.83	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$751,749.52	\$751,749.52	\$0.00	\$0.00	\$0.00
CENTER LINE	\$36,817.69	\$36,817.69	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$316,411.99	\$316,411.99	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$639,721.24	\$639,721.24	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$271,833.91	\$271,833.91	\$0.00	\$0.00	\$0.00
DEARBORN	\$1,716,407.48	\$1,716,407.48	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$281,917.66	\$281,917.66	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$243,479.91	\$243,479.91	\$0.00	\$0.00	\$0.00
ECORSE	\$128,688.30	\$128,688.30	\$0.00	\$0.00	\$0.00
FARMINGTON	\$76,847.44	\$76,847.44	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$687,865.31	\$687,865.31	\$0.00	\$0.00	\$0.00
FERNDAL	\$83,485.20	\$83,485.20	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$97,486.77	\$97,486.77	\$0.00	\$0.00	\$0.00
FLINT	\$339,823.54	\$339,823.54	\$0.00	\$0.00	\$0.00
FRASER	\$91,868.53	\$91,868.53	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$131,472.41	\$131,472.41	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GIBALTAR	\$27,529.85	\$27,529.85	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$43,217.18	\$43,217.18	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$99,758.69	\$99,758.69	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$108,722.60	\$108,722.60	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$43,070.81	\$43,070.81	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$120,279.35	\$120,279.35	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$115,758.22	\$115,758.22	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$66,914.24	\$66,914.24	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$117,012.29	\$117,012.29	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$58,311.69	\$58,311.69	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$7,249,173.95	\$197,996.74	\$98,353.27	\$98,898.32	\$6,853,925.62
HURON TOWNSHIP	\$116,158.03	\$116,158.03	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$101,248.34	\$101,248.34	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$1,329.09	\$1,329.09	\$0.00	\$0.00	\$0.00
INKSTER	\$117,243.44	\$117,243.44	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$23,819.84	\$23,819.84	\$0.00	\$0.00	\$0.00
LAPEER	\$114,377.81	\$114,377.81	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$25,476.23	\$25,476.23	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$189,558.31	\$189,558.31	\$0.00	\$0.00	\$0.00
LIVONIA	\$1,059,919.77	\$1,059,919.77	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$829,331.98	\$829,331.98	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	\$3,212.24	\$3,212.24	\$0.00	\$0.00	\$0.00
MELVINDALE	\$54,473.10	\$54,473.10	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$29,876.67	\$29,876.67	\$0.00	\$0.00	\$0.00
NOCWA	\$3,633,305.34	\$3,633,305.34	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$59,752.66	\$59,752.66	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$404,799.83	\$404,799.83	\$0.00	\$0.00	\$0.00
NOVI	\$1,322,280.35	\$1,322,280.35	\$0.00	\$0.00	\$0.00
OAK PARK	\$111,974.85	\$111,974.85	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$7,355.15	\$7,355.15	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$81,571.43	\$81,571.43	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$326,173.81	\$326,173.81	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$246,090.90	\$246,090.90	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$58,295.59	\$58,295.59	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$143,033.08	\$143,033.08	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$24,701.36	\$24,701.36	\$0.00	\$0.00	\$0.00
ROMEO	\$19,996.01	\$19,996.01	\$0.00	\$0.00	\$0.00
ROMULUS	\$667,991.53	\$667,991.53	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$212,301.38	\$212,301.38	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$17,596.56	\$17,596.56	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$1,007,099.93	\$1,007,099.93	\$0.00	\$0.00	\$0.00
SOCWA	\$3,615,841.42	\$3,615,841.42	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$5,494.10	\$5,494.10	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$159,869.83	\$159,869.83	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR SHORES	\$243,255.24	\$243,255.24	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$2,263,953.26	\$2,263,953.26	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$55,413.60	\$55,413.60	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$17,973.52	\$17,973.52	\$0.00	\$0.00	\$0.00
TAYLOR	\$350,674.95	\$350,674.95	\$0.00	\$0.00	\$0.00
TRENTON	\$172,335.26	\$172,335.26	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,044,726.77	\$1,044,726.77	\$0.00	\$0.00	\$0.00
UTICA	\$86,321.86	\$86,321.86	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$288,352.95	\$288,352.95	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$17,913.15	\$17,913.15	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$74,805.01	\$74,805.01	\$0.00	\$0.00	\$0.00
WARREN	\$1,657,481.25	\$1,657,481.25	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$156,724.47	\$156,724.47	\$0.00	\$0.00	\$0.00
WAYNE	\$505,617.15	\$505,617.15	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,630,687.07	\$1,630,687.07	\$0.00	\$0.00	\$0.00
WESTLAND	\$488,800.59	\$488,800.59	\$0.00	\$0.00	\$0.00
WIXOM	\$185,852.10	\$185,852.10	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$124,837.85	\$124,837.85	\$0.00	\$0.00	\$0.00
YCUA	\$802,960.60	\$802,960.60	\$0.00	\$0.00	\$0.00
TOTAL WATER ACCOUNTS	\$39,732,206.81	\$32,681,029.60	\$98,353.27	\$98,898.32	\$6,853,925.62

GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$70,600.00	\$70,600.00	\$0.00	\$0.00	\$0.00
CENTER LINE	\$85,599.50	\$85,599.50	\$0.00	\$0.00	\$0.00
DEARBORN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EVERGREEN-FARMINGTON	\$5,763,000.00	\$2,881,500.00	\$2,881,500.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$74,100.00	\$74,100.00	\$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	\$330,200.00	\$330,200.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$32,411,780.33	\$467,900.00	\$467,900.00	\$467,900.00	\$31,008,080.33
MELVINDALE	\$126,900.00	\$126,900.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$7,495,400.00	\$3,747,700.00	\$3,747,700.00	\$0.00	\$0.00
OMID	\$12,922,200.00	\$6,461,100.00	\$6,461,100.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$4,480,100.00	\$4,480,100.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY N.E.	\$2,056,000.00	\$2,056,000.00	\$0.00	\$0.00	\$0.00
WAYNE COUNTY-AREA #3	\$4,100.00	\$4,100.00	\$0.00	\$0.00	\$0.00
TOTAL SEWER ACCOUNTS	\$65,819,979.83	\$20,785,799.50	\$13,558,200.00	\$467,900.00	\$31,008,080.33

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$1,612.35	\$1,612.35	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O)	\$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	\$2,901.33	\$2,901.33	\$0.00	\$0.00	\$0.00
BEVERLY HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BINGHAM FARMS	\$1,066.57	\$1,066.57	\$0.00	\$0.00	\$0.00
BIRMINGHAM (E-F)	\$0.20	\$0.20	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$5,547.85	\$5,547.85	\$0.00	\$0.00	\$0.00
BLOOMFIELD HILLS	\$1,539.41	\$1,539.41	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$556,070.36	\$38,132.92	\$19,066.46	\$19,066.46	\$479,804.52
CENTER LINE	\$3,683.10	\$3,683.10	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$12,147.13	\$12,147.13	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$ (503.08)	\$0.00	\$0.00	\$0.00	\$ (503.08)
CITY OF FERNDALE	\$8,904.91	\$8,904.91	\$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
CLAWSON	\$2,763.45	\$2,763.45	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$25,449.41	\$25,449.41	\$0.00	\$0.00	\$0.00
DEARBORN	\$36,969.96	\$36,969.96	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$9,517.84	\$9,517.84	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$106.64	\$106.64	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$12,925.38	\$12,925.38	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$23,685.44	\$23,685.44	\$0.00	\$0.00	\$0.00
FRASER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$6,097.92	\$6,097.92	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$1,580.76	\$1,580.76	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$2,088.99	\$2,088.99	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$1,182.74	\$1,182.74	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$8,350.26	\$8,350.26	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$1,892.64	\$1,892.64	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$3,166.76	\$3,166.76	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$3,124.09	\$3,124.09	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,671,312.26	\$8,063.87	\$3,880.82	\$3,932.36	\$1,655,435.21
HUNTINGTON WOODS	\$286.18	\$286.18	\$0.00	\$0.00	\$0.00
INDEPENDENCE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INKSTER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$705.59	\$705.59	\$0.00	\$0.00	\$0.00
LAKE ORION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LATHRUP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$325.36	\$325.36	\$0.00	\$0.00	\$0.00
LIVONIA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$3,629.99	\$3,629.99	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,096.99	\$2,096.99	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$133,428.14	\$9,148.06	\$4,574.03	\$4,574.03	\$115,132.02
NOVI	\$17,404.16	\$17,404.16	\$0.00	\$0.00	\$0.00
OAK PARK	\$6,892.39	\$6,892.39	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$440.84	\$440.84	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$401.75	\$401.75	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$1,043.46	\$1,043.46	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$1,259.16	\$1,259.16	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$547.54	\$547.54	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$371,393.66	\$25,462.54	\$12,731.27	\$12,731.27	\$320,468.58
REDFORD TOWNSHIP	\$11,351.07	\$11,351.07	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$18,365.37	\$18,365.37	\$0.00	\$0.00	\$0.00
ROMULUS	\$1,852.14	\$1,852.14	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,785.72	\$14,785.72	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$13,506.51	\$13,506.51	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$933.32	\$933.32	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$12,448.51	\$12,448.51	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SOUTHFIELD (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SOUTHFIELD (SEOC)	\$3,804.28	\$3,804.28	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$12,027.84	\$12,027.84	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$31,368.70	\$31,368.70	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$37,342.28	\$37,342.28	\$0.00	\$0.00	\$0.00
UTICA	\$6,021.76	\$6,021.76	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$2,063.74	\$2,063.74	\$0.00	\$0.00	\$0.00
VILLAGE OF FRANKLIN	\$65.69	\$65.69	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$2,801.32	\$2,801.32	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE	\$5,017.87	\$5,017.87	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$949.35	\$949.35	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$6,363.09	\$6,363.09	\$0.00	\$0.00	\$0.00
WESTLAND	\$45,966.60	\$45,966.60	\$0.00	\$0.00	\$0.00
TOTAL IWC ACCOUNTS	\$3,170,075.04	\$519,181.09	\$40,252.58	\$40,304.12	\$2,570,337.25

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY	\$8,116.68	\$8,116.68	\$0.00	\$0.00	\$0.00
A & R PACKING CO., LLC	\$4,208.12	\$4,208.12	\$0.00	\$0.00	\$0.00
AACTRON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACME RUSTPROOF	\$97.84	\$88.67	\$9.17	\$0.00	\$0.00
ADVANCED RESOURCE RECOVERY	\$1,518.28	\$1,518.28	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$23,467.72	\$9,642.23	\$6,917.92	\$6,907.57	\$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
ALEXANDER & HORNUNG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ALGAL SCIENTIFIC CORPORATION	\$16,533.05	\$0.00	\$0.00	\$0.00	\$16,533.05
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.	\$5,478.15	\$5,478.15	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$0.00	\$0.00	\$0.00	\$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	\$108.95	\$0.00	\$0.00	\$0.00	\$108.95
BARON INDUSTRIES	\$903.75	\$903.75	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$0.00	\$0.00	\$0.00	\$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 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BATCH BREWING COMPANY	\$28.88	\$28.88	\$0.00	\$0.00	\$0.00
BAYS MICHIGAN CORPORATION	\$115.51	\$115.51	\$0.00	\$0.00	\$0.00
BEIRUT BAKERY, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BETTER MADE SNACK FOOD	\$18,149.59	\$18,149.59	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$301.01	\$72.32	\$0.00	\$0.00	\$228.69
BOZEK'S MARKET	\$198.62	\$142.67	\$55.95	\$0.00	\$0.00
BREW DETROIT	\$7,084.37	\$7,084.37	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$ (122.41)	\$0.00	\$0.00	\$0.00	\$ (122.41)
BROOKS BREWING, LLC.	\$107.63	\$107.63	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON BREW WORKS	\$276.09	\$77.06	\$0.00	\$0.00	\$199.03
CAPITAL REPRODUCTIONS	\$1.35	\$1.35	\$0.00	\$0.00	\$0.00
CF BURGER CREAMERY	\$16,079.67	\$16,079.67	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$2,334.91	\$47.46	\$22.15	\$26.90	\$2,238.40
CINTAS CORP. - MACOMB TWP.	\$46,336.93	\$46,336.93	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$32,031.90	\$32,031.90	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$10,904.94	\$10,904.94	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$29.87	\$15.08	\$7.25	\$7.54	\$0.00
CLASSIC CONTAINER CORP.	\$0.00	\$442.83	\$ (442.83)	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$2,776.34	\$2,776.34	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$2,337.31	\$2,337.31	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$1,328.13	\$1,328.13	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
COSTCO WHOLESALE STORE	\$2,616.23	\$2,616.23	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$2,954.89	\$2,954.89	\$0.00	\$0.00	\$0.00
CROSS CHEMICAL COMPANY, INC.	\$2,141.74	\$1,156.63	\$0.00	\$985.11	\$0.00
DARLING INGREDIENTS, INC.	\$5,755.02	\$5,755.02	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN BREWING	\$49.71	\$49.71	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT BEER	\$0.00	\$0.00	\$0.00	\$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	\$710.45	\$710.45	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$30.78	\$22.38	\$8.40	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$126.65	\$126.65	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$21,966.07	\$21,966.07	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$121.56	\$121.56	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,386.63	\$2,386.63	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,889.71	\$2,889.71	\$0.00	\$0.00	\$0.00
DOWNEY BREWING COMPANY	\$49.08	\$49.08	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$3,091.29	\$3,091.29	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMP	\$123.55	\$123.55	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$22,955.96	\$22,955.96	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	\$830.02	\$830.02	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$3,240.40	\$3,240.40	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$ (1,223.11)	\$0.00	\$0.00	\$0.00	\$ (1,223.11)
EQ DETROIT, INC.	\$ (4,588.59)	\$0.00	\$0.00	\$0.00	\$ (4,588.59)
ETON ST BREWERY- GRIFFIN CLF	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EXTRUDE HONE CORPORATION	\$142.61	\$142.61	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$54.70	\$54.70	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$653,984.17	\$88,336.09	\$39,121.34	\$48,541.54	\$477,985.20
FORD NEW MODEL PROGRAM	\$1,519.97	\$1,519.97	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$595.49	\$595.49	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G2O ENERGY, LLC	\$9,903.28	\$2,823.66	\$1,230.24	\$1,257.53	\$4,591.85
GENERAL LINEN SUPPLY CO.	\$47,413.64	\$12,068.82	\$5,437.91	\$25,210.63	\$4,696.28
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.	\$ (1,934.37)	\$0.00	\$0.00	\$0.00	\$ (1,934.37)
HACIENDA MEXICAN FOODS	\$7,690.49	\$1,243.82	\$621.91	\$621.91	\$5,202.85
HENKEL CORPORATION	\$145.80	\$145.80	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HOME STYLE FOOD INC.	\$14,531.40	\$9,788.28	\$4,743.12	\$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
HOUGHTON INTERNATIONAL INC.	\$142.99	\$142.99	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$142.99	\$142.99	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$2,242.91	\$2,242.91	\$0.00	\$0.00	\$0.00
HUNTINGTON CLEANERS	\$741.71	\$741.71	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$717.27	\$717.27	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$3,050.77	\$3,050.77	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$7.91	\$7.91	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$55.95	\$55.95	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$34.44	\$34.44	\$0.00	\$0.00	\$0.00
KAR NUT PRODUCTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$1,651.93	\$1,111.73	\$540.20	\$0.00	\$0.00
KUHNHENN BREWING	\$107.63	\$107.63	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$610.75	\$610.75	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$55.77	\$55.77	\$0.00	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$4,800.33	\$4,800.33	\$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
MACDERMID, INC.	\$2,552.75	\$2,552.75	\$0.00	\$0.00	\$0.00
MCCLURE'S PICKLES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MCNICHOLS POLISHING & ANODIZ	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MELLO MEATS INC, - KUBISCH S	\$83.92	\$83.92	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$1,289.58	\$905.08	\$384.50	\$0.00	\$0.00
MIBA HYDRAMECHANICA CORP.	\$176.64	\$176.64	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$88,898.98	\$88,898.98	\$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	\$26.76	\$26.76	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MINNIE MARIE BAKERS, INC	\$4,853.63	\$4,853.63	\$0.00	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$103.77	\$0.00	\$0.00	\$0.00	\$103.77
MOTOR CITY BREWING WORKS	\$781.77	\$175.22	\$0.00	\$606.55	\$0.00
NATIONAL CHILI COMPANY	\$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	\$43.75	\$43.75	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$347.92	\$347.92	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & SE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$1,300.71	\$1,300.71	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$83,095.82	\$83,095.82	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$34.67	\$34.67	\$0.00	\$0.00	\$0.00
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PINE TREE ACRES, INC.	\$62,943.35	\$62,943.35	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POWER VAC OF MICHIGAN, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PREMIER PLATING, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$1,689.48	\$1,689.48	\$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	\$21.04	\$21.04	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROAK BREWING CO. LLC	\$744.76	\$744.76	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$225.75	\$225.75	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$4,471.35	\$1,388.30	\$0.00	\$0.00	\$3,083.05
RTT	\$25,503.62	\$1,661.41	\$0.00	\$0.00	\$23,842.21
SEAFARE FOODS, INC.	\$66.93	\$66.93	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$819.08	\$0.00	\$0.00	\$89.76	\$729.32
SMITH-WATKINS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$32.86	\$32.86	\$0.00	\$0.00	\$0.00
SWEETHEART BAKERY, INC.	\$1,326.09	\$157.14	\$75.72	\$75.72	\$1,017.51
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$ (1,289.08)	\$0.00	\$0.00	\$0.00	\$ (1,289.08)
TOM LAUNDRY CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 05/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
U-METCO, INC.	\$1,288.08	\$1,288.08	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$56,376.30	\$56,376.30	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$1,873.58	\$1,873.58	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$9.87	\$9.87	\$0.00	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$293.79	\$293.79	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$122.08	\$122.08	\$0.00	\$0.00	\$0.00
US ECOLOGY ROMULUS, INC.	\$3,433.74	\$3,433.74	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$5,364.26	\$5,364.26	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$7,290.31	\$7,290.31	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$6,928.49	\$6,928.49	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$ (36.26)	\$0.00	\$0.00	\$ (36.26)	\$0.00
WIGLEY'S MEAT PROCESS	\$618.26	\$618.26	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$959.55	\$959.55	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$134.28	\$134.28	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$7,667.62	\$7,667.62	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$2,688.44	\$2,688.44	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL POLLUTANT SURCHARGE ACCOUNTS	\$1,390,741.37	\$716,099.99	\$58,732.95	\$84,294.50	\$531,613.93

City of Highland Park Billings and Collections

	<u>Water</u>	<u>Sewer</u>	<u>IWC</u>	<u>Cumulative Total</u>
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	<u>(65,652)</u>	<u>(2,206,211)</u>	<u>-</u>	<u>(2,271,863)</u>
				-
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	<u>-</u>	<u>(1,612,633)</u>	<u>-</u>	<u>(1,612,633)</u>
				-
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	<u>-</u>	<u>(1,444,623)</u>	<u>-</u>	<u>(1,444,623)</u>
				-
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	<u>-</u>	<u>(2,022,335)</u>	<u>-</u>	<u>(2,022,335)</u>
				-
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	<u>-</u>	<u>(2,309,186)</u>	<u>-</u>	<u>(2,309,186)</u>
				-
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	<u>-</u>	<u>(4,108,108)</u>	<u>-</u>	<u>(4,108,108)</u>
				-
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,022	\$ 38,833,597
FY 2019 Billings (11 Months)	1,136,926	5,149,200	47,290	6,333,416
FY 2019 Payments (11 Months)	<u>-</u>	<u>(3,834,747)</u>	<u>-</u>	<u>(3,834,747)</u>
				-
Balance as of May 31, 2019	<u>\$ 7,249,174</u>	<u>\$ 32,411,780</u>	<u>\$ 1,671,312</u>	<u>\$ 41,332,266</u>



Financial Services Audit Committee Communication

Date: August 16, 2019

To: Great Lakes Water Authority Audit Committee

From: Deirdre Henry, Treasury Manager

Re: Quarterly Investment Report through June 30, 2019 (Unaudited)

Background: As stated in section 14 of the Great Lakes Water Authority (GLWA) Investment Policy, quarterly reporting shall be presented to provide a clear picture of the status of the current GLWA investment portfolio. The attached report, prepared and presented by PFM Asset Management LLC, summarizes portfolio information through June 30, 2019 (unaudited).

Analysis: The Quarterly Investment Report complies with the requirements of Public Act 20 of 1948, as amended and the GLWA Investment Policy. GLWA is investing its funds in a diversified portfolio which includes bank deposits, money market funds, a local government investment pool, U.S. Treasuries, Federal Agencies, and commercial paper. All securities in the portfolio are in compliance with the GLWA investment policy. Key metrics are provided below with additional commentary in the attached report.

- Yield to Market at Cost compared to market index:
 - As of June 30, 2019: 2.13% vs 2.09% (3-Month Treasury Index)
 - As of March 31, 2019: 2.37% vs 2.35% (3-Month Treasury Index)
- Portfolio Allocation in Cash/Money Market Securities
 - As of June 30, 2019: 56%
 - As of March 31, 2019: 36%

As GLWA continues to implement process improvements and more clearly define cash flows, the treasury group will work with PFM Asset Management LLC to identify strategies to maximize investment returns while meeting GLWA standards for safety and liquidity.

Proposed Action: Receive and file report.

Great Lakes Water Authority

Investment Performance Report – June 2019



Table of Contents

I. Executive Summary

II. Investment Strategy

III. Summary Market Overview and Outlook

IV. Portfolio Snapshot

Portfolio Mix

Security Type

Credit Quality

Account Purpose

Maturity Distribution

Yield at Cost and Market

Yield to Maturity vs. Duration

Investment Income by Month

Investment Income Year over Year

VI. Appendix

Portfolio Holdings

Economic Update

Executive Summary

PORTFOLIO RECAP

- **Safety** – The overall portfolio is diversified amongst cash, bank deposits, U.S. Treasuries, Federal Agencies, commercial paper, SEC-registered money market funds, and a local government investment pool. The total credit profile of the pool is strong with over 97% of the assets invested in bank deposits or securities that are rated within the two highest short and long-term rating classifications as established by S&P.
- **Liquidity** – The Authority has continued to monitor its portfolio with the goal of limiting the allocation to cash and deposit accounts and maximizing the use of money market funds and short-term investments to meet liquidity requirements. At June 30th, 56% of the funds were held in cash and money market accounts to meet the year end debt and pension payments.
- **Return** – The overall yield decreased to 2.13% as of June 30, 2019 versus 2.37% at March 31, 2019. The lower return is a result of the declining interest rate environment. The Authority earned \$22.3 million (unaudited) in investment income for fiscal year 2019 on a book value basis. Based on current market assumptions and the projection that the fiscal year 2020 average investable balances are like fiscal year 2019, we are projecting investment income of approximately \$17.4 million for fiscal year 2020.

AVAILABLE FUNDS (Unaudited)

Type	Financial Institution	Book Value	Market Value	YTM @ Market (as of 6/30/19)
Deposit Account	Comerica	\$8,018,321	\$8,018,321	0.18%
Deposit Account - Retainage	First Independence	\$16,775,614	\$16,775,614	0.05%
Deposit Account – Flint Security Deposit	Chase	\$3,791,272	\$3,791,272	1.30%
Deposit Account	Chase	\$3,570,760	\$3,570,760	1.30%
Trust Money Market Fund	U.S. Bank	\$376,777,805	\$376,777,805	2.25%
Money Market Fund	JP Morgan	\$88,044,312	\$88,044,312	2.19%
Local Government Investment Pool	GovMIC	\$79,871,843	\$79,871,843	2.39%
Managed Funds	PFM	\$457,763,134	\$460,077,600	2.08%
<u>TOTAL</u>		<u>\$1,034,613,061</u>	<u>\$1,036,927,527</u>	<u>2.13%</u>

The accounts at Comerica Bank get an earnings credit to offset bank fees. The funds and earnings in the Retainage account are held on behalf of the contractors and do not belong to GLWA. The funds and earnings in the Flint Security Deposit account are held on behalf of the City of Flint and do not belong to GLWA. Note that market values move inversely to interest rates, and the recent rise in yields has led to the overall market value being less than the book value. In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of 6/30/2019.

Investment Strategy

GLWA INVESTMENT STRATEGY

- The portfolio is in compliance with the Authority's investment policy.
- To date, the Authority has continued to invest its funds in a mixture of short and intermediate-term investments to ensure sufficient liquidity. There was a slight increase in assets maturing overnight at the end of June to cover early July obligations for debt and pension payments.
- The aggregate portfolio was yielding 2.13% at the end of June.*
 - This compares to the 2.09% yield of the Bank of America / Merrill Lynch 3-Month U.S. Treasury Bill Index as of 6/30/2019, which is a comparable market indicator.
- The Authority continues to implement a disciplined investment plan to provide improved safety and diversification and putting every dollar to work.
- For the first quarter of FY 2020, the Authority's investment advisor will continue to actively manage long-term portfolios with full discretion and align short-term balances with expected liabilities, subject to the Authority's investment policy.
- The Authority will continue to work with its investment manager to identify strategies in this declining interest rate environment to maximize future investment income while meeting the objectives of safety and liquidity.
- Assuming that the Authority maintains the same investable balances for FY 2020 and assuming further decreases in interest rates, we conservatively expect to earn approximately \$17.4 million in interest income in FY 2020.

* Current market yield as of June 30, 2019.

Summary Market Overview and Outlook

ECONOMIC HIGHLIGHTS UPDATE

- Bond returns for the first half of the year were strong. Equity returns were even stronger. The recent trend of rising bond prices and rising stock prices in the face of declining economic growth, a weaker outlook for corporate earnings, and rising trade tensions, does not match the usual pattern of market behavior and most investors believe that something will eventually have to give.
- The Federal Reserve held short-term rates unchanged in June at the target range of 2.25% to 2.50% (though a rate cut did occur at the Fed's meeting in July). Fed Chair Jerome Powell acknowledged risks to the Fed's positive outlook that included: ongoing trade disputes, global growth concerns, a messy Brexit, recent declines in business sentiment and investment, and increased risk of falling inflation.

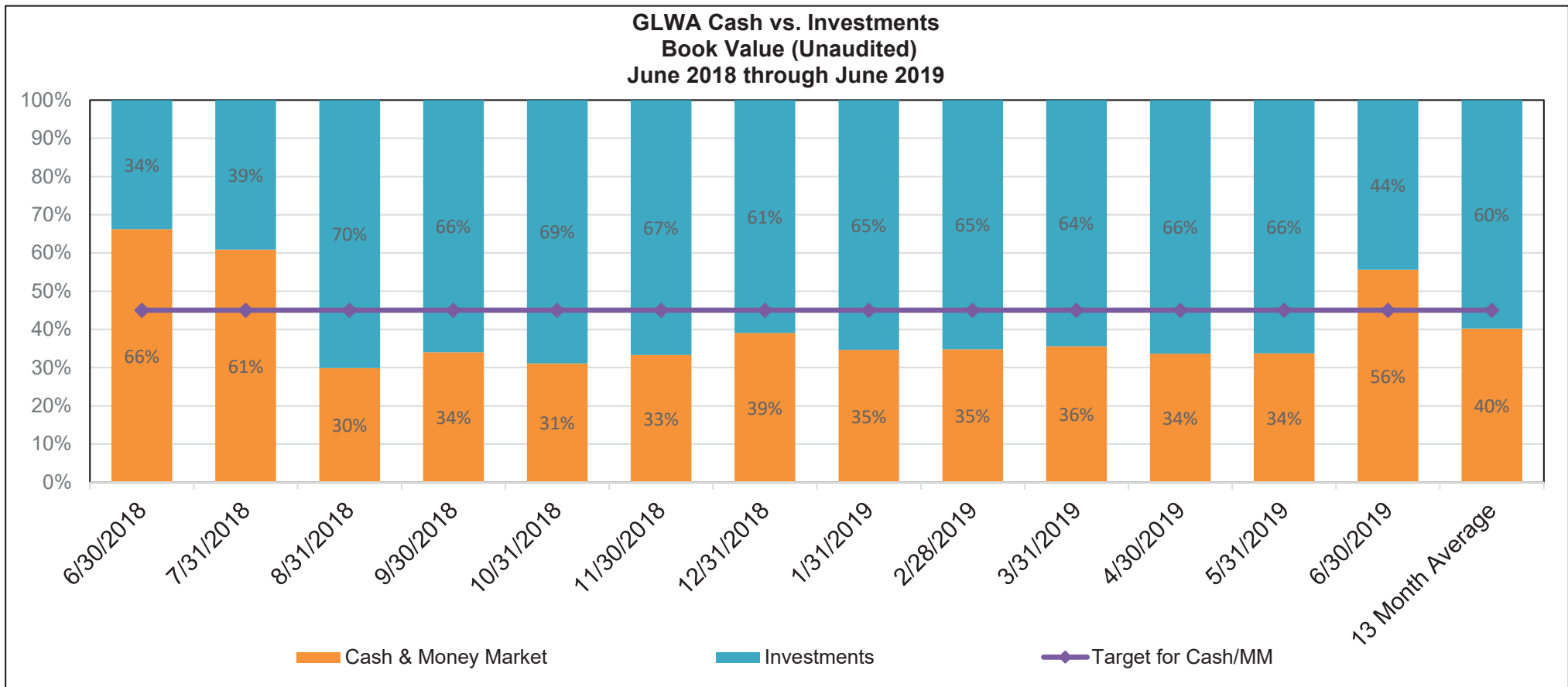
ECONOMIC IMPACT ON PORTFOLIO

- In light of rising uncertainties, Fed Chair Powell recently stated that the Fed will "act as appropriate to sustain the expansion." The market now widely expects two or three Fed rate cuts in the second half of 2019, with the first cut already taking place at the end of July.
- U.S. Treasury yields declined across the entire curve in June, with maturities under a year falling more (down 20 to 25 basis points) than those between one and 10 years (down 10 to 15 basis points). Short-term yields are closely tied to the expected near-term cuts in the Fed Funds rate. As a result, the spread between 10-year and 3-month Treasury securities shifted modestly, but the yield curve remains inverted out to 10 years.
- Expected rate cuts by the Fed have pushed money market yields lower and the sector has also been impacted by narrowing credit spreads that have depressed relative yields in credit-backed instruments. The best value today is in very short maturities, but this is not without risk as actual Fed action will immediately affect these maturities.
- In light of the Fed's current stance on monetary policy and the general outlook that yields are more likely to fall over the near term, a neutral duration strategy will help reduce interest risk in the event yields continue to fall.

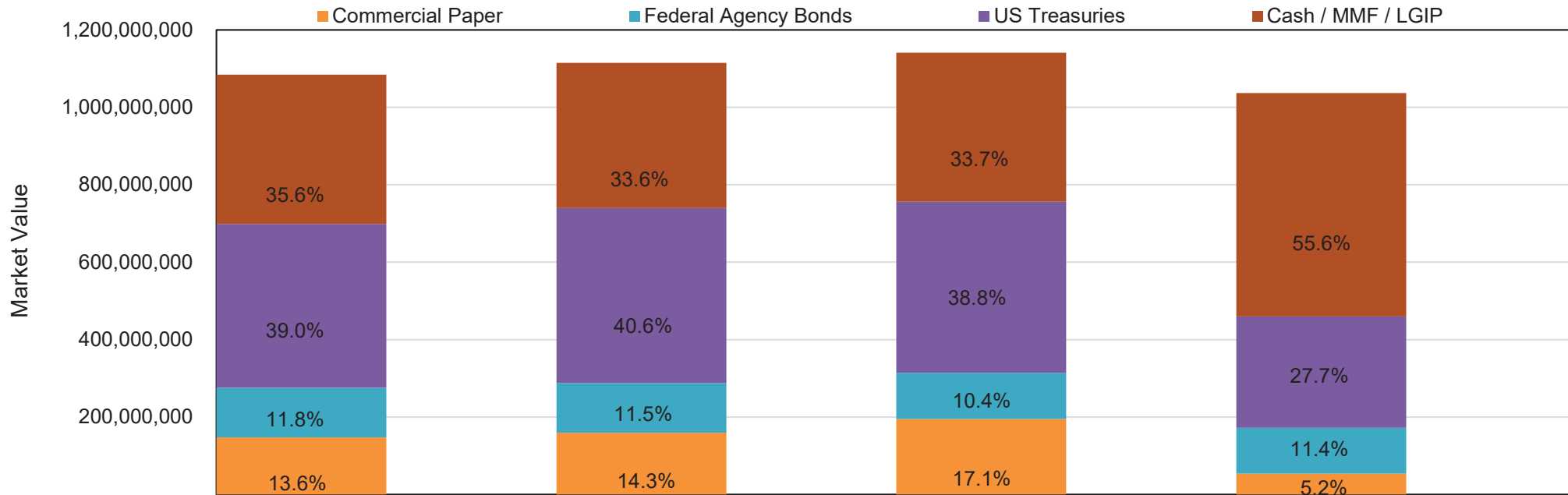
Portfolio Mix

Cash / Money Market vs. Investments

- The Authority's liquidity requirements fluctuate each month based on operational requirements, capital funding, and debt payments. Based on a review of historical activity and refinement of cash flow projections, the Authority has set an average target of 45% cash/money market accounts and 55% investments for the portfolio holdings. The 13-month average at June of 2019 is close to the target.
- The chart below compares the monthly allocation of the portfolio holdings to the 13-month average and the target. The allocation between cash and investments will vary each month based on liquidity requirements, and the slight increase in the cash/money market holdings for June of 2019 is related to increased liquidity to meet year end debt payments, pension payments, and operational requirements.



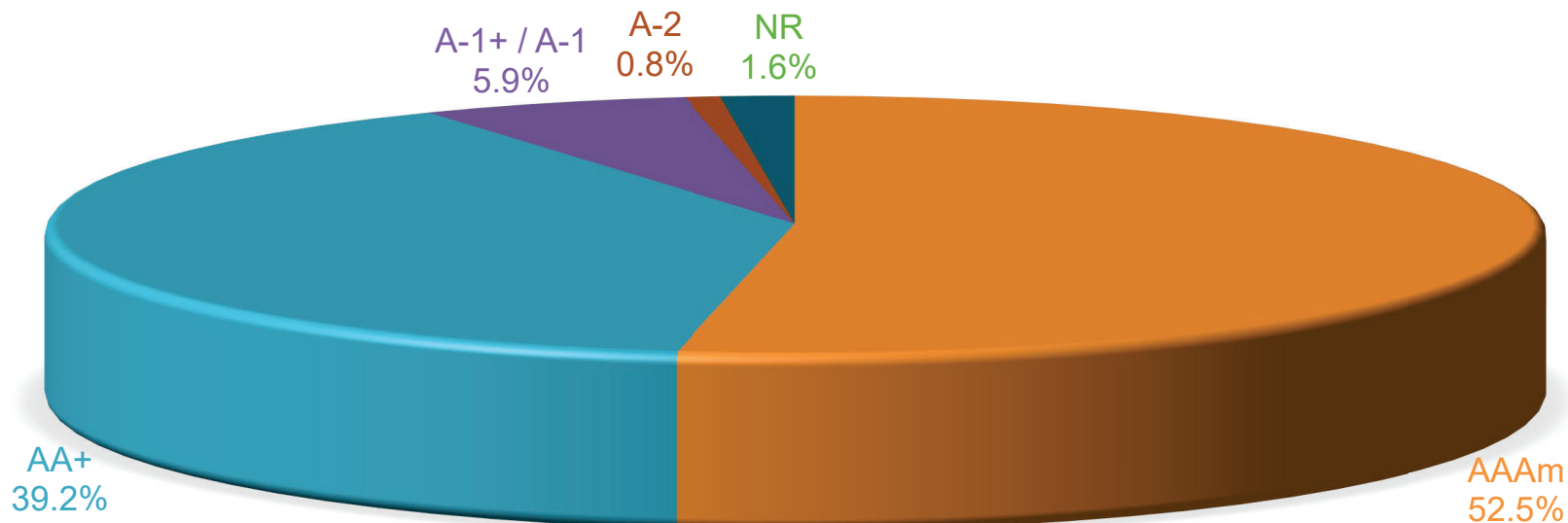
Investments – By Security Type



Security Type	March		April		May		June	
	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation
Commercial Paper	147,599,028	13.6%	159,704,250	14.3%	194,975,092	17.1%	53,840,560	5.2%
Federal Agencies	127,908,615	11.8%	127,950,401	11.5%	119,242,423	10.4%	118,656,693	11.4%
U.S. Treasuries	423,421,144	39.0%	452,327,928	40.6%	442,321,266	38.8%	287,580,347	27.7%
Cash / MMF / LGIP	385,775,971	35.6%	375,057,975	33.6%	384,615,228	33.7%	576,849,927	55.6%
Total	1,084,704,758	100.0%	1,115,040,555	100.0%	1,141,154,009	100.0%	1,036,927,527	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

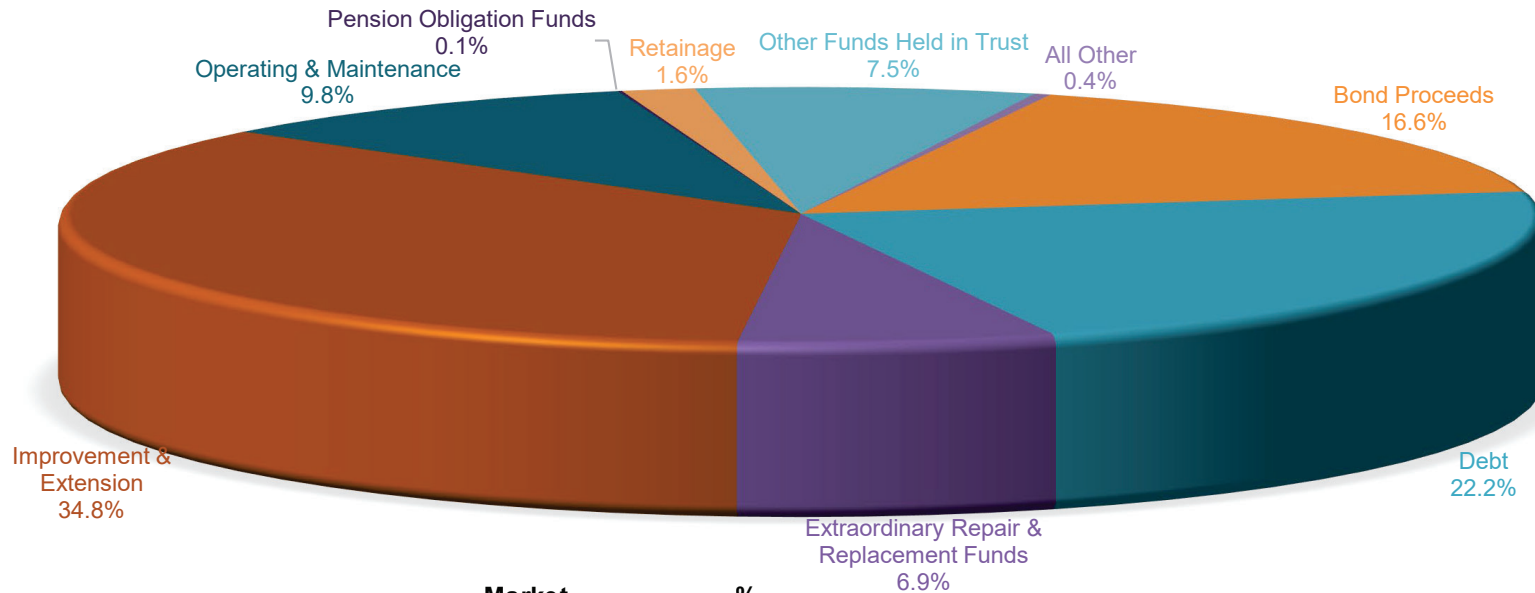
Investments – By Credit Quality



Credit Quality	Market Value	Asset Allocation
Ratings		
AAAm	544,693,960	52.5%
AA+	406,237,040	39.2%
A-1 + / A-1	61,202,592	5.9%
A-2	8,018,321	0.773%
NR	16,775,614	1.6%
Totals	1,036,927,527	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Investments – By Account Purpose



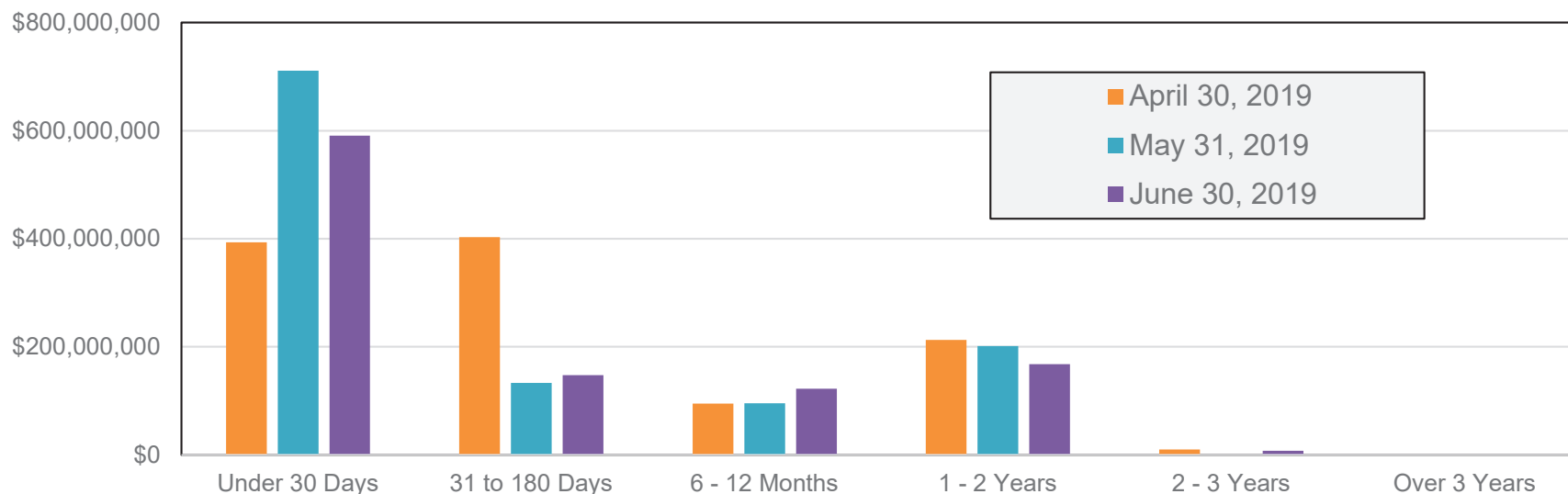
Account Purpose	Market Value	% Allocation
Bond Proceeds	\$ 172,551,711	16.6%
Debt	\$ 230,628,409	22.2%
Extraordinary Repair & Replacement Funds	\$ 72,010,058	6.9%
Improvement & Extension	\$ 360,919,031	34.8%
Operating & Maintenance	\$ 101,160,446	9.8%
Pension Obligation Funds	\$ 1,014,020	0.1%
Retainage	\$ 16,775,614	1.6%
Other Funds Held in Trust	\$ 78,076,968	7.5%
All Other	\$ 3,791,272	0.4%
Total	\$ 1,036,927,527	100.0%

Other Funds Held in Trust		Market Value	% Allocation
Budget Stabilization Funds	\$	7,535,368	9.7%
Receiving Funds	\$	60,943,601	78.1%
WRAP Funds	\$	9,597,999	12.3%
Total	\$	78,076,968	100.0%

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019. "All Other" funds includes the Flint Security Deposit account which is held on behalf of the City of Flint and do not belong to GLWA.

Investments – By Maturity

Maturity Distribution	April 30, 2019		May 31, 2019		June 30, 2019	
		%		%		%
Under 30 Days	\$ 393,636,428	35.3%	\$ 710,855,323	62.3%	\$ 590,941,220	57.0%
31 to 180 Days	403,207,806	36.2%	133,118,715	11.7%	147,569,900	14.2%
6 - 12 Months	95,276,612	8.5%	95,795,839	8.4%	122,599,994	11.8%
1 - 2 Years	212,766,554	19.1%	201,384,132	17.6%	168,184,200	16.2%
2 - 3 Years	10,153,154	0.9%	-	0.0%	7,632,213	0.7%
Over 3 Years	-	0.0%	-	0.0%	-	0.0%
Totals	\$ 1,115,040,555	100.0%	\$ 1,141,154,009	100.0%	\$ 1,036,927,527	100.0%



In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Investment Accounts – Yield at Cost & Market

	As of June 30, 2019		As of March 31, 2019	
	YTM @ Cost	YTM @ Market	YTM @ Cost	YTM @ Market
Bank Deposits				
Comerica	0.18%	0.18%	0.25%	0.25%
First Indenpedence	0.05%	0.05%	0.05%	0.05%
Flint Deposit Account	1.30%	1.30%	1.32%	1.32%
JP Morgan Chase	1.30%	1.30%	1.32%	1.32%
Sub-Total Bank Deposits	0.37%	0.37%	0.69%	0.69%
Money Market Funds / LGIPs				
GovMIC	2.39%	2.39%	2.49%	2.49%
U.S. Bank - First American MMF	2.25%	2.25%	2.31%	2.31%
JP Morgan Securities - Blackrock MMF	2.29%	2.29%	2.19%	2.19%
Sub-Total MMF / LGIPs	2.28%	2.28%	2.33%	2.33%
Investment Portfolios				
Sewage SR Debt Serv 5403	0.00%	0.00%	2.73%	2.59%
Sewage SR Res 5400	1.58%	1.96%	1.51%	2.45%
Sew 2nd Debt Serv 5403	0.00%	0.00%	2.70%	2.60%
Sewage 2nd Res 5481	2.12%	2.04%	1.88%	2.44%
Sew SRF Debt Serv 5410	2.62%	2.39%	2.70%	2.68%
Sewage ER & R	2.60%	1.95%	2.64%	2.38%
Sewer Improvement & Extension	2.64%	1.99%	2.56%	2.43%
Sewer Pension Obligation	0.00%	0.00%	2.48%	2.45%
Sewer Wrap Fund	2.42%	3.30%	2.54%	3.83%
Sewer Budget Stabilization Fund	2.66%	1.94%	2.66%	2.37%
Sewer Bond Fund	1.93%	2.24%	1.66%	2.44%
Sewer O&M Pension Sub Account	0.00%	0.00%	2.47%	2.45%
Water SR Debt Ser 5503	0.00%	0.00%	2.73%	2.62%
Water SR Reserve 5500	2.71%	1.96%	2.49%	2.45%
Water 2nd Debt Serv 5503	0.00%	0.00%	2.68%	2.58%
Water 2nd Res 5581	0.00%	0.00%	2.15%	2.49%
Water SRF Debt Serv 5575	2.64%	2.41%	2.74%	2.67%
Water ER & R	2.56%	1.94%	2.63%	2.39%
Water Improvement & Extension	2.65%	1.99%	2.63%	2.40%
Water Pension Obligation	0.00%	0.00%	2.48%	2.45%
Water Wrap Fund	2.39%	3.35%	2.54%	4.45%
Water Budget Stabilization Fund	2.66%	1.94%	2.66%	2.37%
Water Bond Fund	2.06%	2.15%	1.86%	2.44%
Water O&M Pension Sub Account	0.00%	0.00%	2.47%	2.45%
Sub-Total Investment Portfolios	2.45%	2.08%	2.42%	2.48%
<u>Grand Total</u>	<u>2.30%</u>	<u>2.13%</u>	<u>2.34%</u>	<u>2.37%</u>

The accounts at Comerica Bank get an earnings credit to offset bank fees. The earnings in the accounts at First Independence Bank is credited to the contractors and not the Authority. The funds in the Flint Security Deposit account are held on behalf of the City of Flint and the earnings do not belong to GLWA. YTM @ Cost is the expected return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis. YTM @ Market is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Demonstration of Yield to Maturity vs Duration

- The comparison agencies included in the list below were selected based on type and/or other non-performance based criteria to show a broad range of water entities/utilities. This peer group list does not represent an endorsement of any of the public agencies or their services. The types of funds (e.g., bond proceeds, debt service, etc.) and duration of the overall portfolios listed below as well as the various differences in permitted investments and allowable credit capacity in state statutes (i.e., the ability or non-ability to invest in long-term corporate credit) will have a direct impact on the corresponding yields at market.
- The overall yield of the Authority's aggregate portfolio compares favorably to those of other short-term market indices (i.e., the S&P LGIP index and the 3-month U.S. Treasury index).
- The Authority does not have a potential for a longer duration portfolio when compared to other similar water entities/utilities as the Authority's covenants limits and restricts its ability in managing assets to a longer-term strategy.

As of June 30, 2019				
	Market Value	YTM @ Market	Effective Duration	Weighted Average Maturity
GLWA				
Great Lakes Water Authority	\$1,036,927,527	2.13%	0.36 Years	136 Days
Short/Intermediate-Term Indices				
S&P Rated Government Investment Pool Index		2.28%	0.08 Years	30 Days
BoA / ML 3-Month Treasury Index		2.09%	0.16 Years	90 Days
BoA / ML 6-Month Treasury Index		2.12%	0.41 Years	180 Days
BoA / ML 1-Year Treasury Index		2.01%	0.90 Years	365 Days
BoA / ML 1-3 Year Treasury Index		1.80%	1.81 Years	661 Days
BoA / ML 1-5 Year Treasury Index		1.78%	2.56 Years	934 Days
Peer Analysis (Water Entities / Utilities)				
Alameda County Water District, CA	\$136,022,926	1.92%	2.54 Years	973 Days
Coachella Valley Water District, CA	\$451,437,152	2.01%	1.81 Years	808 Days
District of Columbia Water & Sewer Authority, DC	\$202,129,146	2.01%	1.10 Years	421 Days
DuPage Water Commission, IL	\$142,452,407	1.96%	2.26 Years	1,202 Days
Fairfax County Water Authority, VA	\$185,299,589	1.96%	1.92 Years	759 Days
San Bernardino Valley Municipal Water District, CA	\$353,429,641	1.98%	1.81 Years	688 Days
Truckee Meadows Water Authority, NV	\$111,289,599	1.93%	1.75 Years	666 Days

The BoA / ML indexes are unmanaged indexes tracking on-the-run Treasuries. These indexes are produced and maintained by Bank of America / Merrill Lynch & Co. Yield to maturity is the rate of return, based on the current market value, the annual interest receipts, maturity value and time period remaining until maturity, stated as a percentage, on an annualized basis.

Monthly Investment Income (Book Value)

FY 2019 INVESTMENT INCOME BY MONTH (Unaudited)

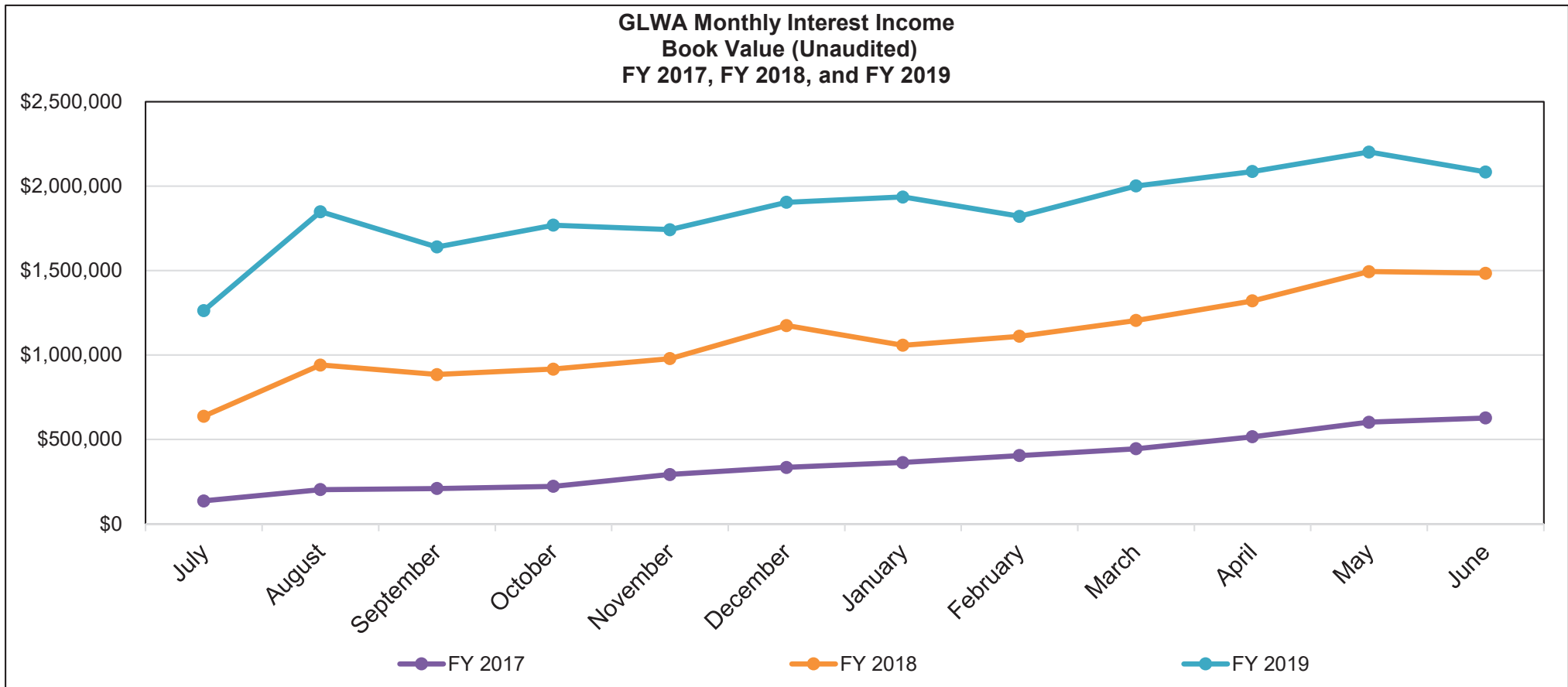
Month	Interest Earned During Period	Realized Gain / Loss	Investment Income
July 2018	\$1,264,010.74	\$0.00	\$1,264,010.74
August 2018	\$1,849,353.45	\$0.00	\$1,849,353.45
September 2018	\$1,638,462.50	\$1,631.65	\$1,640,094.15
October 2018	\$1,769,202.57	\$0.00	\$1,769,202.57
November 2018	\$1,742,251.26	\$0.00	\$1,742,251.26
December 2018	\$1,904,361.36	\$0.00	\$1,904,361.36
January 2019	\$1,890,671.19	\$45,694.26	\$1,936,365.45
February 2019	\$1,828,469.60	(\$6,953.05)*	\$1,821,516.55
March 2019	\$2,001,791.03	\$0.00	\$2,001,791.03
April 2019	\$2,086,870.95	\$0.00	\$2,086,870.95
May 2019	\$2,202,061.36	\$0.00	\$2,202,061.36
June 2019	\$2,084,504.72	\$0.00	\$2,084,504.72
<u>FY 2019 Y-T-D</u>	<u>\$22,262,010.73</u>	<u>\$40,372.86</u>	<u>\$22,302,383.59</u>

* The Authority generally does not realize losses on its investments, however, in February, an adjustment to the cash flow forecast resulted in the sale of investments to meet liquidity requirements. As GLWA continues to refine cash flows, they will work closely with their investment advisor to align investment maturities with cash flow requirements.

These figures are based upon actual interest earned and posted to the Authority's various accounts via book value and does not include any earnings credit rate tied to the Authority's bank deposits.

Year over Year Investment Income

- The Authority has earned \$22,302,384 in investment income for fiscal year 2019 on a book value basis compared to \$13,207,619 for fiscal year 2018.
- Projected investment income for fiscal year 2020 is \$17.4 million as the market is pricing in expectations for at least two more projected interest rate cuts by the Fed during fiscal year 2020.



Appendix I: Portfolio Holdings

Portfolio Holdings As of June 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Short-Term Bank Deposits / MMF / LGIP									
COMERICA BANK		\$ 8,018,321	7/1/2019	6/30/2019	0.18%	\$ 8,018,321	1	\$ -	\$ 8,018,321
FIRST INDEPENDENCE BANK		16,775,614	7/1/2019	6/30/2019	0.05%	16,775,614	1	-	16,775,614
FLINT DEPOSIT ACCOUNT		3,791,272	7/1/2019	6/30/2019	1.30%	3,791,272	1	-	3,791,272
JP MORGAN CHASE		3,570,760	7/1/2019	6/30/2019	1.30%	3,570,760	1	-	3,570,760
GovMIC		79,871,843	7/1/2019	6/30/2019	2.39%	79,871,843	1	-	79,871,843
U.S. BANK - FIRST AMERICAN MMF		376,777,805	7/1/2019	6/30/2019	2.25%	376,777,805	1	-	376,777,805
JP MORGAN SECURITIES - BLACKROCK MMF		88,044,312	7/1/2019	6/30/2019	2.29%	88,044,312	1	-	88,044,312
Commercial Paper									
Toyota Motor Credit 0 7/1/2019	89233HU10	\$ 995,000	7/1/2019	5/10/2019	2.41%	\$ 991,551	1	\$ -	\$ 995,000
Toyota Motor Credit 0 7/1/2019	89233HU10	1,145,000	7/1/2019	5/10/2019	2.41%	1,141,031	1	-	1,145,000
Natixis NY 0 9/3/2019	63873KW37	1,000,000	9/3/2019	5/10/2019	2.55%	991,848	65	-	995,950
Natixis NY 0 9/3/2019	63873KW37	1,000,000	9/3/2019	5/10/2019	2.55%	991,848	65	-	995,950
JPMorgan Securities 0 9/23/2019	46640QWP2	216,000	9/23/2019	1/4/2019	2.97%	211,425	85	-	214,851
MUFG Bank NY 0 9/23/2019	62479MWP4	213,000	9/23/2019	2/6/2019	2.73%	209,369	85	-	211,867
MUFG Bank NY 0 9/23/2019	62479MWP4	396,000	9/23/2019	3/27/2019	2.61%	390,892	85	-	393,893
MUFG Bank NY 0 9/23/2019	62479MWP4	210,000	9/23/2019	4/4/2019	2.62%	207,401	85	-	208,883
MUFG Bank NY 0 9/23/2019	62479MWP4	211,000	9/23/2019	5/10/2019	2.58%	208,967	85	-	209,877
Toyota Motor Credit 0 9/23/2019	89233HWP5	230,000	9/23/2019	6/7/2019	2.34%	228,399	85	-	228,776
JPMorgan Securities 0 9/23/2019	46640QWP2	4,872,000	9/23/2019	1/4/2019	2.97%	4,768,819	85	-	4,846,081
MUFG Bank NY 0 9/23/2019	62479MWP4	8,855,000	9/23/2019	3/27/2019	2.61%	8,740,771	85	-	8,807,891
MUFG Bank NY 0 9/23/2019	62479MWP4	4,866,000	9/23/2019	4/4/2019	2.62%	4,805,786	85	-	4,840,113
MUFG Bank NY 0 9/23/2019	62479MWP4	4,970,000	9/23/2019	5/10/2019	2.58%	4,922,122	85	-	4,943,560
Natixis NY 0 9/23/2019	63873KWP8	5,000,000	9/23/2019	3/27/2019	2.61%	4,935,500	85	-	4,973,400
Toyota Motor Credit 0 9/23/2019	89233HWP5	5,000,000	9/23/2019	6/7/2019	2.34%	4,965,200	85	-	4,973,400
BNP Paribas 0 10/1/2019	09659CX11	1,000,000	10/1/2019	5/10/2019	2.52%	990,040	93	-	994,300
NATIXIS NY 0 11/7/2019	63873KY76	2,500,000	11/7/2019	6/14/2019	2.28%	2,477,086	130	-	2,479,100
NATIXIS NY 0 11/7/2019	63873KY76	2,750,000	11/7/2019	6/14/2019	2.28%	2,724,795	130	-	2,727,010
JPMorgan Securities 0 12/16/2019	46640QZG9	4,000,000	12/16/2019	6/14/2019	2.30%	3,953,339	169	-	3,956,872
JPMorgan Securities 0 12/16/2019	46640QZG9	4,750,000	12/16/2019	6/14/2019	2.30%	4,694,590	169	-	4,698,786

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Portfolio Holdings As of June 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
Federal Agencies									
FHLMC 0.875 7/19/2019	3137EAE1	\$ 5,230,000	7/19/2019	7/26/2017	1.41%	\$ 5,176,079	19	\$ 20,466	\$ 5,225,769
FHLMC 0.875 7/19/2019	3137EAE1	6,720,000	7/19/2019	8/31/2017	1.36%	6,659,386	19	26,297	6,714,564
FHLMC 1.375 8/15/2019	3137EAEH8	5,215,000	8/15/2019	7/26/2017	1.45%	5,206,917	46	26,890	5,209,441
FNMA 1 8/28/2019	3135G0P49	6,715,000	8/28/2019	8/31/2017	1.39%	6,664,100	59	22,756	6,702,255
FNMA 1.75 9/12/2019	3135G0ZG1	4,705,000	9/12/2019	7/26/2017	1.45%	4,734,171	74	24,701	4,700,154
FHLB 1 9/26/2019	3130A9EP2	7,550,000	9/26/2019	8/31/2017	1.39%	7,490,053	88	19,714	7,528,090
FHLMC 1.25 10/2/2019	3137EADM8	5,045,000	10/2/2019	12/28/2017	1.93%	4,985,469	94	15,415	5,032,766
FHLB 2.125 2/11/2020	3130ADN32	3,750,000	2/11/2020	6/28/2018	2.52%	3,726,750	226	30,768	3,751,556
FHLMC 2.5 4/23/2020	3137EAEM7	3,750,000	4/23/2020	6/28/2018	2.56%	3,746,288	298	17,448	3,766,414
FHLB 2.625 5/28/2020	3130AECJ7	3,750,000	5/28/2020	6/28/2018	2.57%	3,753,825	333	8,750	3,769,898
FHLMC 2.375 2/16/2021	3137EAE1	3,500,000	2/16/2021	8/8/2018	2.79%	3,465,210	597	30,941	3,530,310
FHLMC 2.375 2/16/2021	3137EAE1	20,000,000	2/16/2021	8/8/2018	2.79%	19,801,200	597	176,806	20,173,200
FHLMC 2.375 2/16/2021	3137EAE1	250,000	2/16/2021	8/9/2018	2.78%	247,563	597	2,210	252,165
FHLMC 2.375 2/16/2021	3137EAE1	685,000	2/16/2021	8/9/2018	2.78%	678,321	597	6,056	690,932
FNMA 2.5 4/13/2021	3135G0U27	3,500,000	4/13/2021	8/8/2018	2.82%	3,471,685	653	18,715	3,540,845
FNMA 2.5 4/13/2021	3135G0U27	20,000,000	4/13/2021	8/8/2018	2.82%	19,838,200	653	106,944	20,233,400
FNMA 2.5 4/13/2021	3135G0U27	250,000	4/13/2021	8/9/2018	2.81%	247,985	653	1,337	252,918
FNMA 2.5 4/13/2021	3135G0U27	3,400,000	4/13/2021	8/8/2018	2.81%	3,372,698	653	18,181	3,439,678
FNMA 2.5 4/13/2021	3135G0U27	685,000	4/13/2021	8/9/2018	2.81%	679,479	653	3,663	692,994
FNMA 2.5 4/13/2021	3135G0U27	5,750,000	4/13/2021	8/8/2018	2.81%	5,703,828	653	30,747	5,817,103
FHLB 1.875 7/7/2021	3130AGLD5	3,715,000	7/7/2021	6/10/2019	1.96%	3,708,982	738	4,450	3,718,529
FHLB 1.875 7/7/2021	3130AGLD5	3,910,000	7/7/2021	6/10/2019	1.96%	3,903,666	738	4,684	3,913,715

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Portfolio Holdings As of June 30, 2019

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 0.875 7/31/2019	912828TH3	\$ 1,000,000	7/31/2019	5/10/2019	2.40%	\$ 996,563	31	\$ 3,626	\$ 998,860
T-Note 0.875 7/31/2019	912828TH3	1,000,000	7/31/2019	5/10/2019	2.40%	996,563	31	3,626	998,860
T-Note 1.625 8/31/2019	912828D80	3,500,000	8/31/2019	8/8/2018	2.51%	3,467,734	62	18,855	3,496,150
T-Note 1.625 8/31/2019	912828D80	20,000,000	8/31/2019	8/8/2018	2.51%	19,815,625	62	107,745	19,978,000
T-Note 1.625 8/31/2019	912828D80	250,000	8/31/2019	8/9/2018	2.50%	247,715	62	1,347	249,725
T-Note 1.625 8/31/2019	912828D80	3,400,000	8/31/2019	8/8/2018	2.51%	3,368,656	62	18,317	3,396,260
T-Note 1.625 8/31/2019	912828D80	685,000	8/31/2019	8/9/2018	2.50%	678,739	62	3,690	684,247
T-Note 1.625 8/31/2019	912828D80	5,750,000	8/31/2019	8/8/2018	2.51%	5,696,992	62	30,977	5,743,675
T-Note 1 9/30/2019	912828TR1	1,150,000	9/30/2019	6/10/2019	2.24%	1,145,643	92	2,859	1,146,723
T-Note 1.25 10/31/2019	912828TV2	1,275,000	10/31/2019	2/7/2019	2.54%	1,263,196	123	2,642	1,271,213
T-Note 1.5 10/31/2019	912828F62-2	2,000,000	10/31/2019	8/8/2018	2.56%	1,974,453	123	4,973	1,995,860
T-Note 1.5 10/31/2019	912828F62-1	3,405,000	10/31/2019	6/28/2018	2.43%	3,363,635	123	8,466	3,397,952
T-Note 1.25 10/31/2019	912828TV2	11,275,000	10/31/2019	2/7/2019	2.53%	11,171,499	123	23,362	11,241,513
T-Note 1.5 10/31/2019	912828F62-2	4,000,000	10/31/2019	8/8/2018	2.56%	3,948,906	123	9,946	3,991,720
T-Note 1.5 10/31/2019	912828F62-2	1,000,000	10/31/2019	6/10/2019	2.22%	997,227	123	2,486	997,930
T-Note 1.75 11/30/2019	9128283H1	3,350,000	11/30/2019	6/28/2018	2.44%	3,317,809	153	4,805	3,344,767
T-Note 1.75 11/30/2019	9128283H1	3,780,000	11/30/2019	6/28/2018	2.44%	3,743,677	153	5,422	3,774,096
T-Note 1.875 12/31/2019	9128283N8	3,300,000	12/31/2019	6/28/2018	2.46%	3,271,770	184	-	3,297,294
T-Note 1.875 12/31/2019	9128283N8	3,750,000	12/31/2019	6/28/2018	2.46%	3,717,920	184	-	3,746,925
T-Note 1.125 12/31/2019	912828UF5	10,925,000	12/31/2019	1/4/2019	2.57%	10,771,794	184	-	10,872,123
T-Note 2 1/31/2020	9128283S7	3,750,000	1/31/2020	6/28/2018	2.46%	3,723,047	215	31,077	3,748,830
T-Note 2.25 2/29/2020	9128283Y4	3,500,000	2/29/2020	8/8/2018	2.63%	3,479,902	244	26,107	3,504,515
T-Note 2.25 2/29/2020	9128283Y4	20,000,000	2/29/2020	8/8/2018	2.63%	19,885,156	244	149,185	20,025,800
T-Note 2.25 2/29/2020	9128283Y4	250,000	2/29/2020	8/9/2018	2.62%	248,594	244	1,865	250,323
T-Note 2.25 2/29/2020	9128283Y4	3,400,000	2/29/2020	8/8/2018	2.63%	3,380,477	244	25,361	3,404,386
T-Note 2.25 2/29/2020	9128283Y4	685,000	2/29/2020	8/9/2018	2.62%	681,147	244	5,110	685,884
T-Note 2.25 2/29/2020	9128283Y4	5,750,000	2/29/2020	8/8/2018	2.63%	5,716,982	244	42,891	5,757,418
T-Note 2.25 3/31/2020	9128284C1	3,725,000	3/31/2020	6/28/2018	2.49%	3,709,431	275	20,839	3,731,258
T-Note 2.375 4/30/2020	9128284J6	3,500,000	4/30/2020	4/30/2019	2.40%	3,499,043	305	13,779	3,510,255

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Portfolio Holdings As of June 30, 2019

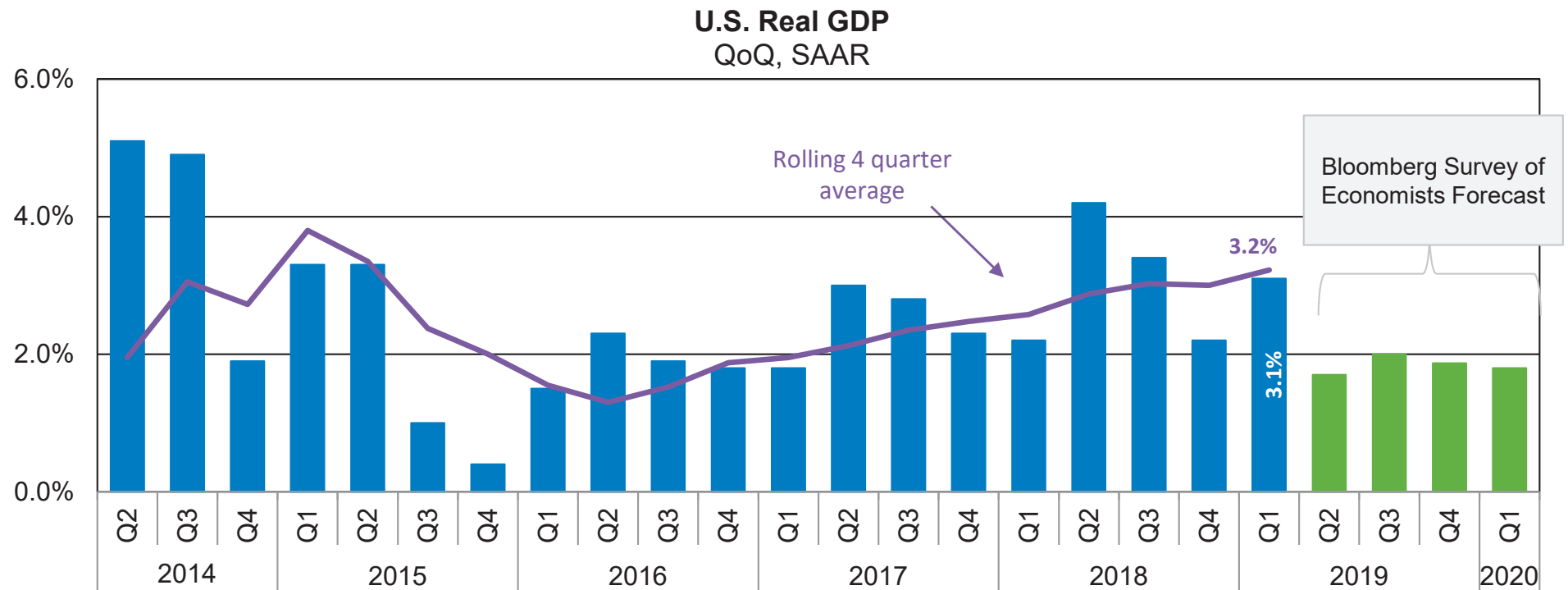
DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
U.S. Treasuries									
T-Note 2.375 4/30/2020	9128284J6	15,000,000	4/30/2020	4/30/2019	2.40%	14,996,484	305	59,052	15,043,950
T-Note 2.5 5/31/2020	9128284Q0	3,500,000	5/31/2020	8/8/2018	2.66%	3,489,883	336	7,172	3,515,435
T-Note 2.5 5/31/2020	9128284Q0	20,000,000	5/31/2020	8/8/2018	2.66%	19,942,188	336	40,984	20,088,200
T-Note 2.5 5/31/2020	9128284Q0	250,000	5/31/2020	8/9/2018	2.66%	249,297	336	512	251,103
T-Note 2.5 5/31/2020	9128284Q0	3,400,000	5/31/2020	8/8/2018	2.66%	3,390,172	336	6,967	3,414,994
T-Note 2.5 5/31/2020	9128284Q0	685,000	5/31/2020	8/9/2018	2.66%	683,073	336	1,404	688,021
T-Note 2.5 5/31/2020	9128284Q0	5,750,000	5/31/2020	8/8/2018	2.66%	5,733,379	336	11,783	5,775,358
T-Note 1.875 6/30/2020	912828VJ6-1	3,750,000	6/30/2020	6/28/2018	2.52%	3,703,271	366	-	3,746,779
T-Note 1.875 6/30/2020	912828VJ6-2	2,900,000	6/30/2020	7/3/2018	2.54%	2,862,730	366	-	2,897,506
T-Note 1.875 6/30/2020	912828VJ6-2	4,600,000	6/30/2020	10/30/2018	2.81%	4,530,102	366	-	4,596,044
T-Note 1.625 6/30/2020	912828XH8	9,705,000	6/30/2020	10/11/2017	1.61%	9,709,928	366	-	9,673,168
T-Note 1.625 6/30/2020	912828XH8	4,565,000	6/30/2020	2/27/2017	1.54%	4,578,374	366	-	4,550,027
T-Note 1.625 6/30/2020	912828XH8	6,560,000	6/30/2020	10/11/2017	1.61%	6,563,331	366	-	6,538,483
T-Note 2.125 8/31/2020	912828VV9	3,500,000	8/31/2020	8/8/2018	2.69%	3,460,762	428	24,657	3,508,190
T-Note 2.125 8/31/2020	912828VV9	20,000,000	8/31/2020	8/8/2018	2.69%	19,775,781	428	140,897	20,046,800
T-Note 2.125 8/31/2020	912828VV9	250,000	8/31/2020	8/9/2018	2.69%	247,188	428	1,761	250,585
T-Note 2.125 8/31/2020	912828VV9	3,400,000	8/31/2020	8/8/2018	2.69%	3,361,883	428	23,952	3,407,956
T-Note 2.125 8/31/2020	912828VV9	685,000	8/31/2020	8/9/2018	2.69%	677,294	428	4,826	686,603
T-Note 2.125 8/31/2020	912828VV9	5,750,000	8/31/2020	8/8/2018	2.69%	5,685,537	428	40,508	5,763,455
T-Note 2 11/30/2020	912828A42	3,500,000	11/30/2020	8/8/2018	2.72%	3,444,082	519	5,738	3,507,245
T-Note 2 11/30/2020	912828A42	20,000,000	11/30/2020	8/8/2018	2.72%	19,680,469	519	32,787	20,041,400
T-Note 2 11/30/2020	912828A42	250,000	11/30/2020	8/9/2018	2.72%	246,006	519	410	250,518
T-Note 2 11/30/2020	912828A42	3,400,000	11/30/2020	9/17/2018	2.81%	3,341,828	519	5,574	3,407,038
T-Note 2 11/30/2020	912828A42	685,000	11/30/2020	8/9/2018	2.72%	674,056	519	1,123	686,418
T-Note 2 11/30/2020	912828A42	5,750,000	11/30/2020	9/17/2018	2.81%	5,651,621	519	9,426	5,761,903
T-Note 2.625 5/15/2021	9128284P2	245,000	5/15/2021	2/7/2019	2.49%	245,708	685	804	248,780
T-Note 2.625 5/15/2021	9128284P2	3,455,000	5/15/2021	2/7/2019	2.49%	3,464,852	685	11,337	3,508,311
T-Note 2.625 5/15/2021	9128284P2	700,000	5/15/2021	2/7/2019	2.49%	702,023	685	2,297	710,801
T-Note 2.625 5/15/2021	9128284P2	5,685,000	5/15/2021	2/7/2019	2.49%	5,701,211	685	11,783	5,772,720

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of June 30, 2019.

Appendix II: Economic Update

Economic Growth Increases in First Quarter

- U.S. economic activity experienced relatively high growth during the first quarter of 2019
 - The third estimate of U.S. GDP growth remained at 3.1%, which marks a significant bounce-back from the 4th quarter's revised growth of 2.2%
- Growth is projected to decline in the remaining quarters of 2019 and into 2020; estimated projections decreased further from last month's estimates
 - The main causes for this expected decrease in future growth include overall slower global growth and increasing trade tensions between the U.S. and other nations, primarily China

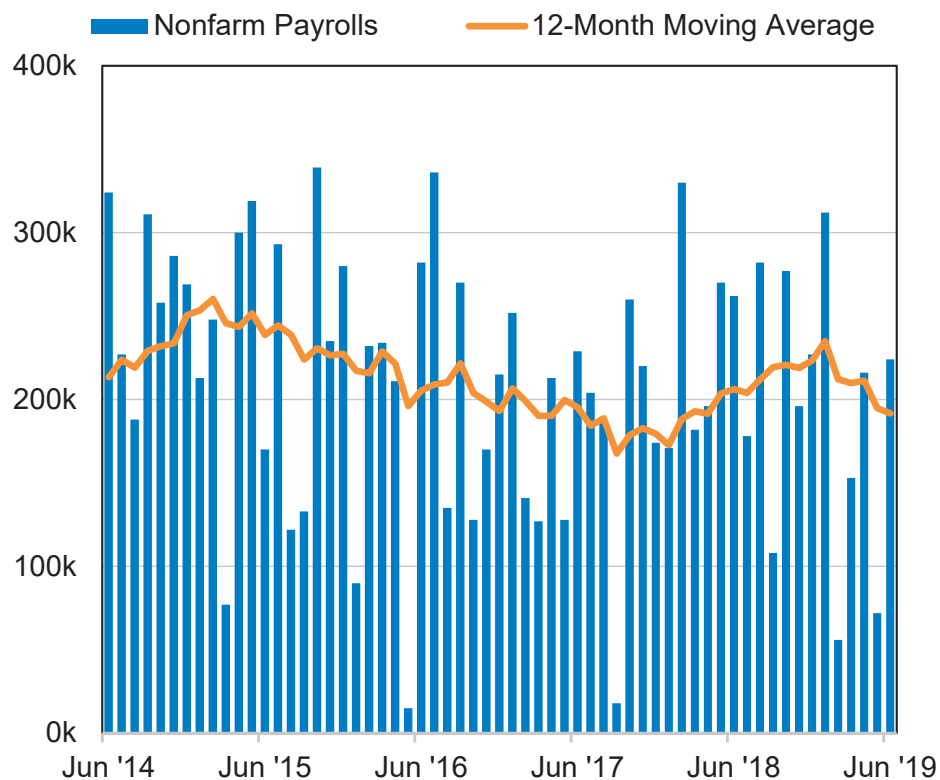


Source: Bloomberg, as of June 30, 2019. SAAR is seasonally adjusted annualized rate. Purple denotes rolling four-quarter averages.

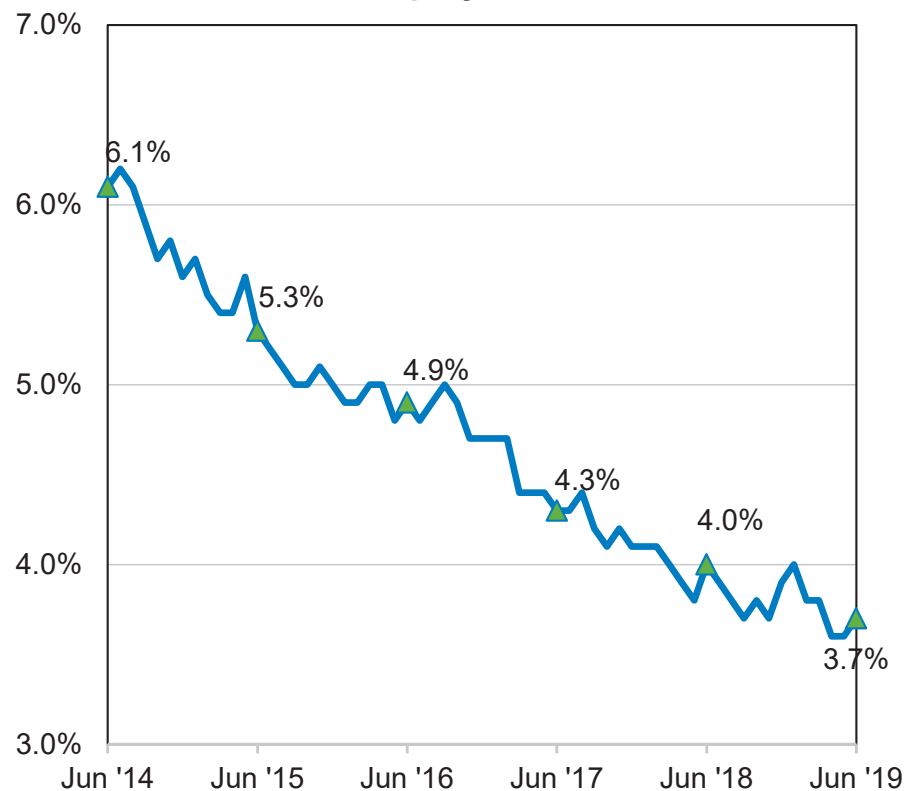
Labor Market Bounces Back in June

- The U.S. economy added 224,000 jobs in June, a strong comeback after a disappointing May
 - The unemployment rate rose slightly to 3.7% though, from increased job prospects
 - Average hourly earnings year-over-year remained at 3.1% in June for a second straight month
- For the year, the economy added an average of 172,000 jobs, underscoring a still healthy labor market

Monthly Change in Nonfarm Payrolls



Unemployment Rate

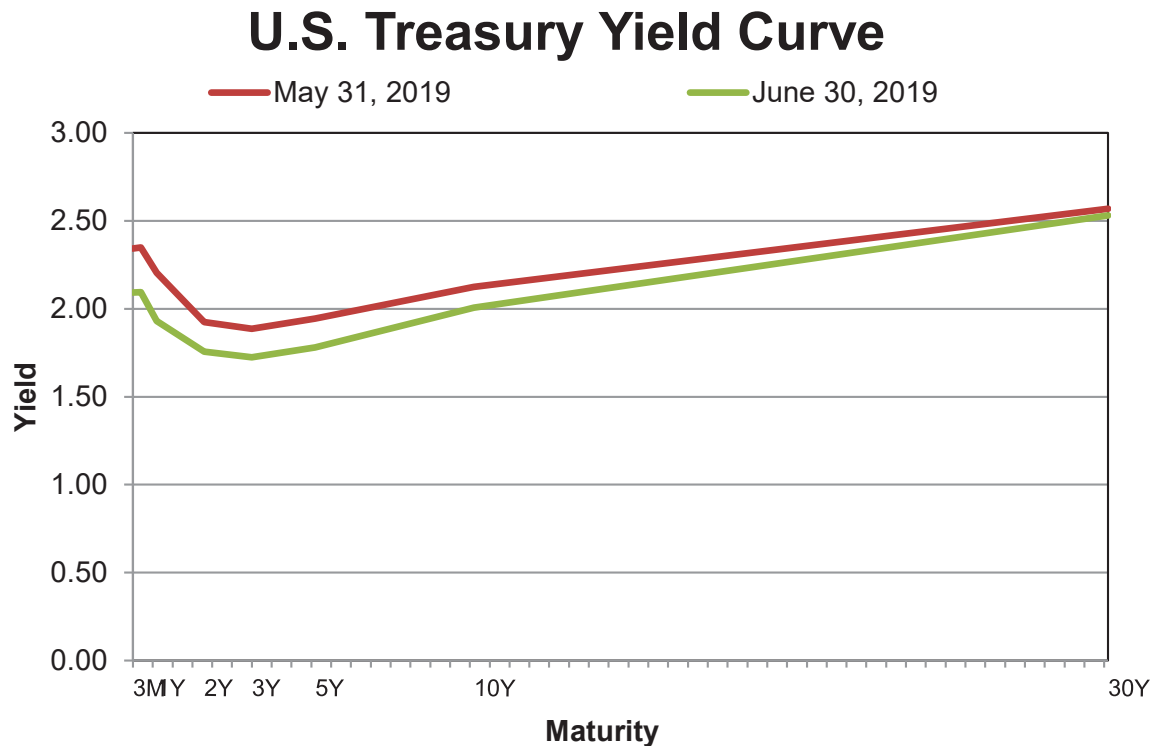


Source: Bloomberg, as of June 30, 2019.

U.S. Treasury Yield Curve

- The U.S. Treasury yield curve continues to exhibit a more pronounced inversion as yields across maturities fall again this month
- 6-month Treasury notes are providing considerably higher yields than those of intermediate-term notes up to 10 years as of June 30, 2019, causing the abnormal curvature at the shorter end of the curve

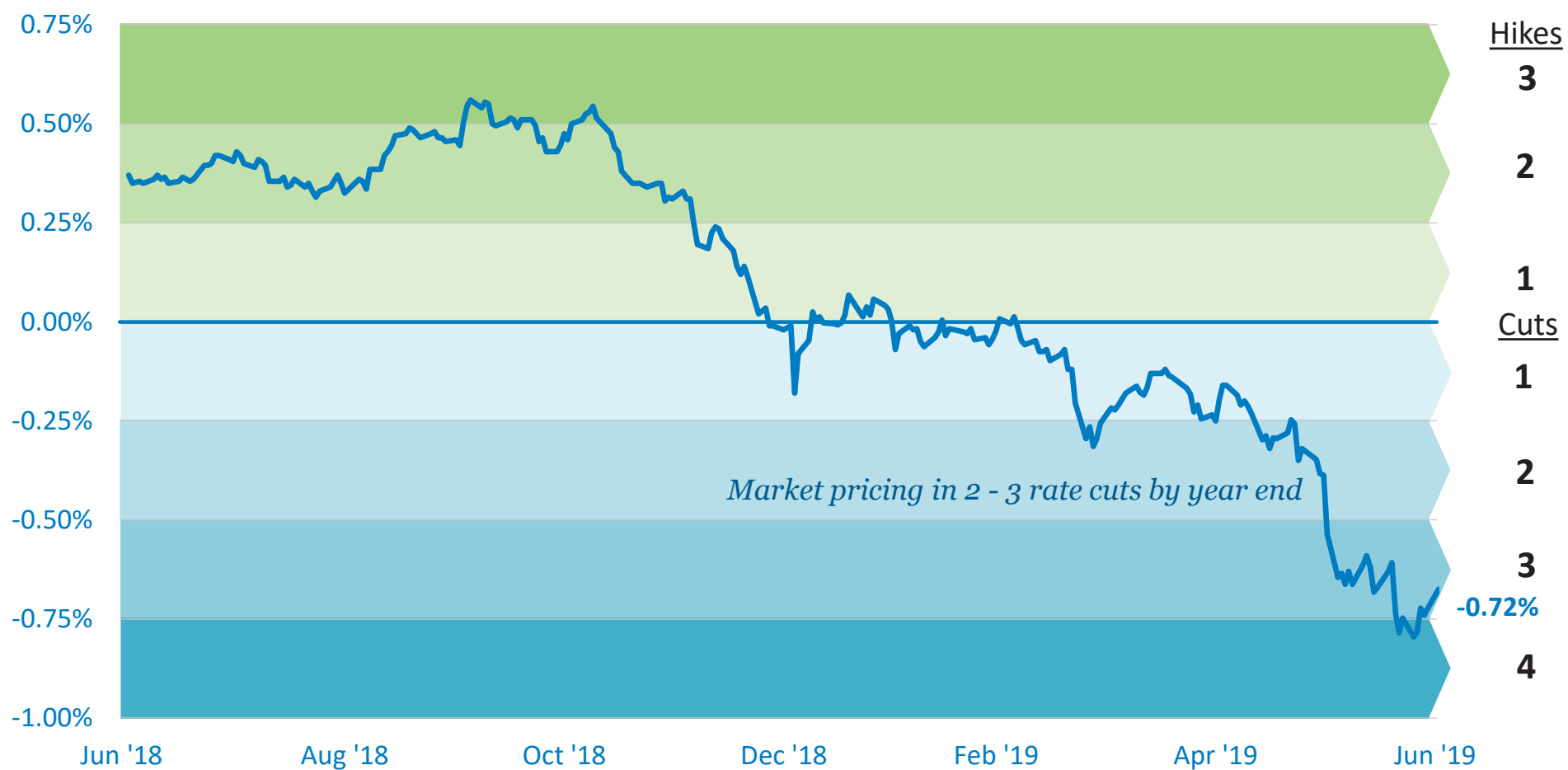
	<u>5/31/19</u>	<u>6/30/2019</u>	<u>Change</u>
3 month	2.34%	2.09%	-0.25%
6 month	2.34%	2.10%	-0.25%
1 year	2.20%	1.93%	-0.28%
2 year	1.92%	1.76%	-0.17%
3 year	1.87%	1.72%	-0.16%
5 year	1.91%	1.78%	-0.16%
10 year	2.12%	2.01%	-0.12%
30 year	2.57%	2.53%	-0.04%



Source: Bloomberg, as of June 30, 2019.

The Market Now Expects 2 – 3 Rate Cuts by Year End

2019 Rate Moves Priced into the Futures Market

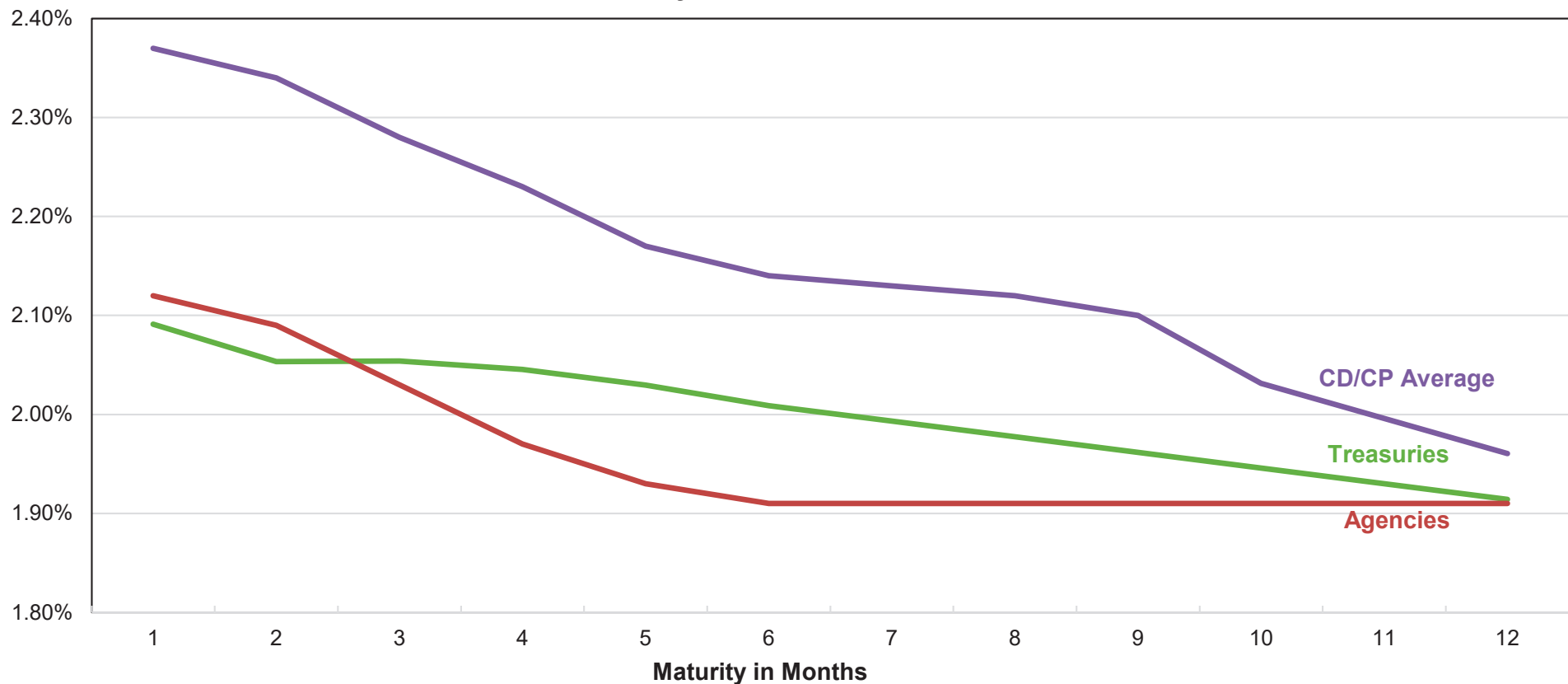


Source: Bloomberg, as of June 30, 2019.

Current Short-Term Interest Rate Environment

- Longer-term commercial paper and bank certificate of deposit (CP / CD) yield spreads decreased significantly in June
- Though the spread is tightening, Treasuries continue to be relatively attractive versus Agency discount notes, especially in the 3 – 11 month maturity range

Money Market Yield Curves



Source: Bloomberg as of 6/30/19. Some yields are not available at certain maturities and are extrapolated based on linear growth. Not a specific recommendation.

Fixed Income

Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- The second quarter of calendar year 2019 saw plunging interest rates, surging equity prices, mixed economic data, and increasing global growth concerns
 - While few economists expect the decade-long U.S. expansion to end soon, the Federal Reserve’s cautionary tone set the stage for rate cuts in the second half of the year
- Economic conditions were characterized by the following:
 - U.S. GDP grew by 3.1% in the first quarter, up from 2.2% in the fourth quarter; growth was driven by an unexpected improvement in net exports and outsized growth in inventories, factors not likely to be sustained
 - Strong job growth, with a low unemployment rate of 3.7%
 - Inflation continued to be tame; the Fed’s preferred inflation gauge, the core personal consumption expenditure (“PCE”) price index, excluding food and energy prices, also rose by 1.6% over the past year, below the Fed’s target of 2.0%
 - Increased downside risks, including a slowdown in manufacturing, weaker business investments, and protracted trade wars
 - At its June meeting, the Federal Open Market Committee (“FOMC”) maintained the overnight Fed Funds rate at a target range of 2.25% – 2.50%, but acknowledged soft business investment, declining market-based inflation measures, and increased uncertainty to the outlook; Fed Chair Jerome Powell all but assured a first preemptive rate cut will occur at the Fed’s next meeting on July 31st
 - The S&P 500 index returned 4.3% for the quarter and is now up by 17.3% for the year
- U.S. Treasury yields fell for a third consecutive quarter, with maturities greater than one year falling by 40 to 50 basis points, while the yield curve still remains inverted between the 3-month and 10-year areas

Fixed Income

Market Overview and Outlook

FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS

- Interest rates plummeted in the second quarter, with yields on intermediate-term maturity (2 – 5 year) Treasuries falling by about 50 basis points (0.50%) to the lowest levels since late 2017
 - Rates fell in response to slowing global growth expectations, weakness in manufacturing triggered by renewed trade disputes, muted inflation, and expectations for multiple Fed rate cuts in the second half of the year
 - Much of the yield curve remains inverted, with longer-term yields lower than short-term yields
- Somewhat counterintuitively, credit-sensitive assets performed strongly during the quarter as yield spreads on commercial paper narrowed and U.S. equity markets reached new all-time highs
 - Our sector allocation strategy continued to favor broad diversification, generally including the widest range of permitted investments; maintaining durations (despite the inverted yield curve) was vitally important during the quarter as the sharp drop in yields drove strong market value returns across most fixed-income sectors, and as a result, longer duration strategies outperformed shorter ones by a wide margin
 - Federal Agencies continued to be de-emphasized as their yield spreads remained near historic tights; these levels have mainly been driven by a lack of new supply
 - Short-term commercial paper yield spreads narrowed during the quarter, reducing their attractiveness; by quarter-end, the money market yield curve was also inverted
- The outlook for some of the major investment-grade fixed-income sectors are as follows:
 - Federal Agency spreads are very tight, and they are expected to remain so; therefore, Treasuries and other sectors are favored over Agencies
 - Money market investors now face both inverted U.S. Treasury and credit yield curves, and historically tight spreads have also reduced the range of high-quality, short-term credit issues that offer adequate incremental income to warrant purchase; careful maturity selection around Fed meeting expectations will be an important consideration going forward

Disclosure

This material is based on information obtained from sources generally believed to be reliable and available to the public, however PFM Asset Management LLC cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All statements as to what will or may happen under certain circumstances are based on assumptions, some but not all of which are noted in the presentation. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guaranty of future results. The information contained in this presentation is not an offer to purchase or sell any securities.