



## Audit Committee

Friday, February 15, 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. January 18, 2019 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
  - A. Proposed FY 2020-2021 Biennial Budget and Five-Year Plan (Page 6)
  - B. Proposed FY 2020 Charges (Page 38)
  - C. Update: GLWA and DWSD Shared Services True-Up Status for (Page 53)  
FY 2017 and Summary of Shared Services Billings and Payments
7. NEW BUSINESS
  - A. Reconciliation Committee Update (Page 58)
  - B. Quarterly Investment Report as of December 31, 2018 (Page 86)
  - C. Charges Stability and Equity Initiatives Work Plan Review (Page 116)
  - D. Contractual Services and Initiatives Planning (Page 122)
8. REPORTS
  - A. Monthly Financial Report for November 2018 (Page 124)
  - B. CFO Update (verbal)
9. LOOK AHEAD
  - Next Audit Committee Meetings
    - A. March 15, 2019 at 8 am
10. INFORMATION
  - A. Annual Update with the Financial Advisor (PFM) - March 15, 2019
11. OTHER MATTERS
12. ADJOURNMENT

*Note: Binders 1-3 are combined  
in agenda order and document  
was renumbered.*



# Great Lakes Water Authority

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

## Meeting Minutes - Draft

### Audit Committee

Friday, January 18, 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:** 3 - Chairman Robert Daddow, Director Brian Baker, and Director Gary Brown

#### 3. Approval of Agenda

Chairman Daddow requested a Motion to approve the Agenda.

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Approved

The motion carried by a unanimous vote.

#### 4. Approval of Minutes

##### A. [2019-024](#) Audit Committee Meeting Minutes-December 21, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [December 21, 2018 Audit Committee Meeting Minutes.pdf](#)

Chairman Daddow requested a Motion to approve the December 21, 2018 Audit Committee Meeting Minutes.

**Motion By:** Brian Baker

**Support By:** Gary Brown

**Action:** Approved

The motion carried by a unanimous vote.

**B.**     [2019-025](#)     Audit Committee Meeting Minutes-January 4, 2019

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [January 4, 2019 Special Audit Committee Meeting Minutes.pdf](#)

Chairman Daddow requested a Motion to approve the January 4, 2019 Special Audit Committee Meeting Minutes.

**Motion By:** Gary Brown  
**Support By:** Brian Baker  
**Action:** Approved  
The motion carried by a unanimous vote.

**5. Public Comment**

None

**6. Old Business**

**A.**     [2019-026](#)     Proposed Amendment Oakland Macomb Interceptor Drainage District Agreement

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Proposed OMID Agreement Amendment.pdf](#)  
[OMID Summary Elements.pdf](#)

**Motion By:** Brian Baker  
**Support By:** Gary Brown  
**Action:** Received and Filed  
The motion carried by a unanimous vote.

**B.**     [2019-027](#)     Review FY 2020-2021 Biennial Budget and Five-Year Plan

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Continued Budget Review 1.18.2019](#)

**Motion By:** Gary Brown  
**Support By:** Brian Baker  
**Action:** Received and Filed  
The motion carried by a unanimous vote.

C. [2019-028](#) Update: GLWA and DWSD Shared Services True-Up Status FY 2017

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Shared Services Agreement FY17 Update 1.17.19.pdf](#)

**Motion By: Brian Baker**

**Support By: Robert Daddow**

**Action: Received and Filed**

**The motion carried by a unanimous vote.**

## 7. New Business

A. [2019-029](#) Proposed FY 2020 Charges

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Proposed FY 2020 Charges.pdf](#)  
[Audit Committee Briefing 011918.pdf](#)  
[Preliminary Charges 011619.pdf](#)

**Motion By: Gary Brown**

**Support By: Brian Baker**

**Action: Received and Filed**

**The motion carried by a unanimous vote.**

B. [2019-030](#) General Retirement System Financial Report for Year-end June 30, 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [GRS Pension FY18 Report Summary 1.15.2019](#)  
[GRS of the City of Detroit - June 30 2018 Financial Statement](#)  
[GRS of the City of Detroit - June 30 2018 End of Audit Letter](#)  
[1.15.19 GRS GASB 68 and 67 Report](#)

**Motion By: Brian Baker**

**Support By: Gary Brown**

**Action: Received and Filed**

**The motion carried by a unanimous vote.**

C. [2019-031](#) Proposed Audit Fee Change Order for the FY 2018 Audit and Other Technical Services

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [FY 2018 - Proposed FY 2018 Audit Fee Amendment](#)

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Recommended for Approval to the Board of Directors Workshop Meeting

**Agenda of February 13, 2019**

The motion carried by a unanimous vote.

## 8. Reports

A. [2019-032](#) Monthly Financial Report for October 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Monthly Financial Report for October 2018 for 1.18.2019](#)

**Motion By:** Brian Baker

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

B. CFO Update (Verbal)

Nicolette Bateson, Chief Financial Officer/Treasurer, provided an update within the Monthly Financial Report for October 2018, and noted there were no additional updates to provide at this time, other than the next Reconciliation Committee Meeting will be scheduled soon.

William M. Wolfson, Chief Administrative and Compliance Officer, gave a verbal update regarding the status of the 24-inch water main.

## 9. Look Ahead

The next regular Audit Committee Meeting is scheduled for February 15, 2019 at 8:00 a.m.

## 10. Information

None

## 11. Other Matters

Director Brown requested that an update is given to the Board regarding a GLWA employee lawsuit, and also stated that he will be submitting to GLWA (CEO McCormick) a resolution by the Board of Water Commissioners requesting an investigation regarding the 42-inch water main break.

## 12. Adjournment

Chairman Daddow requested a Motion to Adjourn.

Motion By: Gary Brown

Support: Brian Baker

Action: Approved

The motion carried unanimously.

There being no further business, the meeting was adjourned at 11:32 a.m.



## Financial Services Audit Committee Communication

**Date:** February 15, 2019

**To:** Great Lakes Water Authority Audit Committee

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

**Re:** Discussion: FY 2020 & 2021 Biennial Budget and Five-Year Plan

**Background:** In accordance with service agreements with Great Lakes Water Authority (GLWA) member partners, charges for the next fiscal year are annually presented at the end of January each year. To accommodate that schedule, the budget process for the GLWA begins early in the fiscal year.

**Analysis:** At the Audit Committee meeting on a December 21, 2018, staff presented a discussion draft of the FY 2020 & 2021 Biennial Budget and Five-Year Plan. This draft focused on a) overall strategy of key budget elements including system-wide service charges and b) proposed operating group budgets.

Additional analysis was provided at the January 4, 2019 and January 19, 2019 Audit Committee meetings. Since that date, staff has been updating the budget document with November 2018 actual numbers (vs. October 2018) as well as working with The Foster Group to obtain and reconcile late adjustments to accommodate charges decisions related to certain Member Partner matters.

Forthcoming for today's meeting, are the following.

1. Top ten budget category increases and decreases
2. Draft biennial budget resolution for review

Attached is a memo from The Foster Group re: Proposed FY 2020 Water Service Charges "Other Impacts" Summary. While this analysis does not impact the budget directly, it will be shared with Member Partners at next week's Charges Work Group meeting to better explain the link between budget priorities and water charges.

**Proposed Action:** Receive and file reports.

**T F G**  
**THE FOSTER GROUP**

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MEMORANDUM

Proposed FY 2020 Water Service Charges  
“Other Impacts” Summary

February 5, 2019

To: Nicolette Bateson

From: Bart Foster

The intent of this memorandum is to present and discuss the “other impacts” category contained on the Water Charge Calculation Sheets distributed to GLWA Customers on January 24. Together with the accompanying exhibits, this discussion provides additional perspective on the proposed water service charges for FY 2020.

**Background**

At the final FY 2020 charge rollout meeting on January 24, each Customer was presented with a “Charge Calculation Sheet.” The exhibits were designed to set forth how the uniform cost of service allocation and charge methodology produced specific proposed charges for each Customer, and to identify how issues impacting the proposed charges impacted individual Customers. The second page of those charge calculation sheets attempts to “unbundle” the various elements impacting the proposed charges by comparing the results of the FY 2020 Cost of Service Study with those from the FY 2019 study. The specific elements identified as impacting the proposed FY 2020 charges were:

- The original targeted 3.5% increase in the FY 2020 BUDGET request;
- The allocated benefit of increased projected investment income;
- The collective results of the Units of Service (“UoS”) study for Non-Master Metered Customers;
  - *Separated by anticipated Phase 1 impacts and final Phase 2 impacts*
- The results of modified Customer demands emerging from the Contract Alignment Process (“CAP”);
- The final modifications to the FY 2020 BUDGET request.

All other variances between allocated FY 2020 cost of service and allocated FY 2019 cost of service were attributed to “other impacts”. On the charge calculation sheets we described “other impacts” as follows: *“Other impacts are related to the FY 2020 Cost of Service Study, and adjustments made to the FY 2019 charges after the FY 2019 Cost of Service Study was*

*completed.*” We further noted that this element was impacted by consolidation effects that emerge when the other discretely identified elements are “re-bundled”.

The same approach described above has been applied in prior Cost of Service and Charge studies, and the “other impacts” element is generally quite small in terms of the final results. For the original FY 2020 Charge Calculation Sheets, the impact on specific Customers of this element ranged from an approximate 2% reduction for some Customers to an approximate 2% increase of allocated costs of service for others. Customers expressed an interest in further understanding this element.

### **Further Unbundling of “Other Impacts”**

We have conducted additional analysis designed to more discretely identify additional elements that were identified as “other impacts” in the original presentation. Herewith a brief introduction to those additional elements.

First, let’s discuss the adjustments made to the FY 2019 water service charges after the FY 2019 Cost of Service Study was completed, as noted above. These changes are introduced on Exhibit Page 1. Column 1 shows the original revenue requirements allocated to Customers in the FY 2019 Cost of Service Study, which total \$330.8 million. That study produced the original proposed water service charges for FY 2019, which were submitted for review in late January 2018. The remaining Columns illustrate modifications made between that time and final approval of the FY 2019 BUDGET and charges. The footnotes and annotations on the exhibit adequately introduce the major changes and we’ll not elaborate herein, but rather summarize:

- As noted in Column 4, there were adjustments made to units of service, and to water service charges, for specific Customers that had the effect of reducing the final budgeted FY 2019 revenues. Had the FY 2019 Cost of Service study been recalculated with these adjustments, charges to ALL Customers would have been modified.
- As noted in Column 5, the final adjustments (reductions) to the FY 2019 BUDGET were principally accommodated by a reduction in the operating expense budget, and smaller increase in the capital budget. Since the allocation of these revenue requirements is not uniform, had the FY 2019 Cost of Service study been recalculated with these adjustments, charges to ALL Customers would have been modified.
- *The calculation of the impact of the above two elements are summarized as the “Adjusted FY 2019 BUDGET Allocation” on the supplemental Charge Calculation Sheets that we’ll introduce later.*

Next, let’s introduce the impacts are related to the FY 2020 Cost of Service Study, and specifically the results of the detailed cost pool analysis that are implemented with it. This element was originally introduced in our presentation of the proposed charges on January 24. Referring to slide 33 of that presentation:

## Issues Impacting Proposed FY 2020 WATER Service Charges – Cost Pools

- FY 2020 Cost Allocation review increases portion of revenue requirements related to Transmission Mains
- Costs related to Transmission Mains are allocated to Customers based on their peak hour demand and distance factor
- Customers with relatively high peak hour demands and/or distance factors experience a slightly higher than average charge adjustment than Customers with relatively low peak hour demands and/or distance factors, all else being equal



33

This issue is further introduced starting on Exhibit Page 2, which compares the operating budget by Cost Pool for the FY 2020 Cost of Service Study with that from the FY 2019 Cost of Service Study. As a reminder, the major influence on the operating budget allocation for FY 2020 was the detailed review of activities in GLWA’s Centralized Services group. That review is documented in our “FY 2020 Cost of Service Study and Service Charge Recommendations” report and its accompanying exhibits. In general, significant efforts have been made to specifically align major budgeted programs and contracts with appropriate utility and cost pools. Items of note:

- The overall water O&M budget reflects an increase of approximately \$7.6 million from that utilized for the FY 2019 Cost of Service Study.
- Within the water budget, the increase is largely allocated to the Transmission Mains Cost Pool, which are allocated to Customers based (in part) on distance.
- Cost allocated to the Booster Stations Cost Pool experience a decrease. These costs are allocated to Customer (in part) based on distance AND elevation.
- Since these elements are allocated to Customers based on different units of service, the impact of the refined budget allocation will impact Customers differently.

An example of this nuance is illustrated on Exhibit Page 3, which compares the effect of the cost pool reallocation on two similar Customers. As noted in the units of service comparison at the top of the page, these two Customers have similar profiles, other than the fact that Customer B has a significantly higher elevation factor.

The exhibit illustrates how each Customer is impacted by the changes to the allocation to each cost pool, and summarizes the total impact on Line 24 (*and Line 30*). *The total impact on Line*

*24 becomes the “Recognize FY 2020 Cost Pool Variance” element on the supplemental Charge Calculation Sheets introduced below.*

As noted on Line 32, almost 40% of Customer B’s allocated revenue requirement is related to elements that include elevation as an allocation factor, compared to only 23% for Customer A. Since the results of the Cost of Service Study lower the relative cost of elevation related elements, Customer B experiences a decrease in that line item that offsets the increase in the distance related element on Line 31. Customer A also is allocated reduced elevation related elements, but the reduction is not enough to offset the increase in distance related elements.

The chart included as Exhibit Page 4 illustrates the calculated impact of the Cost Pool modifications on every Customer, expressed as a percentage of its adjusted allocated FY 2019 Cost of Service.

Supplemental Charge Calculation Sheets for Customer A and Customer B are included as Exhibit Page 5 and Exhibit Page 6, respectively. These exhibits are designed to illustrate the further “unbundling” of the original other impacts figure from the Charge Calculation Sheets previously submitted to Customers. ***We have prepared these supplemental calculation sheets for each Customer and encourage that they be distributed as soon as possible.***

The format of these sheets is similar in nature to the originals. We start with the original “unadjusted” FY 2019 BUDGET allocation to each Customer, and then attempt to illustrate how the various elements discussed herein impact that allocation. Lines 3 and 4 delineate the “Adjusted FY 2019 BUDGET Allocation” originally introduced on Exhibit Page 1. Line 10 presents the impact on cost of service allocations of updating all of the master metered volume projections from the original FY 2019 figures to the FY 2020 figures. The figure for each Customer reflects the change in commodity related allocated costs of service that occur due to projected changes in annual sales volumes. Customers with reduced sales volume projections experience reduced allocated commodity costs, and vice versa. The impact is only related to the first three “commodity” related cost pools.

The impacts of recognizing the FY 2020 Cost Pool Variances (introduced earlier) is shown on Line 11 and the specific calculations of this amount are illustrated in the lengthy footnote (a) of the exhibit. We have attributed remaining original “other impacts” from the original Charge Calculation Sheets to a new, smaller “other impacts” amount on Line 12. This element now is basically limited to the consolidation effects that emerge when the other discretely identified elements are “re-bundled”.

We trust that this additional discussion and material is responsive to the request for more information on the “other impacts” question. This material is intended to serve as an addendum to the original Charge Calculation Sheets and the “FY 2020 Cost of Service Study and Service Charge Recommendations” report and its accompanying exhibits.

We are prepared to present this material at the Water Charges Work Group meeting scheduled for February 21 and to discuss this matter at your convenience.

Evolution of FY 2019 Water Revenue Requirement Budget

	(1)	(2)	(3)	(4)	(5)	(6)
	Budget for	Budget	MOU	Customer	Final	Final
	<u>Charges</u>	<u>Review</u>	<u>Adjustments</u>	<u>Charge</u>	<u>Budget</u>	<u>Approved</u>
	<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>	<u>Budget</u>
1 Regional System O&M Expense	125,311,800	(590,100)			(3,159,100)	121,562,600
2 Pension Obligation - Operating Portion	6,048,000				0	6,048,000
3 Debt Service	133,210,100		1,004,200		300	134,214,600
4 Non-Operating Portion of Pension Oblig	6,268,300				0	6,268,300
5 Transfer to WRAP Fund	1,564,800				108,600	1,673,400
6 Transfer to Extra. Repair and Repl. Fund	250,500		(250,500)		0	0
7 Lease Payment - Transfer to Detroit Local I&E	22,500,000				0	22,500,000
8 Transfer to GLWA Regional I&E Account	38,024,900	590,100	(753,700)	(921,300)	2,193,600	39,133,600
9 Operating Reserves	1,502,700				(1,502,700)	0
10 Total Gross BUDGET	334,681,100	0	0	(921,300)	(2,359,300)	331,400,500
11 less: Non-Operating Revenue	(3,836,600)					(3,836,600)
12 Net BUDGET Req'd from Charges	330,844,500	0	0	(921,300)	(2,359,300)	327,563,900

- (a) Reflects Budget request as of January 5, 2018 as documented in the FY 2019 Cost of Service Study. Overall 2% increase from FY 2018.
- (b) Adjustments made to reflect lower than estimated bids on specific Water O&M contracts ~ 2/2018.
- (c) Adjustments made to implment GLWA/DWSD 2018 Memorandum of Understanding.
- (d) Adjustments made to Charges to Dearborn, Gibraltar, and Inkster without reallocating costs of service to other Customers
- (e) Final adjustments made at Board direction to limit overall 1% revenue requirement increase from FY 2018 and hold O&M budget level.

FY 2019 Cost of Service Results

Could have reallocated this cost responsibility to other Customers

Accommodated via "across the board" reduction in Charges from original Cost of Service results. Not reflected in Cost of Service allocations.



Allocated Operating Budget Comparison

	FY 2019 COS Study \$	FY 2020 COS Study \$	Variance \$ (2) - (1)	% Variance (3) / (1)		
1	Source of Supply Power	478,200	401,100	(77,100)	-16.1%	
2	Source of Supply Other	3,583,100	3,958,800	375,700	10.5%	
3	Low Lift Pumps Power	3,825,300	3,208,200	(617,100)	-16.1%	
4	Low Lift Pumps Other	5,290,300	5,855,800	565,500	10.7%	
5	Purification Chemicals	6,080,700	5,064,300	(1,016,400)	-16.7%	
6	Purification Other	46,809,400	51,195,100	4,385,700	9.4%	
7	High Lift Pumps Power	10,041,400	8,421,600	(1,619,800)	-16.1%	
8	High Lift Pumps Other	8,510,400	9,292,900	782,500	9.2%	
9	Reservoirs	213,300	2,029,800	1,816,500	851.6%	
10	Booster Stations	31,017,300	22,258,400	(8,758,900)	-28.2%	[50% Comm / 50% PH] + Dist/Elev
11	Transmission Mains	7,279,800	19,496,100	12,216,300	167.8%	PH + Distance
12	Suburban Meters	2,183,100	1,739,500	(443,600)	-20.3%	
13	Total	125,312,300	132,921,600	7,609,300	6.1%	

Combination of more refined review of general Centralized Services budget, and focus of specific budgeted contracts for Transmission Main integrity

Effect is to decrease costs allocable based on elevation and increase costs allocable on distance

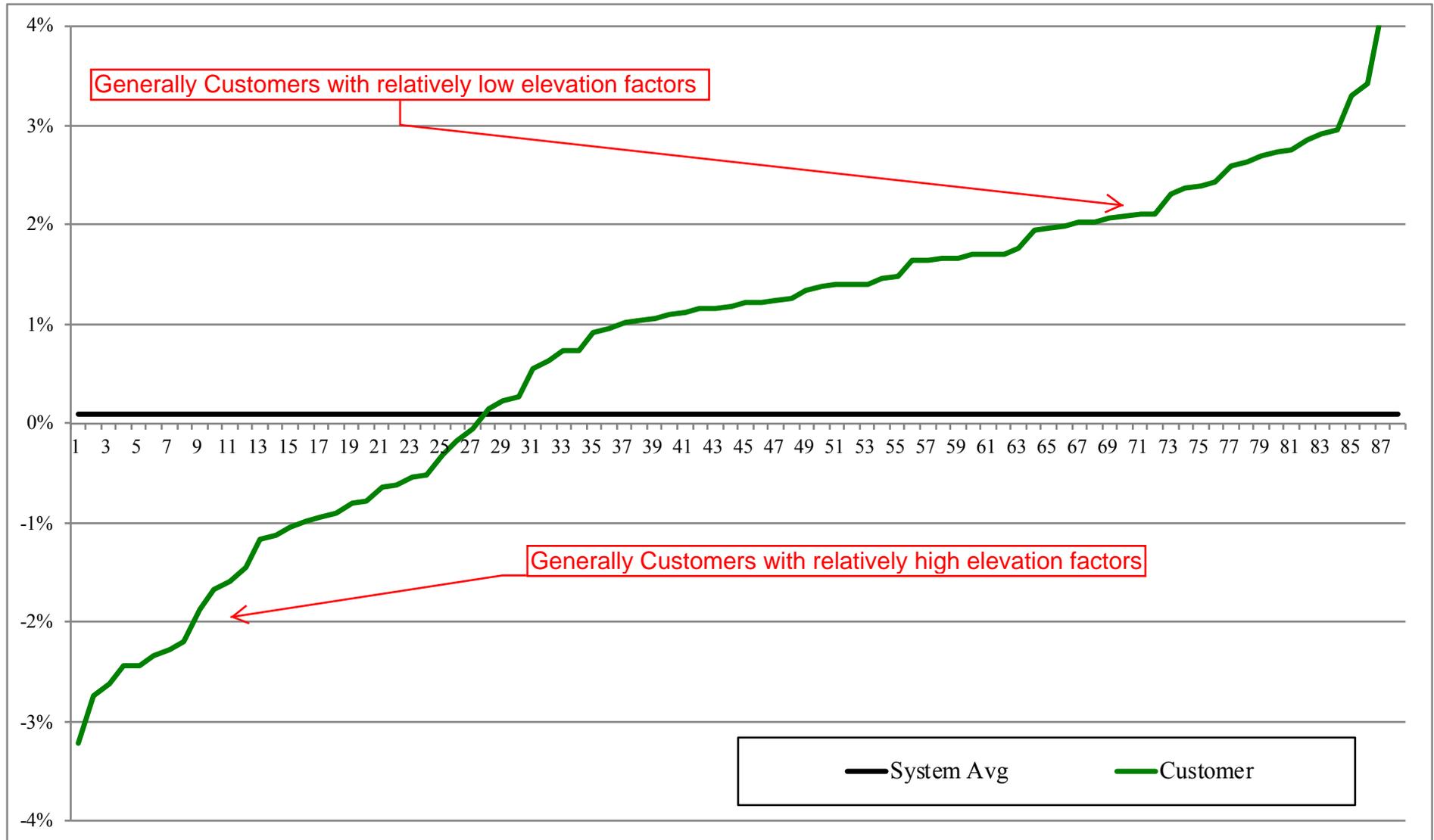
Customer Impact Comparison - FY 2020 Cost Pool Allocations

	FY 2020 System Rev Reqt <u>Variance</u> \$	Customer A <u>~ Rev Reqt</u> \$	Customer B <u>~ Rev Reqt</u> \$	Customer A <u>Variance</u> \$	Customer B <u>Variance</u> \$
<u>Baseline Units</u>					
Annual Sales - <i>Mcf</i>		598,200	277,000		
Average Day Units - <i>mgd</i>		12.26	5.68		
Max Day Units - <i>mgd</i>		33.00	15.50		
Peak Hour Units - <i>mgd</i>		52.50	26.00		
Max Day Peaking Factor		2.69	2.73		
Peak Hour Peaking Factor		4.28	4.58		
Distance - <i>miles</i>		22.3	28.7		
Elevation - <i>feet</i>		632	912		
14 Commodity	(1,464,300)	1.69%	1.18%	(45,900)	(22,000)
15 Max Day Usage	(2,545,200)	40.66%	28.08%	(100,400)	(47,800)
16 Peak Hour Increment	3,555,200	5.21%	4.07%	322,300	173,500
17 Peak Hour Distance	19,617,200	28.08%	26.14%	883,300	566,700
18 Commodity Distance-Elevation	(6,341,800)	3.04%	4.98%	(152,600)	(171,900)
19 Max Day Distance-Elevation	784,800	2.36%	3.83%	22,800	25,500
20 Peak Hour Distance-Elevation	(10,715,500)	12.84%	21.80%	(398,800)	(466,900)
21 Peak Hour Increment Distance-Elevation	(3,171,000)	4.74%	8.70%	(237,800)	(300,700)
22 Subtotal Common-To-All	(280,600)	98.63%	98.78%	292,900	(243,600)
23 Suburban Only - Meter Related	597,300	1.37%	1.22%	28,000	17,300
24 Subtotal BUDGET	316,700	100.00%	100.00%	<b>320,900</b>	<b>(226,300)</b>
25 Commodity	(7,806,100)	4.73%	6.15%	(198,500)	(193,900)
26 Max Day	(1,760,400)	43.02%	31.91%	(77,600)	(22,300)
27 Peak Hour	9,285,900	50.88%	60.71%	569,000	(27,400)
28 Subtotal Demand	7,525,500	93.90%	92.63%	491,400	(49,700)
29 Suburban Only - Meter Related	597,300	1.37%	1.22%	28,000	17,300
30 TOTAL	316,700	100.00%	100.00%	<b>320,900</b>	<b>(226,300)</b>
31 Elements with Distance ONLY	19,617,200	28.08%	26.14%	883,300	566,700
32 Elements with Elevation	(19,443,500)	22.99%	39.31%	(766,400)	(914,000)
33 Net	173,700			116,900	(347,300)
34 Elements without Distance/Elevation	143,000	48.93%	34.55%	204,000	121,000

Relatively similar profiles, other than Distance and Elevation, particularly Elevation

Higher relative elevation -> higher relative rev reqt based on elevation categories -> less impact of FY 2020 cost allocation review / FY 2020 Cost of Service Study

FY 2020 Wholesale Water Service Charge Impact Analysis - Cost Pool Variance Impacts



FY 2020 Wholesale Water Service Charge Impact Analysis - "Other Impacts"

Customer A

	(1)	(2)	(3)	(4)	
	Allocated BUDGET \$	Alternative BUDGET Allocation \$	Alternative Variance \$		Impact % of Original BUDGET
<b>FY 2019 BUDGET Allocation Impacts</b>					
1 Original Allocated FY 2019 BUDGET	13,394,000	13,394,000	0		
<b>Adjustments to Budget</b>					
2 Customer Specific Adjustments	0	0	0		0.0% Only applies to Dearborn, Gibraltar, Inkster
3 Reflect COS Allocation for Dearborn, Gibraltar, Inskt	NA	51,500	51,500		0.4% Reallocation of "after Cost of Svc" adjustments
4 Final Budget Modifications	(104,900)	(123,500)	(18,600)		-0.1% More refined allocation of final budget adjs.
5 Total Adjustments	(104,900)	(72,000)	32,900		0.2%
6 Adjusted FY 2019 BUDGET Allocation	13,289,100	13,322,000	32,900		0.2% Ln (1) + Ln (5)
7 Original Adjustments (Detroit, Flint, GP)	1,311,600	1,311,600	0		0.0%
8 Step #1 of Phase 1 UoS Study for NMM Customers	265,800	265,800	0		0.0%
9 Final Adjusted Total FY 2019 Revenue Requireme	14,866,500	14,899,400	32,900		0.2%
<b>FY 2020 "Other" Adjustments</b>					
10 Recognize FY 2020 Projected Sales Volumes			(33,300)		-0.2% Impact of updated sales projection on cost of svc
11 Recognize FY 2020 Cost Pool Variances (a)			320,900		2.4% See below
12 Other Impacts			36,400		0.3% Consolidation of all other impacts
13 Original Charge Calculation Sheet "Other Impacts"			356,900		2.7%

(a) Illustration of FY 2020 Cost Pool Allocation Impact

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Cost Pool Allocation Summary				Customer A SHARE		
	FY 2019 COS Study \$	FY 2020 COS Study \$	Variance \$	% Variance	Adj FY 2019 % Share	Allocated Variance \$	~ Rev Req ~ Ln (11)
			(2) - (1)	(3) / (1)		(3) * (5)	
14 Commodity	8,870,300	7,406,000	(1,464,300)	-16.5%	3.131%	(45,900)	1.69%
15 Max Day Usage	144,157,600	141,612,400	(2,545,200)	-1.8%	3.943%	(100,400)	40.66%
16 Peak Hour Increment	4,343,500	7,898,700	3,555,200	81.9%	9.066%	322,300	5.21%
17 Peak Hour Distance	66,035,600	85,652,800	19,617,200	29.7%	4.503%	883,300	28.08%
18 Commodity Distance-Elevation	23,713,600	17,371,800	(6,341,800)	-26.7%	2.406%	(152,600)	3.04%
19 Max Day Distance-Elevation	10,386,800	11,171,600	784,800	7.6%	2.902%	22,800	2.36%
20 Peak Hour Distance-Elevation	53,080,900	47,365,400	(10,715,500)	-18.4%	3.722%	(398,800)	12.84%
21 Peak Hour Increment Distance-Elevation	11,856,700	8,685,700	(3,171,000)	-26.7%	7.500%	(237,800)	4.74%
22 Subtotal Common-To-All	327,445,000	327,164,400	(280,600)	-0.1%	4.140%	292,900	98.63%
23 Suburban Only - Meter Related	3,399,900	3,997,200	597,300	17.6%	4.691%	28,000	1.37%
24 Subtotal BUDGET	330,844,900	331,161,600	316,700	0.1%	4.147%	320,900	100.00%
25 Commodity	32,583,900	24,777,800	(7,806,100)	-24.0%	2.623%	(198,500)	4.73%
26 Max Day	154,544,400	152,784,000	(1,760,400)	-1.1%	3.867%	(77,600)	43.02%
27 Peak Hour	140,316,700	149,602,600	9,285,900	6.6%	4.670%	569,000	50.88%
28 Subtotal Demand	294,861,100	302,386,600	7,525,500	2.6%	4.264%	491,400	93.90%
29 Suburban Only - Meter Related	3,399,900	3,997,200	597,300	17.6%	4.691%	28,000	1.37%
30 TOTAL	330,844,900	331,161,600	316,700	0.1%	4.147%	320,900	100.00%
31 Elements with Distance ONLY (17)	66,035,600	85,652,800	19,617,200	29.7%	4.503%	883,300	28.08%
32 Elements with Elevation (18) thru (21)	104,038,000	84,594,500	(19,443,500)	-18.7%	3.731%	(766,400)	22.99%
33 Total / Net	170,073,600	170,247,300	173,700	0.1%	4.119%	116,900	51.07%
34 Elements without Dist/Elev (14) thru (17)	160,771,300	160,914,300	143,000	0.1%	4.176%	204,000	48.93%

FY 2020 Cost of Service Study results in a shift of costs allocable based on Elevation to those allocable based on Distance Only

Hypothetical impact of reallocating responsibility for FY 2019 "post Cost of Service" adjustments

FY 2020 Wholesale Water Service Charge Impact Analysis - "Other Impacts"

Customer B

	(1)	(2)	(3)	(4)	
	Allocated BUDGET \$	Alternative BUDGET Allocation \$	Alternative Variance \$		Impact % of Original BUDGET
<b>FY 2019 BUDGET Allocation Impacts</b>					
1 Original Allocated FY 2019 BUDGET	9,625,900	9,625,900	0		
<b>Adjustments to Budget</b>					
2 Customer Specific Adjustments	0	0	0		0.0% Only applies to Dearborn, Gibraltar, Inkster
3 Reflect COS Allocation for Dearborn, Gibraltar, Inskt	NA	29,300	29,300		0.3% Reallocation of "after Cost of Svc" adjustments
4 Final Budget Modifications	(74,700)	(98,600)	(23,900)		-0.2% More refined allocation of final budget adjs.
5 Total Adjustments	(74,700)	(69,300)	5,400		0.1%
6 Adjusted FY 2019 BUDGET Allocation	9,551,200	9,556,600	5,400		0.1% Ln (1) + Ln (5)
7 Original Adjustments (Detroit, Flint, GP)	943,100	943,100	0		0.0%
8 Step #1 of Phase 1 UoS Study for NMM Customers	186,500	186,500	0		0.0%
9 Final Adjusted Total FY 2019 Revenue Requirement	10,680,800	10,686,200	5,400		0.1%
<b>FY 2020 "Other" Adjustments</b>					
10 Recognize FY 2020 Projected Sales Volumes			36,600		0.4% Impact of updated sales projection on cost of svc
11 Recognize FY 2020 Cost Pool Variances (a)			(226,300)		-2.4% See below
12 Other Impacts			(25,900)		-0.3% Consolidation of all other impacts
13 Original Charge Calculation Sheet "Other Impacts"			(210,200)		-2.2%

(a) Illustration of FY 2020 Cost Pool Allocation Impact

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Cost Pool Allocation Summary				Customer B SHARE		
	FY 2019 COS Study \$	FY 2020 COS Study \$	Variance \$	% Variance	Adj FY 2019 % Share	Allocated Variance \$	~ Rev Req ~ Ln (11)
			(2) - (1)	(3) / (1)		(3) * (5)	
14 Commodity	8,870,300	7,406,000	(1,464,300)	-16.5%	1.503%	(22,000)	1.18%
15 Max Day Usage	144,157,600	141,612,400	(2,545,200)	-1.8%	1.877%	(47,800)	28.08%
16 Peak Hour Increment	4,343,500	7,898,700	3,555,200	81.9%	4.881%	173,500	4.07%
17 Peak Hour Distance	66,035,600	85,652,800	19,617,200	29.7%	2.889%	566,700	26.14%
18 Commodity Distance-Elevation	23,713,600	17,371,800	(6,341,800)	-26.7%	2.711%	(171,900)	4.98%
19 Max Day Distance-Elevation	10,386,800	11,171,600	784,800	7.6%	3.245%	25,500	3.83%
20 Peak Hour Distance-Elevation	52,080,900	47,365,400	(4,715,500)	-18.4%	4.357%	(466,900)	21.80%
21 Peak Hour Increment Distance-Elevation	11,856,700	8,685,700	(3,171,000)	-26.7%	9.484%	(300,700)	8.70%
22 Subtotal Common-To-All	327,445,000	327,164,400	(280,600)	-0.1%	2.858%	(243,600)	98.78%
23 Suburban Only - Meter Related	3,399,900	3,997,200	597,300	17.6%	2.896%	17,300	1.22%
24 Subtotal BUDGET	330,844,900	331,161,600	316,700	0.1%	2.859%	(226,300)	100.00%
25 Commodity	32,583,900	24,777,800	(7,806,100)	-24.0%	2.350%	(193,900)	6.15%
26 Max Day	154,544,400	152,784,000	(1,760,400)	-1.1%	1.977%	(22,300)	31.91%
27 Peak Hour	140,316,700	149,602,600	9,285,900	6.6%	3.842%	(27,400)	60.71%
28 Subtotal Demand	294,861,100	302,386,600	7,525,500	2.6%	2.900%	(49,700)	92.63%
29 Suburban Only - Meter Related	3,399,900	3,997,200	597,300	17.6%	2.897%	17,300	1.22%
30 TOTAL	330,844,900	331,161,600	316,700	0.1%	2.859%	(226,300)	100.00%
31 Elements with Distance ONLY (17)	66,035,600	85,652,800	19,617,200	29.7%	2.889%	566,700	26.14%
32 Elements with Elevation (18) thru (21)	104,038,000	84,594,500	(19,443,500)	-18.7%	4.399%	(914,000)	39.31%
33 Total / Net	170,073,600	170,247,300	173,700	0.1%	3.639%	(347,300)	65.45%
34 Elements without Dist/Elev (14) thru (17)	160,771,300	160,914,300	143,000	0.1%	2.033%	121,000	34.55%

FY 2020 Cost of Service Study results in a shift of costs allocable based on Elevation to those allocable based on Distance Only

Hypothetical impact of reallocating responsibility for FY 2019 "post Cost of Service" adjustments



**FY 2020 Requested Budget Compared to FY 2018 Actual Expenses**

FY 2018 actual expenses represent the GLWA’s second full fiscal year of activity. One way to better understand the proposed budget is by comparing it with the prior year actual. Below are explanations of the top ten highest and lowest expense category variances based on those parameters (see attached schedule of all variances). The explanations are in order as they appear on the status report.

**Top Ten Categories with Highest Dollar Increase Variance from FY 2018 Actual to FY 2020 Budget (note: the Top Eleven are presented since one item, “Unallocated Reserve” is not an expense.)**

1. **Salaries & Wages (\$13 million)** - The variance is due to the number of vacancies at June 30, 2018 versus the staffing plan for FY 2020. The table below provides an analytical analysis of the variance.

<b>Salaries &amp; Wages Increase</b>		Actual FY 2018	Budget FY 2020	Increase
		\$55,174,400	\$ 68,301,400	\$13,127,000
Actual Number of Employees				
	6/30/2017	873		
	6/30/2018	978		
Average Actual		<b>926 A</b>		
<i>Budgeted Number of Employees</i>		<i>1167</i>	<b>1187 B</b>	
Avg Salary/Employee		\$ 59,616	\$ 57,541	
<i>2018 Actual vs 2020 Budget # of Employees Variance (B - A)</i>			262	
<i>Variance @ Average Rate</i>			\$ 15,047,023	
<i>(Note: as of 2/15/2019 there are 984 current employees on file)</i>				

2. **Contractual Operating Services (\$8.6 million)** - Contractual operating services are dependent on several factors such as, delays in estimated start and end dates, environmental constraints, and other unforeseen circumstances that can cause the expenses to fluctuate from fiscal year to fiscal year.
  - a. **Toolles Contracting Group LLC:** Contract WS-695C (Valve Exercising) began in June 2018 with a duration of 2 years (approximately \$3.7 million contract. The majority of the expenses will be captured in FY 2019 and FY 2020. The total amount of this contract is \$3.7 million (roughly \$1.8 million per year).
  - b. **Mobile Dredging & Piping:** Contract CON-170 (Alum Sludge Hauling) which began during FY 2018 and is currently underway and extends through FY 2021. The total amount of this contract is \$15.3 million (roughly \$3.8 million per year).
  - c. **Contractual Services for CSO Basins:** After review of the individual CSO facilities concerning their ages, it was identified that ongoing assessments and inspections were required in order to continuously observe the conditions of the facilities. The need for these ongoing services (basin annual cleaning, roof inspections, engineering services, electrical services) increased the budget beginning in FY 2019. FY 2020 is approximately \$2.7 million.

3. **Contractual Professional Services (\$7.4 million)** - Contractual professional services are on an as-needed basis and required for the improvement in capital program delivery for the GLWA.
  - a. **Lakeshore Global Corporation:** A portion of the **professional** services related to contract CON-158 (Specialized Services) was transferred to Field Services Operations from Systems Control which increased **contractual professional** services by \$1.8 million.
  - b. **CH2M Hill Engineers Inc.:** Contract GLWA-CS-198 (Asset Management Planning Project) began in October 2018. The total for this contract over a three-year period is \$4.1 million. The FY 2020 budgeted share for these different project tasks are: Strategic Asset Management Plan (SAMP) \$1.68 million; Wastewater Asset Management Plan (WAMP 2019) \$513k; Water Asset Management Plan (WAMP 2020) \$515k; System Wide Programs to Support AMPs \$517k; Asset Management Advisory Services and Team Management \$890k.
  - c. **Capital Program Management:** This is a new initiative for process, technology, and staff development (approximate total of \$3.2 million for FY 2020). Potential award of a contract in February 2019 will also provide capital delivery support services.
4. **Unallocated Reserve (\$6.9 million)** - A reasonable amount of unallocated reserve provides for unforeseen expenditures and helps to ensure that adequate cash flow is available to meet the expected cost of Operations & Maintenance. The nature of this category is that there would be \$0 recorded to this as an expense. Instead a budget reallocation is used to decrease the Unallocated Reserve and increase the cost center and category that will need to incur the actual expense.
5. **Capital Outlay over \$5k (O&M-NonCapitlzd) (\$3.1 million)** – This expense category is largely comprised of Information Technology which includes software licensing services, fees for cloud-based solutions, hardware, software, project management, equipment upgrades, networking applications and new technology.
  - a. **DES Electric:** Contract CON-167 (Low Voltage Wiring) is accommodating an increasing demand for audio/video, data lines and telephones services. This increased demand poses a challenge to not only maintain, but to continuously develop the communications infrastructure which reflects an increase in budget for FY 2020 of \$2 million.
6. **Operating Supplies – Chemicals (\$2.8 million)** - Variable expenses such as chemicals fluctuate with changes in production, treatment volume, consumption, pumping, customer growth or infrastructure issues (pipe leaks). Water use declines in cold, wet weather which decreases chemical use and increases in hot, dry seasons which increases chemical use.
  - a. **Wastewater Secondary Process** - The budget to actuals variance for chemicals is directly attributable to the River Rouge Outfall (RRO). The diversion from the Detroit River Outfall (DRO) to the River Rouge Outfall (RRO) began in January 2019. Therefore, the increase of \$1.2 million is related to the estimated usage of Sodium Bisulfite and Hypochlorite subsequent to FY 2018.
  - b. **Wastewater Primary Process** – The budget to actuals variance for chemicals is attributable to a higher demand for Ferric Chloride in the wastewater primary treatment process. The increase of \$728k is related to this higher usage.
7. **Shared Services Reimbursement (\$2.7 million)** - The shared services reimbursement contra expenses are related to and based on a department's direct deliverables to a list of shared services arrangements. It is anticipated that the IT shared services agreement will be reduced in FY 2020. Projected expenses are provided by the shared services team and can fluctuate from fiscal year to fiscal year upon review with Detroit Water & Sewerage Department (subscriber).

- a. **ITS-003 See Click Fix:** Reduced shared services (\$138k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - b. **ITS-004 WAM:** Reduced shared services (\$1 million) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - c. **ITS-005 Service Link:** Reduced shared services (\$211k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - d. **ITS-008 TIBCO:** Reduced shared services (\$78k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - e. **ITS-006 AMR and Meter Operations maintaining CCUs:** Reduced shared services (\$678k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - f. **ITS-002 Customer Service:** Reduced shared services (\$496k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
8. **Employee Benefits (\$2.6 million)** - Employee benefits are based on the number of full-time equivalents and salaries & wages. This increase is directly correlated with #1 above.
9. **Contract Services-Information Technology (\$1.6 million)** - The information technology contract services include application development services for custom applications and custom web-sites, information management and information technology consulting. Two new projects are scheduled to launch in FY 2020. The budget impact is listed below.
- a. Improvement projects that require GIS Professionals (\$720k).
  - b. ERP project which will require ERP PM Services (\$333k).
10. **Shared Services: Salaries & Wages Reimb (\$1.3 million)** - The shared services reimbursement contra expenses are related to and based on a department's direct deliverables to a list of shared services agreements. It is anticipated that the IT shared services agreement will be reduced in FY 2020. Projected expenses are provided by the shared services team and can fluctuate from fiscal year to fiscal year upon review with Detroit Water & Sewerage Department (subscriber).
- a. **ITS-002 Customer Service Tech Suite:** Reduced shared services (\$474k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - b. **ITS-001 AMR and Meter Operations maintaining CCUs:** Reduced shared services (\$224k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
  - c. **ITS-009 IT Infrastructure:** Reduced shared services (\$208k) information technology reimbursement due to planned separation of systems. The staff and contractual resources will be reassigned to meet GLWA's growing technology needs.
11. **Repairs & Maintenance-Facilities (\$1.2 million)** - The repairs & maintenance-facilities budget to actuals increase is related to a new contract CON-219 (\$2.25 million) for sludge removal from effluent pipe and cleaning of the influent tunnels and headworks at Baby Creek Combined Sewer Overflow (CSO).

## 12. Key Changes (Top 10 decreases)

- **Capital Program: Employee Benefits (\$81k)** - The capital program contra expenses are related to and based on employees' direct deliverables to capital projects. It is not unexpected for capital program expenses to fluctuate from fiscal year to fiscal year. Expense tracking for capital program allocation has greatly improved as a result of a new time keeping application (BigTime). This new application makes it easier for team members to report their time spent on direct capital delivery.
  - **Water Engineering:** Improved information was obtained from the new time keeping application (BigTime) in order to provide a more accurate budgeted forecast for FY 2020 compared to the resources that were available for FY 2018.
- **Property Taxes (\$116k)** - FY 2017 property taxes final installment posted in FY 2018 which caused FY 2018's activity to increase by \$128,804.87. The budget for FY 2020 is a true reflection of the anticipated property taxes expense.
  - **Fighting Island** – Property tax payment for Southwest Water Plant intake paid in two installments yearly.
- **Rentals-Buildings (\$199k)** – The reduction of \$199k in comparison of the FY 2020 budget to FY 2018 actuals is a result of the scheduled move of the wastewater analytical laboratory from the Michigan Center to the water resource recovery facility (WRRF).
  - **New Technology Development:** Contract LA-1519 (Analytical Lab at Michigan Center) rent for wastewater laboratories will end.
- **Capital Outlay over \$5k (O&M-Capitalized) (\$411k)** - A budget amendment is underway for FY 2019 - FY 2024 to transfer the Capital Outlay budget over \$5k for all affected cost centers to Improvement & Extension (I&E). It was determined that all Capital Outlay over \$5k should be budgeted under the same funding source to ensure that tracking is accurate.
- **Capital Outlay less than \$5,000 (\$548k)** - A reduction in the purchase of computer related hardware and software is anticipated for the upcoming fiscal year. Computer related hardware and software requests are largely driven by the current level of full-time equivalents which is reaching a steady state. These types of purchases generally occur on an as needed basis.
- **Capital Program: Nonpersonnel (\$1.8 million)** - The capital program contra expenses are related to and based on a department's direct deliverables to capital projects. It is not unexpected for capital program expenses to fluctuate from fiscal year to fiscal year. Expense tracking for capital program allocation has greatly improved as a result of a new time keeping application (BigTime).
  - **Capital Improvement Planning** - Improved information was obtained from the new time keeping application (BigTime) in order to provide a more accurate budgeted forecast for FY 2020 compared to the resources that were available for FY 2018.
- **Capital Program: Salaries & Wages-Direct (\$1.8 million)** - The capital program contra expenses are related to and based on employees' direct deliverables to capital projects. It is not unexpected for capital program expenses to fluctuate from fiscal year to fiscal year. Expense tracking for capital program allocation has greatly improved as a result of a new time keeping application (BigTime). This new application makes it easier for team members to report their time spent on direct capital delivery.

- **Water Engineering (\$848k):** Improved information was obtained from the new time keeping application (BigTime) in order to provide a more accurate budgeted forecast for FY 2020 compared to what was available for FY 2018.
- **Wastewater Engineering (\$612k):** Improved information was obtained from the new time keeping application (BigTime) in order to provide a more accurate budgeted forecast for FY 2020 compared to the resources that were available for FY 2018.
- **Legal (\$2 million) -** Legal contains the outside counsel for a wide range of matters including, expert witnesses, environmental, labor, contract review, land matters, non-transactional bond counsel, and other matters. Legal matters are on an as-needed basis and the expenses are expected to vary from fiscal year to fiscal year.
  - **Legal matters (settlements and claims):** Several legal matters were resolved and ended in FY 2018 which resulted in a budget decrease of \$2 million for FY 2020 in comparison to FY 2018 actuals.
- **Damage Claims (\$5.1 million) –** Where appropriate, year-end adjustments of legal reserves for settlements and claims is captured under damage claims. This is not an unexpected expense and can fluctuate from fiscal year to fiscal year. Therefore, no budget has been designated for FY 2020.
- **Contractual Transition Services (\$6.5 million) -** Contractual transition services are steadily decreasing as a result of staff vacancies, previously filled by individuals on a contractual basis, transitioning to GLWA employees. The decrease in contractual transition services in some cost centers is an offset to the increase in salaries & wages. Two specific examples are below.
  - **Systems Operations Control (\$1.5 million):**
    - **Lakeshore Global Corporation:** Budget related to contract CON-158 (Specialized Services) was transferred to Contractual Professional Services which decreased contractual transition services by \$1.5 million. Contractors that will never transition to GLWA employees are considered contractual professionals.
  - **Field Services Director (\$1.2 million):**
    - Two cost centers (Field Service Director and Field Service Engineering) were combined with Field Service Operations in FY 2019. The result of the merged cost centers is a decrease in Contractual Transition Services which is reflected in the FY 2020 requested budget (\$1.2 million).

Great Lakes Water Authority  
Account Categories with the Highest and Lowest Difference  
FY 2020 Requested vs. FY 2018 Actual  
As of 1.17.2019

DESCRIPTION	FY 2017 Activity	FY 2018 Activity	FY 2019 Annualized Based on 11.30.2018 Close	FY 2020 Department Requested	FY 2020 Requested Less FY 2018 Actual	FY 2021 Department Requested
Salaries & Wages	46,042,700	55,174,400	59,505,600	68,301,400	13,127,000	69,412,100
Contractual Operating Services	53,827,700	60,256,400	64,385,280	68,819,800	8,563,400	69,680,300
Contractual Professional Services	4,062,700	11,630,800	16,189,680	19,000,700	7,369,900	18,972,300
Unallocated Reserve	-	-	-	6,912,300	6,912,300	8,619,200
Capital Outlay over \$5k(O&M-NonCapitlzd)	888,200	1,812,500	4,060,560	4,890,500	3,078,000	4,470,300
Operating Supplies-Chemicals	14,765,300	12,877,700	13,755,840	15,698,600	2,820,900	16,030,900
Shared Services Reimbursement	(7,666,200)	(6,867,300)	(5,633,760)	(4,177,000)	2,690,300	(1,623,000)
Employee Benefits	19,654,800	20,432,100	25,028,880	23,005,300	2,573,200	23,838,100
Contract Services-Information Technology	7,463,000	5,781,700	4,250,160	7,389,300	1,607,600	6,627,600
Shared Services : Salaries & Wages Reimb	(3,010,300)	(2,194,800)	(1,240,080)	(877,900)	1,316,900	(414,600)
Repairs & Maintenance-Facilities	1,223,600	4,424,400	2,628,720	5,662,600	1,238,200	5,527,600
Telecom, Managed Security & Network Svcs	16,787,200	12,840,400	12,522,480	14,013,400	1,173,000	14,289,300
Repairs & Maintenance-Hardware	2,058,400	1,585,000	780,480	2,410,000	825,000	2,424,700
Shared Services: Employee Benefit Reimb	(1,027,900)	(846,000)	(473,760)	(351,200)	494,800	(166,000)
Repairs & Maintenance-Equipment	10,036,200	8,581,900	7,146,960	9,026,200	444,300	9,494,200
Repairs & Maintenance-Software	2,404,300	2,586,900	1,142,160	3,026,600	439,700	2,832,700
Salaries & Wages - Workforce Development	-	604,900	724,800	1,014,000	409,100	1,014,000
Auditing	733,200	57,900	324,240	450,000	392,100	450,000
Training and Internal Meetings	621,800	819,000	600,000	1,157,600	338,600	1,157,500
Utilities-Gas	6,449,600	6,611,500	4,769,280	6,943,600	332,100	7,058,600
Utilities-Water	5,469,400	4,493,100	4,169,040	4,757,800	264,700	4,843,000
Utilities-Sewage	2,230,300	1,715,600	1,914,960	1,946,600	231,000	1,962,800
Operating Supplies	1,976,500	2,490,500	2,260,320	2,708,900	218,400	2,740,600
Travel	121,500	208,700	367,680	417,100	208,400	436,200
Advertising	72,600	55,800	35,520	263,800	208,000	269,800
Penalties	129,600	31,200	-	200,000	168,800	200,000
Memberships, Licenses & Subscriptions	263,500	705,000	618,240	841,900	136,900	835,100
Utilities-Electricity	41,512,600	40,873,800	42,444,960	40,985,700	111,900	41,428,600
Printing	38,600	37,600	4,800	149,400	111,800	157,200
Office Supplies	340,800	433,900	561,840	528,200	94,300	528,800
Repairs & Maintenance-Buildings & Ground	136,900	459,300	229,920	542,700	83,400	551,600
Uniforms, Laundry, Cleaning	86,000	73,100	106,080	154,200	81,100	157,400
Employee Uniform Expense	171,100	197,200	188,880	272,200	75,000	276,900
Contractual Buildings & Grounds Maint	4,416,400	4,767,000	3,090,720	4,841,300	74,300	4,830,600
Inspection and Permit Fees	407,100	396,700	1,680	451,200	54,500	456,100
Postage	312,100	19,500	27,120	60,400	40,900	63,500
Mileage and Parking	84,900	110,600	118,800	145,200	34,600	148,200
Rentals-Miscellaneous	2,200	18,100	173,280	48,100	30,000	48,100
Repairs & Maintenance-Automotive	4,800	49,900	18,000	76,500	26,600	78,000
Repairs & Maintenance-Miscellaneous	76,500	24,300	5,760	50,200	25,900	50,700
Operating Supplies-Janitorial	41,900	49,900	78,480	72,200	22,300	72,700
Tuition Refund	38,100	32,800	53,040	49,500	16,700	49,700
Operating Supplies-Automotive	2,400	10,000	23,040	25,000	15,000	25,000
Contractual Security Services	122,100	-	-	10,200	10,200	10,400
Miscellaneous Expense	2,500	1,700	-	7,300	5,600	7,400
Telecommunications-Data Com Equip	-	-	-	-	-	-
Contractual Vehicle Services	-	-	-	-	-	-
Major Repairs-Plant Equipment	-	-	-	-	-	-
Construction: Contractual Engineering Sv	-	-	-	-	-	-
Do Not Use Employee Parking	-	-	-	-	-	-
Rentals- Office Equipment	-	-	-	-	-	-
Major Repairs-Other Equip	-	-	-	-	-	-

Great Lakes Water Authority  
Account Categories with the Highest and Lowest Difference  
FY 2020 Requested vs. FY 2018 Actual  
As of 1.17.2019

DESCRIPTION	FY 2017 Activity	FY 2018 Activity	FY 2019 Annualized Based on 11.30.2018 Close	FY 2020 Department Requested	FY 2020 Requested Less FY 2018 Actual	FY 2021 Department Requested
Repairs & Maintenance-Damage Recovery	1,753,200	-	84,240	-	-	-
City - Utilities-PLD Steam	-	-	-	-	-	-
City - Utilities - PLD Electricity	-	-	-	-	-	-
Asset Impairment	-	-	-	-	-	-
Personnel Transition Adjustment	-	-	-	-	-	-
Operating Services - Other	-	-	-	-	-	-
Insurance	-	-	-	-	-	-
Car Lease	-	-	-	-	-	-
(blank)	-	-	-	-	-	-
Operating Supplies-Fuel	-	-	-	-	-	-
Contract Services-Building Maintenance	618,400	517,500	438,000	508,000	(9,500)	518,100
Overtime	7,242,800	6,161,600	7,454,400	6,139,800	(21,800)	6,246,600
Capital Program: Salaries & Wages-Indire	-	-	-	(46,500)	(46,500)	(47,400)
Operating Supplies – Fuel	199,400	509,700	444,720	447,000	(62,700)	455,800
Capital Program: Employee Benefits	(469,000)	(467,000)	(929,520)	(547,600)	(80,600)	(549,800)
Property Taxes	139,400	391,300	7,920	275,700	(115,600)	280,900
Rentals-Buildings	490,100	484,400	556,080	285,500	(198,900)	61,100
Capital Outlay over \$5k(O&M-Capitalized)	-	411,000	-	-	(411,000)	-
Capital Outlay less than \$5,000	1,309,200	2,834,300	1,769,280	2,286,300	(548,000)	1,813,800
Capital Program: Nonpersonnel	(486,800)	(43,600)	(56,640)	(1,831,000)	(1,787,400)	(1,867,600)
Capital Program: Salaries & Wages-Direct	(1,172,100)	(1,172,700)	(2,309,280)	(2,989,200)	(1,816,500)	(3,005,700)
Legal	2,104,900	4,025,300	1,420,080	2,075,100	(1,950,200)	2,116,100
Damage Claims	(5,418,900)	5,103,900	-	-	(5,103,900)	-
Contractual Transition Services	13,216,000	13,152,800	7,947,840	6,630,300	(6,522,500)	5,406,900
<b>Grand Total</b>	<b>252,901,300</b>	<b>285,333,200</b>	<b>283,786,800</b>	<b>325,154,800</b>	<b>39,821,600</b>	<b>331,353,000</b>

..Title

**Resolution Adopting the FY 2020 & FY 2021 Biennial Budget**

..Body

Agenda of: February 27, 2019

Item No.: **2019-\_\_\_**

Amount: N/A

**TO:** The Honorable  
Board of Directors  
Great Lakes Water Authority

**FROM:** Sue F. McCormick  
Chief Executive Officer  
Great Lakes Water Authority

**DATE:** February 27, 2019

**RE: Resolution Adopting the FY 2020 & FY 2021 Biennial Budget**

**MOTION**

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, The Board of Directors (Board) of the Great Lakes Water Authority (GLWA):

- 1) Concludes the Public Hearing related to the FY 2020 and FY 2021 Biennial Budget held on February 27, 2019;**
- 2) Pending public comment, adopts the attached resolution, 2019-\_\_\_ adopting the FY 2020 and 2021 Biennial Budget for the GLWA;**
- 3) Notes that the GLWA By-Laws Article X, Section 5, requires a super-majority affirmative vote of at least five (5) members of the Board is necessary for the approval of the operating budget; and**
- 4) Authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote. and authorizes the CEO to take such other action as may be necessary to accomplish the intent of this vote.

## **BACKGROUND**

The Great Lakes Water Authority (“GLWA” or the “Authority”) assumed the operation of the Regional Water and Sewer systems on January 1, 2016 (the “Effective Date”) pursuant to the Lease Agreements between the GLWA and the City of Detroit dated June 12, 2015. Section 5.6 of the Lease Agreements require the Authority to adopt a two-year budget for the Regional Water and Sewer Systems that sets forth budgeted revenues and expenses for each such Fiscal Year.

## **JUSTIFICATION**

The Board has received a proposed Budget for FY 2020 and FY 2021 which was reviewed at Audit Committee meetings on December 1, 2018, January 4, 2019, January 18, and February 15, 2019; Board meetings of January 9, 2019 and January 23, 2019; and Member Partner meetings on January 10, 2019, January 24, 2019, and February 21, 2019 as it relates to the proposed Schedule of Charges.

## **BUDGET IMPACT**

This action establishes a budget for FY 2020 and 2021.

## **COMMITTEE REVIEW**

The GLWA Audit Committee reviewed the budget and supplemental analysis at the meetings noted above.



**DRAFT**

**FY 2020 & FY2021**

**Biennial Budget**

February 15, 2019



**GREAT LAKES WATER AUTHORITY  
NOTICE OF PUBLIC HEARING  
PROPOSED BIENNIAL BUDGET  
For the Two-Year Period ended June 30, 2021  
(FY 2020 and FY 2021)**

Notice is hereby given that the Great Lakes Water Authority Board of Directors will hold a Public Hearing on the FY 2020 and FY 2021 Biennial budget.

**DATE: Wednesday, February 27, 2019**

**TIME: 2:00 p.m.**

**PLACE: 5th Floor Board Room  
735 Randolph  
Detroit, Michigan 48226**

The proposed budget is scheduled to take effect on July 1, 2019. The budget is available for public inspection at the office of the Authority, Water Board Building, 735 Randolph, Detroit, Michigan 48226. A copy of the budget may also be found online at <https://www.glwater.org/financials/> .

Individuals or groups wishing to make oral presentations or submit prepared statements pertaining to the proposed budget may do so at the Public Hearing. Individuals or groups giving oral presentations are encouraged to have their presentations in writing, with a copy to be submitted for the record to the Great Lakes Water Authority Board of Directors. Oral presentations should be brief to allow all parties the opportunity to participate. A time limit may be imposed based upon registration at the hearing.

Interested parties who are unable to attend the Public Hearing may submit their comments in writing to:

Sue F. McCormick, Chief Executive Officer  
Great Lakes Water Authority  
735 Randolph  
Detroit, Michigan, 48226

**Great Lakes Water Authority**  
**PROPOSED Resolution 2019 -**  
**Resolution Adopting the Biennial FY 2020 & FY 2021 Budget**

By Board Member: \_\_\_\_\_

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

**WHEREAS** In accordance with the by-laws of the GLWA, the Board shall adopt a two-year (Biennial) operating budget for the Regional Water and Sewer Systems; and

**WHEREAS** The Authority, through the terms of the Leases, committed to an annual increase in revenue requirement budget of no more than 4% though the fiscal year ending June 30, 2025; and

**WHEREAS** The GLWA Board is now adopting its fourth fiscal year budget demonstrating its ability to achieve and excel in meeting that commitment with a Regional Water System annual revenue requirement budget increase of 3.1% which equates to an average 1.1% increase in revenues from Water Service Charges and a Regional Sewer System annual revenue requirements budget increase of 2.3% which equates to an average 1.8% increase in revenues from Sewer Service Charges; and

**WHEREAS** The budgeted expenses for each such Fiscal Year shall equal the sum of the Projected expenses and revenue requirements for the Regional Water System and the Regional Sewer System for each such Fiscal Year; and

**WHEREAS** The budgeted annual revenue requirements for the Regional Water System for FY 2020 is \$341,682,900 and for FY 2021 is \$355,350,200 as shown on “Schedule 1A – Water System Revenue Requirements” of the budget document; and

**WHEREAS** The budgeted annual revenue requirements for the Regional Sewer System for FY 2020 is \$482,823,000 and for FY 2021 is \$502,135,800 as shown on “Schedule 1B – Sewer System Revenue Requirements” of the budget document; and

**WHEREAS** The operations and maintenance budget for the Regional Water System for FY 2020 is \$133,490,500 and for FY 2021 is \$136,160,300 as shown on

“Schedule 1A – Water System Revenue Requirements” of the budget document; and

**WHEREAS** The operations and maintenance budget for the Regional Sewer System for FY 2020 is \$187,968,700 and for FY 2021 is \$191,728,100 as shown on Schedule 1B – Sewer System Revenue Requirements” of the budget document; and

**WHEREAS** The amounts necessary to pay the principal of and interest on all Regional Water System bonds and to restore any reserves therefore established in the Master Bond ordinance is \$174,668,300 for FY 2020 and \$192,231,900 for FY 2021 as shown on “Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance” of the budget document; and

**WHEREAS** The amounts necessary to pay the principal of and interest on all Regional Sewer System bonds and to restore any reserves therefore established in the Master Bond Ordinance is \$247,388,600 for FY 2020 and \$247,835,400 for FY 2021 as shown on “Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance” of the budget document; and

**WHEREAS** The amounts necessary to fund the annual water system capital expenditures of \$107,435,300 in FY 2020 and \$124,949,300 in FY 2021 for the capital improvement plan in accordance with the Schedule 5C - Water Construction Bond Fund budget with those capital amounts reflecting a 75% Capital Spending Ratio applied to FY 2020 and FY 2021 as shown in the proposed FY 2020 though FY 2024 Capital Improvement Plan; and

**WHEREAS** The amounts necessary to fund the annual sewer system capital expenditures of \$121,110,000 in FY 2020 and \$99,322,500 in FY 2021 for the capital improvement plan in accordance with Schedule 5D - Sewer Construction Bond Fund budget with those capital amounts reflecting a 75% Capital Spending Ratio applied to FY 2020 and FY 2021 as shown in the proposed FY 2020 though FY 2024 Capital Improvement Plan; and

**WHEREAS** The amounts necessary to fund the annual water system capital expenditures of \$10,125,300 in FY 2020 and \$9,235,300 in FY 2021 for capital outlay in accordance with the 5A - Water Improvement and Extension Fund budget; and

**WHEREAS** The amounts necessary to fund the annual sewer system capital expenditures of \$20,122,200 in FY 2020 and \$19,875,600 in FY 2021 for the capital outlay in accordance with the 5B - Sewer Improvement and Extension Fund budget; and

**WHEREAS** The GLWA Audit Committee began review of the budget and five-year financial plan document developed for FY 2020 through FY 2024 at its meeting on January 4, 2019; with updates at its meetings on January 18, 2019, and February 15, 2019; and

**WHEREAS** The GLWA Board conducted a public hearing on the proposed budget in accordance with the provisions of Public Act No. 43 of the Acts of the State Legislature of 1963 (“Budget Hearings of Local Governments”); and

**WHEREAS** A notice for the public hearing on the proposed budget scheduled for February 27, 2019 at 2:00 pm at the Water Board Building, 735 Randolph, Detroit, Michigan was published in The Detroit Legal News announcing a public hearing on the budget in addition to posting the notice and proposed budget on [glwater.org/financials](http://glwater.org/financials); and

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

**NOW THEREFORE BE IT:**

**RESOLVED** That the GLWA Board conducted a public hearing on February 27, 2019 to receive public comment regarding the proposed budget for the Fiscal Years 2020 and 2021; and be it further

**RESOLVED** That the GLWA Board approves the budget for Fiscal Years 2020 and 2021; and be it finally

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

### Schedule 1A - Water System Revenue Requirements Budget

Water System Revenue Requirements	Current Year		Biennial Budget					
	FY 2019 Adopted	FY 2019 Amended	FY 2020 Requested	FY 2020 \$ Change	% Change	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change
<b>Revenues</b>								
11 Revenues from Charges	\$ 327,563,900	\$ 327,563,900	\$ 331,160,700	\$ 3,596,800	1.1%	\$ 345,917,300	\$ 14,756,600	4.5%
11.1 Revenues from Internal Charges			1,438,000	1,438,000	NA	1,502,100	64,100	4.5%
10.1 Non-Operating Revenue	3,836,600	9,425,400	9,084,200	5,247,600	136.8%	7,930,800	(1,153,400)	-12.7%
<b>Total Revenues</b>	<b>331,400,500</b>	<b>336,989,300</b>	<b>341,682,900</b>	<b>10,282,400</b>	<b>3.1%</b>	<b>355,350,200</b>	<b>13,667,300</b>	<b>4.0%</b>
<b>Revenue Requirements</b>								
1 Operations & Maintenance (O&M) Expense	\$121,562,600	\$121,562,600	\$133,490,500	\$11,927,900	9.8%	\$136,160,300	\$2,669,800	2.0%
2 O&M Legacy Pension Allocation	6,048,000	6,048,000	6,048,000	-	0.0%	6,048,000	-	0.0%
3 Debt Service Allocation	134,214,600	131,241,800	137,557,600	3,343,000	2.5%	150,314,300	12,756,700	9.3%
4 Accelerated Legacy Pension Allocation	6,268,300	6,268,300	6,268,300	-	0.0%	6,268,300	-	0.0%
5 Water Residential Assistance Program	1,673,400	1,673,400	1,743,900	70,500	4.2%	1,776,800	32,900	1.9%
6 Lease Payment to Local System I&E Account	22,500,000	22,500,000	22,500,000	-	0.0%	22,500,000	-	0.0%
7 Improvement & Extension Fund Allocation	39,133,600	47,695,200	30,098,600	(9,035,000)	-23.1%	31,392,600	1,294,000	4.3%
8 Operating Reserve Deposit	-	-	3,976,000	3,976,000	NA	889,900	(3,086,100)	-77.6%
9 Extraordinary Repair & Replacement Deposi	-	-	-	-	NA	-	-	NA
<b>Annual Budgeted Revenue Requirements</b>	<b>\$ 331,400,500</b>	<b>\$ 336,989,300</b>	<b>\$ 341,682,900</b>	<b>\$ 10,282,400</b>	<b>3.1%</b>	<b>\$ 355,350,200</b>	<b>\$ 13,667,300</b>	<b>4.0%</b>

### Schedule 1B - Sewer System Revenue Requirements Budget

Sewer System Revenue Requirements	Current Year		Biennial Budget					
	FY 2019 Adopted	FY 2019 Amended	FY 2020 Requested	FY 2020 \$ Change	FY 2020 % Change	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change
<b>Revenues</b>								
11 Revenues from Charges <i>(prior to adjustment)</i>	\$ 465,585,100	\$ 465,585,100	\$ 474,092,200	\$ 8,507,100	1.8%	\$ 493,104,100	\$ 19,011,900	4.0%
Regional Bad Debt True-Up Adjustment	1,871,300	1,871,300	-	(1,871,300)	-100.0%	-	-	NA
<b>Subtotal Revenues from Charges</b>	<b>467,456,400</b>	<b>467,456,400</b>	<b>474,092,200</b>	<b>6,635,800</b>	<b>1.4%</b>	<b>493,104,100</b>	<b>19,011,900</b>	<b>4.0%</b>
10.1 Non-Operating Revenue	4,570,900	8,750,000	8,730,800	4,159,900	91.0%	9,031,700	300,900	3.4%
<b>Total Revenues</b>	<b>472,027,300</b>	<b>476,206,400</b>	<b>482,823,000</b>	<b>10,795,700</b>	<b>2.3%</b>	<b>502,135,800</b>	<b>19,312,800</b>	<b>4.0%</b>
<b>Revenue Requirements</b>								
1 Operations & Maintenance (O&M) Expense	\$191,079,400	\$191,079,400	\$187,968,700	\$ (3,110,700)	-1.6%	\$191,728,100	\$3,759,400	2.0%
2 O&M Legacy Pension Allocation	10,824,000	10,824,000	10,824,000	-	0.0%	10,824,000	-	0.0%
3 Debt Service Allocation	214,600,700	208,389,200	215,738,800	1,138,100	0.5%	216,181,700	442,900	0.2%
4 Accelerated Legacy Pension Allocation	11,620,700	11,620,700	11,620,700	-	0.0%	11,620,700	-	0.0%
5 Water Residential Assistance Program	2,374,100	2,374,100	2,464,400	90,300	3.8%	2,510,700	46,300	1.9%
6 Lease Payment to Local System	27,500,000	27,500,000	27,500,000	-	0.0%	27,500,000	-	0.0%
7 Improvement & Extension Fund Allocation	12,157,100	22,547,700	26,706,400	14,549,300	119.7%	40,517,500	13,811,100	51.7%
8 Operating Reserve Deposit	-	-	-	-	NA	1,253,100	1,253,100	NA
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA
<b>Annual Budgeted Revenue Requirements</b>	<b>470,156,000</b>	<b>474,335,100</b>	<b>482,823,000</b>	<b>12,667,000</b>	<b>2.7%</b>	<b>502,135,800</b>	<b>19,312,800</b>	<b>4.0%</b>
I&E Fund Allocation - Regional Bad Debt True-Up Adj.	1,871,300	1,871,300	-	(1,871,300)	-100.0%	-	-	NA
<b>Adjusted Annual Revenue Requirements</b>	<b>\$ 472,027,300</b>	<b>\$ 476,206,400</b>	<b>\$ 482,823,000</b>	<b>\$ 10,795,700</b>	<b>2.3%</b>	<b>\$ 502,135,800</b>	<b>\$ 19,312,800</b>	<b>4.0%</b>

### Schedule 1C - Combined Water and Sewer System Revenue Requirements Budget

Sewer System Revenue Requirements	Current Year		Biennial Budget					
	FY 2019 Adopted	FY 2019 Amended	FY 2020 Requested	FY 2020 \$ Change	FY 2020 % Change	FY 2021 Requested	FY 2021 \$ Change	FY 2021 % Change
<b>Revenues</b>								
11 Revenues from Charges <i>(prior to adjustment)</i>	\$ 793,149,000	\$ 793,149,000	\$ 805,252,900	\$ 12,103,900	1.5%	\$ 839,021,400	\$ 33,768,500	4.2%
11.1 Revenues from Internal Charges			\$ 1,438,000	\$ 1,438,000	NA	\$ 1,502,100	\$ 64,100	4.5%
Regional Bad Debt True-Up Adjustment	1,871,300	1,871,300	-	(1,871,300)	-100.0%	-	-	NA
<b>Subtotal Revenues from Charges</b>	<b>795,020,300</b>	<b>795,020,300</b>	<b>806,690,900</b>	<b>11,670,600</b>	<b>1.5%</b>	<b>840,523,500</b>	<b>33,832,600</b>	<b>4.2%</b>
10.1 Non-Operating Revenue	8,407,500	18,175,400	17,815,000	9,407,500	111.9%	16,962,500	(852,500)	-4.8%
<b>Total Revenues</b>	<b>803,427,800</b>	<b>813,195,700</b>	<b>824,505,900</b>	<b>21,078,100</b>	<b>2.6%</b>	<b>857,486,000</b>	<b>32,980,100</b>	<b>4.0%</b>
<b>Revenue Requirements</b>								
1 Operations & Maintenance (O&M) Expense	\$312,642,000	\$312,642,000	\$321,459,200	\$8,817,200	2.8%	\$327,888,400	\$6,429,200	2.0%
2 O&M Legacy Pension Allocation	16,872,000	16,872,000	16,872,000	-	0.0%	16,872,000	-	0.0%
3 Debt Service Allocation	348,815,300	339,631,000	353,296,400	4,481,100	1.3%	366,496,000	13,199,600	3.7%
4 Accelerated Legacy Pension Allocation	17,889,000	17,889,000	17,889,000	-	0.0%	17,889,000	-	0.0%
5 Water Residential Assistance Program	4,047,500	4,047,500	4,208,300	160,800	4.0%	4,287,500	79,200	1.9%
6 Lease Payment to Local System I&E Account	50,000,000	50,000,000	50,000,000	-	0.0%	50,000,000	-	0.0%
7 Improvement & Extension Fund Allocation	51,290,700	70,242,900	56,805,000	5,514,300	10.8%	71,910,100	15,105,100	26.6%
8 Operating Reserve Deposit	-	-	3,976,000	3,976,000	NA	2,143,000	(1,833,000)	-46.1%
9 Extraordinary Repair & Replacement Deposit	-	-	-	-	NA	-	-	NA
<b>Annual Budgeted Revenue Requirements</b>	<b>801,556,500</b>	<b>811,324,400</b>	<b>824,505,900</b>	<b>22,949,400</b>	<b>2.9%</b>	<b>857,486,000</b>	<b>32,980,100</b>	<b>4.0%</b>
I&E Fund Allocation - Regional Bad Debt True-Up Adj.	1,871,300	1,871,300	-	(1,871,300)	-100.0%	-	-	NA
<b>Adjusted Annual Revenue Requirements</b>	<b>\$ 803,427,800</b>	<b>\$ 813,195,700</b>	<b>\$ 824,505,900</b>	<b>\$ 21,078,100</b>	<b>2.6%</b>	<b>\$ 857,486,000</b>	<b>\$ 32,980,100</b>	<b>4.0%</b>

There is no Schedule 3 for purposes of the Budget Resolution.

DRAFT

### Schedule 4 - Debt Service Coverage Calculations Consistent with the Master Bond Ordinance

Flow of Funds Basis		FY 2020 Water Fund	FY 2020 Sewer Fund	FY 20 Combined (Informational Only)	FY 2021 Water Fund	FY 2021 Sewer Fund	FY 21 Combined (Informational Only)
<b>Revenues</b>							
1	Regional System Wholesale Revenues	\$ 332,598,700	\$ 474,092,200	\$ 806,690,900	\$ 347,419,400	\$ 493,104,100	\$ 840,523,500
2	Local System Revenues	73,985,800	106,009,200	179,995,000	75,873,300	125,417,700	201,291,000
3	Miscellaneous Revenue (Local System)	2,200,000	500,000	2,700,000	2,200,000	500,000	2,700,000
4	Non-Operating Revenue (Regional System)	9,083,300	8,730,600	17,813,900	7,930,800	9,031,700	16,962,500
5	<b>Total Revenues</b>	<b>\$ 417,867,800</b>	<b>\$ 589,332,000</b>	<b>\$ 1,007,199,800</b>	<b>\$ 433,423,500</b>	<b>\$ 628,053,500</b>	<b>\$ 1,061,477,000</b>
<b>Revenue Requirements</b>							
<b>Operations &amp; Maintenance Expense</b>							
6	Regional System Wholesale Expenses (a)	\$ 133,490,500	\$ 187,968,700	\$ 321,459,200	\$ 136,160,300	\$ 191,728,100	\$ 327,888,400
7	Local System Expenses	36,654,600	72,472,800	109,127,400	37,764,000	74,627,200	112,391,200
8	GRS Pension allocable to Regional System	6,048,000	10,824,000	16,872,000	6,048,000	10,824,000	16,872,000
9	GRS Pension allocable to Local System	4,272,000	2,856,000	7,128,000	4,272,000	2,856,000	7,128,000
10	Total Operations & Maintenance Expense	180,465,100	274,121,500	454,586,600	184,244,300	280,035,300	464,279,600
11	<b>Net Revenues after Operations &amp; Maintenance Expense</b>	<b>\$ 237,402,700</b>	<b>\$ 315,210,500</b>	<b>\$ 552,613,200</b>	<b>\$ 249,179,200</b>	<b>\$ 348,018,200</b>	<b>\$ 597,197,400</b>
<b>Debt Service by Lien</b>							
12	Senior Lien Bonds	123,909,900	148,568,300	272,478,200	130,866,400	139,541,600	270,408,000
13	Second Lien Bonds	47,849,300	45,878,900	93,728,200	49,280,800	54,642,100	103,922,900
14	SRF Junior Lien Bonds	2,909,100	52,941,400	55,850,500	12,084,700	53,651,700	65,736,400
15	<b>Total Debt Service</b>	<b>\$ 174,668,300</b>	<b>\$ 247,388,600</b>	<b>\$ 422,056,900</b>	<b>\$ 192,231,900</b>	<b>\$ 247,835,400</b>	<b>\$ 440,067,300</b>
<b>Debt Service Coverage (a)</b>							
15	Senior Lien Bonds (11)/(12)	1.92	2.12		1.90	2.49	
16	Second Lien Bonds (11) / [(12)+(13)]	1.38	1.62		1.38	1.79	
17	SRF Junior Lien Bonds (11) / (15)	1.36	1.27		1.30	1.40	

### Schedule 5A - Water Improvement & Extension Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2019 Projected	FY 2020 Requested	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast
<b>Fund</b>						
Water System Revenue Transfers	\$47,695,200	\$30,098,600	\$31,392,600	\$45,274,100	\$49,446,900	\$67,336,100
Grant Revenues	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-
Capital Outlay	(22,133,400)	(10,125,300)	(9,235,300)	(8,223,000)	(4,460,400)	(4,798,300)
Revenue Financed Capital - Strategic	(13,172,000)	(45,000,000)	(75,000,000)	(100,000,000)	(43,000,000)	(49,000,000)
Increase (Decrease) in I&E Reserves	\$12,389,800	(\$25,026,700)	(\$52,842,700)	(\$62,948,900)	\$1,986,500	\$13,537,800
Beginning Year Balance	220,475,500	232,865,300	207,838,600	154,995,900	92,047,000	94,033,500
<b>Projected Ending Balance</b>	<b>\$232,865,300</b>	<b>\$207,838,600</b>	<b>\$154,995,900</b>	<b>\$92,047,000</b>	<b>\$94,033,500</b>	<b>\$107,571,300</b>

### Schedule 5B - Sewer Improvement & Extension Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2019 Projected	FY 2020 Requested	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast
<b>Sewer Improvement &amp; Extension Fund</b>						
Sewer System Revenue Transfers	\$24,419,000	\$26,706,400	\$40,517,500	\$46,034,700	\$65,614,400	\$90,590,000
Grant Revenues	-	-	-	-	-	-
Earnings on Investments, Net	-	-	-	-	-	-
Capital Outlay	(5,957,000)	(20,122,200)	(19,875,600)	(24,692,200)	(8,812,400)	(10,881,900)
Revenue Financed Capital - Specific	-	-	-	-	-	-
Revenue Financed Capital - Strategic	(8,312,000)	-	(10,000,000)	(20,000,000)	(60,000,000)	(80,000,000)
Increase (Decrease) in I&E Reserves	\$10,150,000	\$6,584,200	\$10,641,900	\$1,342,500	(\$3,198,000)	(\$291,900)
Beginning Year Balance	68,931,000	79,081,000	85,665,200	96,307,100	97,649,600	94,451,600
<b>Projected Ending Balance</b>	<b>\$79,081,000</b>	<b>\$85,665,200</b>	<b>\$96,307,100</b>	<b>\$97,649,600</b>	<b>\$94,451,600</b>	<b>\$94,159,700</b>

### Schedule 5C - Water Construction Bond Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2019 Projected	FY 2020 Requested	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast
<b>Water Construction Bond Fund</b>						
Bond Proceeds, Net	\$0	\$ -	\$0	\$ 58,280,000	\$54,520,000	\$63,920,000
Earnings on Investments, Net	2,857,500	1,487,700	258,300	-	188,900	73,200
Transfer from Improvement & Extension Fund	13,172,000	45,000,000	75,000,000	100,000,000	43,000,000	49,000,000
Grant Revenues	-	5,531,000	18,367,000	24,115,000	29,615,000	29,994,000
Project Expenditures	(66,038,000)	(107,435,300)	(124,949,300)	(136,946,300)	(126,754,500)	(143,149,500)
Increase (Decrease) in Construction Funds	(50,008,500)	(55,416,600)	(31,324,000)	45,448,700	569,400	(162,300)
Beginning Year Balance	140,732,200	90,723,700	35,307,100	3,983,100	49,431,800	50,001,200
<b>Projected Ending Balance</b>	<b>\$90,723,700</b>	<b>\$35,307,100</b>	<b>\$3,983,100</b>	<b>\$49,431,800</b>	<b>\$50,001,200</b>	<b>\$49,838,900</b>

### Schedule 5D - Sewer Construction Bond Fund

Inflows & Outflows	Current Year	Biennial Budget		Forecast		
	FY 2019 Projected	FY 2020 Requested	FY 2021 Requested	FY 2022 Forecast	FY 2023 Forecast	FY 2024 Forecast
<b>Sewer Construction Bond Fund</b>						
Bond Proceeds, Net	\$0	\$ 78,960,000	\$81,780,000	\$ 90,240,000	\$60,160,000	\$16,920,000
Earnings on Investments, Net	1,351,800	41,100	119,300	99,300	489,300	1,041,000
Transfer from Improvement & Extension Fund	8,312,000	-	10,000,000	20,000,000	60,000,000	80,000,000
Grant Revenues	55,213,000	29,342,000	8,280,000	1,343,000	-	-
Project Expenditures	(105,183,000)	(121,110,000)	(99,322,500)	(112,632,800)	(119,538,000)	(97,619,300)
Increase (Decrease) in Construction Funds	(40,306,200)	(12,766,900)	856,800	(950,500)	1,111,300	341,700
Beginning Year Balance	102,506,300	62,200,100	49,433,200	50,290,000	49,339,500	50,450,800
<b>Projected Ending Balance</b>	<b>\$62,200,100</b>	<b>\$49,433,200</b>	<b>\$50,290,000</b>	<b>\$49,339,500</b>	<b>\$50,450,800</b>	<b>\$50,792,500</b>



## Financial Services Audit Committee Communication

**Date:** February 15, 2019

**To:** Great Lakes Water Authority Audit Committee

**From:** Jon Wheatley, Public Finance Manager

**Re:** Proposed FY 2020 Schedule of Water and Sewer Service Charges

**Background:** During its January 23, 2019 meeting, the Great Lakes Water Authority (GLWA) Board of Directors was presented the proposed FY 2020 financial plans and related schedule of water and sewer service charges. That presentation was the basis for the proposed water and sewer service charges shared with the member partners at the January 24, 2019 Charges Roll-out Meeting. Furthermore, those proposed charges were also mailed to the Member Partners on January 25, 2019 with a Notice of Public Hearing scheduled for February 27, 2019 at 2:00 p.m. The charges proposed on January 23, 2019 are the same being presented today.

**Analysis:** Final considerations related to the charges as we approach the public hearing on February 27, 2019 are discussed below.

### **Proposed FY 2020 Water Charges**

The proposed FY 2020 water service charges reflect the results of two GLWA and member partner initiatives that were completed during 2018. The first is the Contract Alignment Process (CAP), which aligned the scheduled reopener dates (starting in 2022) for 80 of the 82 of GLWA's member partners on a water model contracts. The second is the Phase 2 update of the Units of Service Study (USS) for GLWA's non-master metered customers as prepared by Black and Veatch. The effect of both the CAP and USS Phase 2 results in the reallocation of units of service among all GLWA water member partners. **The average wholesale water service charge will increase by 0.8 percent for FY 2020.**

Also reflected in the proposed water service charges is a proposed change in account status for certain GLWA sewer facilities that are currently served as retail customers of DWSD. GLWA contends that these facilities are served by regional, not retail, system mains. This proposal results in the corresponding removal of units of service to DWSD, which lowers its allocated wholesale water revenue requirement by \$1.4 million. The revenue to DWSD from this service under the current retail service arrangement is estimated to be \$3.5 million. Since the date that proposed charges were presented, DWSD gave had further dialog related to the matter as well as a different venue to work through this matter.

### **Proposed FY 2020 Sewer Charges**

The proposed FY 2020 sewer service charges reflect the revenue requirement impact of the proposed amendment to the Oakland Macomb Interceptor Drain Drainage District (“OMID”) service agreement. Under this proposal, OMID will provide all maintenance and financing activities related to the Northeast Sewer Pump Station (“NESPS”). **The average wholesale sewer service charge will increase by 1.3percent for FY 2020.**

The proposed sewer service charges also include the proposed change in account status for the GLWA sewer facilities that are currently served as retail customers of DWSD (a companion matter related to the retail water charges noted above). This change results in the reduction of units of service to DWSD, which lowers its allocated wholesale sewer revenue requirement by \$782,300.

### **Impact of DWSD Retail Charges to GLWA**

Two analysis are attached that quantify the difference for both entities related to the impact of the GLWA proposal to address the water source at the WRRF. While the amounts are moderately material to each party, potential option(s) exist if it appears that resolution of this matter impacts timely adoption of budget and charges. If the parties decide that arbitration is the preferred route to resolve this matter, for example, a common option is for payments to be held in escrow until a third-party decision is made.

**Budget Impact:** The proposed FY 2020 Schedule of Water and Sewer Service Charges as presented produces the necessary revenues to fund the proposed FY 2020 Water Budget and Sewer Budget, respectively, based on the projections made in the FY 2020 Water and Sewer Cost of Service Studies prepared by The Foster Group.

**Proposed Action:** Audit Committee recommends that the Great Lakes Water Authority Board approve the proposed schedule of FY 2020 Water and Sewer Service Charges as initially presented by GLWA at its Regular Meeting on February 27, 2019 subject to public comment;

Or

Audit Committee recommends that the Great Lakes Water Authority Board approve the proposed schedule of FY 2020 Water and Sewer Service Charges at its Regular Meeting on February 27, 2019 subject to public comment with the provision that an alternative charge for the retail system which holds the resolution of the water charges to the Water Resource Recovery Facility be held in escrow subject to an expedient arbitration to resolve the matter.

**Great Lakes Water Authority**  
**Schedule 1 - Revenue Requirements Budget Worksheet - Potential Impact of Alternative GLWA Facilities Arrangement**  
**As of February 6, 2019**

	Water Supply System				Sewage Disposal System				Combined Water & Sewer			
	FY 2020 AS Requested	Possible Modifications	Modified Budget?	Relative % Change	FY 2020 AS Requested	Possible Modifications	Modified Budget?	Relative % Change	FY 2020 AS Requested	Possible Modifications	Modified Budget?	Relative % Change
<b>Regional System Revenue Requirements</b>												
<b>Revenues</b>												
Revenues From Wholesale Customer Charges	\$ 311,043,600	\$ -	\$ 311,043,600	0.0%	\$ 287,973,400	\$ -	\$ 287,973,400	0.0%	\$ 599,017,000	\$ -	\$ 599,017,000	0.0%
Wholesale Revenues From Retail Services Agreement	20,117,100	1,438,000	21,555,100	7.1%	186,118,800	781,800	186,900,600	0.4%	206,235,900	2,219,800	208,455,700	1.1%
11 Total Revenues from Charges	\$ 331,160,700	\$ 1,438,000	\$ 332,598,700	0.4%	\$ 474,092,200	\$ 781,800	\$ 474,874,000	0.2%	\$ 805,252,900	\$ 2,219,800	\$ 807,472,700	0.3%
11.1 Revenues from Internal Charges	1,438,000	(1,438,000)	-	-100.0%	-	-	-	NA	1,438,000	(1,438,000)	-	-100.0%
10.1 Non-Operating Revenue	9,083,300	-	9,083,300	0.0%	8,730,600	-	8,730,600	0.0%	17,813,900	-	17,813,900	0.0%
<b>Total Revenues</b>	<b>341,682,000</b>	<b>-</b>	<b>341,682,000</b>	<b>0.0%</b>	<b>482,822,800</b>	<b>781,800</b>	<b>483,604,600</b>	<b>0.2%</b>	<b>824,504,800</b>	<b>781,800</b>	<b>825,286,600</b>	<b>0.1%</b>
<b>Revenue Requirements</b>												
1 Operations & Maintenance (O&M) Expense	\$133,490,500	\$0	\$133,490,500	0.0%	\$187,968,700	\$ 2,188,500	\$190,157,200	1.2%	\$321,459,200	\$ 2,188,500	\$323,647,700	0.7%
2 O&M Legacy Pension Allocation	6,048,000	-	6,048,000	0.0%	10,824,000	-	10,824,000	0.0%	16,872,000	-	16,872,000	0.0%
3 Debt Service Allocation	137,557,600	-	137,557,600	0.0%	215,738,800	-	215,738,800	0.0%	353,296,400	-	353,296,400	0.0%
4 Accelerated Legacy Pension Allocation	6,268,300	-	6,268,300	0.0%	11,620,700	-	11,620,700	0.0%	17,889,000	-	17,889,000	0.0%
5 Water Residential Assistance Program	1,743,900	-	1,743,900	0.0%	2,464,400	-	2,464,400	0.0%	4,208,300	-	4,208,300	0.0%
6 Lease Payment to Local System I&E Account	22,500,000	-	22,500,000	0.0%	27,500,000	-	27,500,000	0.0%	50,000,000	-	50,000,000	0.0%
7 Improvement & Extension Fund Allocation	30,098,600	-	30,098,600	0.0%	26,706,400	(1,406,700)	25,299,700	-5.3%	56,805,000	(1,406,700)	55,398,300	-2.5%
8 Operating Reserve Deposit	3,976,000	-	3,976,000	0.0%	-	-	-	NA	3,976,000	-	3,976,000	0.0%
9 Extraordinary Repair & Replacement Deposit	-	-	-	NA	-	-	-	NA	-	-	-	NA
<b>Annual Revenue Requirements</b>	<b>\$ 341,682,900</b>	<b>\$ -</b>	<b>\$ 341,682,900</b>	<b>0.0%</b>	<b>\$ 482,823,000</b>	<b>\$ 781,800</b>	<b>\$ 483,604,800</b>	<b>0.2%</b>	<b>\$ 824,505,900</b>	<b>\$ 781,800</b>	<b>\$ 825,287,700</b>	<b>0.1%</b>
<b>Impact on Detroit Customer Class</b>												
DWSD Local System Revenues - Detroit Customers	\$ 96,181,500	\$ 3,626,500	\$ 99,808,000	3.8%	\$ 292,640,000	\$0	\$ 292,640,000	0.0%	\$ 388,821,500	\$ 3,626,500	\$ 392,448,000	0.9%
less: Allocated Wholesale Revenue Requirement	(20,117,100)	(1,438,000)	(21,555,100)	7.1%	(186,118,800)	(781,800)	(186,900,600)	0.4%	(206,235,900)	(2,219,800)	(208,455,700)	1.1%
Balance Available for Local System Requirements	<b>\$ 76,064,400</b>	<b>\$ 2,188,500</b>	<b>\$ 78,252,900</b>	<b>2.9%</b>	<b>\$ 106,521,200</b>	<b>\$ (781,800)</b>	<b>\$ 105,739,400</b>	<b>-0.7%</b>	<b>\$ 182,585,600</b>	<b>\$ 1,406,700</b>	<b>\$ 183,992,300</b>	<b>0.8%</b>
Variance as a % of Total Revenues				2.3%				-0.3%				0.4%

**Executive Summary Review of DWSD Proposed Budget for FY 2020**  
As of February 6, 2019

	(1)	(2)	(3)	(4)	(5)
	Current DWSD Budget	Suggested GLWA Modifications	Adjusted Modified Budget	Recognize GLWA Modifications	Adjusted Modified Budget
<b>Water</b>					
1 Total DWSD Retail Revenues	99,810,700	0	99,810,700	(3,507,800)	96,302,900
2 DWSD Operating Expenses <i>Net (of S/S)</i>	36,654,600	0	36,654,600		36,654,600
3 <i>Net Balance Available (1) - (2)</i>	63,156,100	0	63,156,100	(3,507,800)	59,648,300
4 <b>Wholesale Revenue Requirements</b>	21,536,500	200	<b>21,536,700</b>	<b>(1,419,600)</b>	<b>20,117,100</b>
<u>Indirect Allocated Retail Revenue Requirements</u>					
5 Transfer to DWSD O&M Pension Account	4,272,000	0	4,272,000		4,272,000
6 Obligation Payable Transfer to Debt Service Funds	33,438,800	0	33,438,800		33,438,800
7 Transfer to Pension Obligation Payment Fund	4,427,400	0	4,427,400		4,427,400
8 Transfer to WRAP Fund	499,100	(211,200)	287,900	(10,500)	277,400
9 Subtotal Indirect <i>(excludes post bifurcation D/S)</i>	42,637,300	(211,200)	42,426,100	(10,500)	42,415,600
10 <i>Net Balance Available (3) - (4) - (9)</i>	(1,017,700)	211,000	(806,700)	(2,077,700)	(2,884,400)
11 <b>Existing</b> Additional Debt Service - Post Bifurcation	2,537,000	1,134,900	3,671,900	0	3,671,900
12 <b>Forecasted</b> Additional Debt Service	0	0	0	0	0
13 <i>Net Available / (Use of Lease Payment for Debt Svc)</i>	(3,554,700)	(923,900)	(4,478,600)	(2,077,700)	(6,556,300)
<b>Sewer</b>					
14 Total DWSD Retail Revenues	292,628,000	0	292,628,000	0	292,628,000
15 DWSD Operating Expenses <i>Net (of S/S)</i>	72,472,800	0	72,472,800	0	72,472,800
16 <i>Net Balance Available (14) - (15)</i>	220,155,200	0	220,155,200	0	220,155,200
17 <b>Wholesale Revenue Requirements</b>	186,902,700	(1,600)	<b>186,901,100</b>	<b>(782,300)</b>	<b>186,118,800</b>
<u>Indirect Allocated Retail Revenue Requirements</u>					
18 Transfer to DWSD O&M Pension Account	2,856,000	0	2,856,000		2,856,000
19 Obligation Payable Transfer to Debt Service Funds	26,271,500	0	26,271,500		26,271,500
20 Transfer to Pension Obligation Payment Fund	3,066,400	0	3,066,400		3,066,400
21 Transfer to WRAP Fund	1,463,100	(962,000)	501,100	3,900	505,000
22 Subtotal Indirect <i>(excludes post bifurcation D/S)</i>	33,657,000	(962,000)	32,695,000	3,900	32,698,900
23 <i>Net Balance Available (16) - (17) - (22)</i>	(404,500)	963,600	559,100	778,400	1,337,500
24 <b>Existing</b> Additional Debt Service - Post Bifurcation	5,378,300	0	5,378,300	0	5,378,300
25 <b>Forecasted</b> Additional Debt Service	0	0	0	0	0
26 <i>Net Available / (Use of Lease Payment for Debt Svc)</i>	(5,782,800)	963,600	(4,819,200)	778,400	(4,040,800)
27 <b>Combined Water / Sewer Use of Lease Pmt for DS</b>	(9,337,500)	39,700	(9,297,800)	(1,299,300)	(10,597,100)

**..TITLE**

**Resolution Regarding Approval of FY 2020 Schedule of Water Service Charges**

**..BODY**

Agenda of: February 27, 2019

Item No.: **2019-**

Amount: N/A

**TO:** The Honorable  
Board of Directors  
Great Lakes Water Authority

**FROM:** Sue F. McCormick  
Chief Executive Officer  
Great Lakes Water Authority

**DATE:** February 27, 2019

**RE: Resolution Regarding Approval of FY 2020 Schedule of Water Service Charges**

**MOTION**

Upon recommendation of Nicolette Bateson, Chief Financial Officer/Treasurer, the Board of Directors (Board) of the Great Lakes Water Authority, **approves the following actions, which require a supermajority affirmative vote of at least five (5) members of the Board, and the attached Resolution 2019-\_\_\_\_\_** with an effective date of July 1, 2019:

- 1) FY 2020 wholesale water service schedule of charges;
- 2) FY 2020 wholesale sewer service schedule of charges;
- 3) FY 2020 City of Detroit allocated wholesale water revenue requirement of **\$20,117,100 [\$21,536,700]**, which is the net of **\$40,817,100 [\$42,236,700]** gross revenue requirement less the Ownership Equity Credit of \$20,700,000 pursuant to the terms of the Water and Sewer Services Agreement (WSSA);
- 4) FY 2020 City of Detroit allocated wholesale sewer revenue requirement of **\$186,118,800 [\$186,901,100]**, which is the net of **\$191,634,800 [\$192,417,100]** gross revenue requirement less the Ownership Equity Credit of \$5,516,000 in accordance with the WSSA.
- 5) FY 2020 City of Detroit allocated indirect water revenue requirement of \$46,080,700, in accordance with the Regional Water Supply System Lease;

- 6) FY 2020 City of Detroit allocated indirect sewer revenue requirement of \$38,073,300, in accordance with the Regional Water Supply System Lease; and
- 7) authorizes the Chief Executive Officer to take such other action as may be necessary to accomplish the intent of this vote.

### **BACKGROUND**

Pursuant to the water system and sewer system leases signed between the Great Lakes Water Authority (GLWA/Authority) and the City of Detroit, the GLWA began operations of the regional water supply and sewage disposal system on January 1, 2016. Consistent with the terms of those leases, the Authority shall, for each fiscal year fix and approve rates and charges to its customers in an amount that is expected to produce revenues sufficient to satisfy the Authority revenue requirement. The attached, proposed schedule of charges meets that requirement.

Leading up to this charge recommendation, staff presented the proposed FY 2020 and 2021 Biennial Budget and five-year financial plan for FY 2020 to 2024 to the Board at its meeting on January 9, 2019 and an analysis of proposed water and sewer system charges at its January 23, 2019 meeting. A Public Hearing was opened for the FY 2020 Water Service Charges and Sewer Service Charges on February 27, 2019.

### **JUSTIFICATION**

Great Lakes Water Authority (“GLWA”) management and its consultant, The Foster Group, developed a Schedule of Water Service Charges and Sewer Service Charges for FY 2020 including the City of Detroit Revenue Requirement for the water and sewer systems. These charges support the proposed FY 2020 water system revenue requirements budget and the proposed FY 2020 sewer system revenue requirements, respectively. The FY 2020 water and sewer revenue requirements reflect GLWA’s commitment to not only work within, but perform beyond, the four percent revenue requirement budget limitation outlined in the September 9, 2014 Memorandum of Understanding that resulted in the establishment of the Great Lakes Water Authority. The proposed wholesale customer charges and revenue requirements for the City of Detroit are the result of significant customer engagement in the charge setting process to evaluate the appropriate allocation of revenue requirements.

### **BUDGET IMPACT**

The recommended FY 2020 Schedule of Water Service Charges and Sewer Service Charges as presented produces the necessary revenues to fund the FY 2020 Water System and Sewer System Budget.

### **COMMITTEE REVIEW**

The Audit Committee has reviewed the FY 2020 financial plan, including charge setting matters, at its meetings on January 4, 2019, January 18, 2019 and February 15, 2019.

### **SHARED SERVICES IMPACT**

This item does not impact the Shared Services Agreement between the GLWA and the City of Detroit.

**Great Lakes Water Authority**  
**Resolution 2019-**  
**RE: Approval of FY 2020 Schedule of Water Service Charges**

By Board Member: \_\_\_\_\_

**Whereas** The Great Lakes Water Authority (“GLWA”) management and its consultant, The Foster Group, have developed the attached Schedule of Water Service Charges and Sewer Service Charges for FY 2020, including the direct and indirect City of Detroit Revenue Requirements for the water and sewer systems, to support the FY 2020 water system and sewer system revenue requirements budget with an effective date of July 1, 2019; and

**Whereas** The FY 2020 water and sewer revenue requirements reflect GLWA’s commitment to work within the four percent limitation outlined in the Memorandum of Understanding; and

**Whereas** A Public Hearing was held for the Water Service Charges and Sewer Service Charges proposed by the GLWA for FY 2020 on February 27, 2019 at 2:00 p.m.; and

**NOW THEREFORE BE IT:**

**RESOLVED** The Great Lakes Water Authority Board approves the proposed:

- 1) FY 2020 wholesale water service schedule of charges;
- 2) FY 2020 wholesale sewer service schedule of charges;
- 3) FY 2020 City of Detroit allocated wholesale water revenue requirement of \$20,117,100 [\$21,536,700], which is the net of \$40,817,100 [\$42,236,700] gross revenue requirement less the Ownership Equity Credit of \$20,700,000 pursuant to the terms of the Water and Sewer Services Agreement (WSSA);
- 4) FY 2020 City of Detroit allocated wholesale sewer revenue requirement of \$186,118,800 [\$186,901,100], which is the net of \$191,634,800 [\$192,417,100] gross revenue requirement less the Ownership Equity Credit of \$5,516,000 in accordance with the WSSA.
- 5) FY 2020 City of Detroit allocated indirect water revenue requirement of \$46,080,700 [\$46,080,700], in accordance with the Regional Water Supply System Lease;
- 6) FY 2020 City of Detroit allocated indirect sewer revenue requirement of \$38,073,300 [\$38,073,300], in accordance with the Regional Water Supply System Lease; and be it finally

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



**DRAFT**

**Proposed Schedule  
of Charges**

February 15, 2019



**GREAT LAKES WATER AUTHORITY  
NOTICE OF PUBLIC HEARING  
PROPOSED FY 2020 WATER AND SEWERAGE SERVICE CHARGES**

Notice is hereby given that the Great Lakes Water Authority Board of Directors will hold a Public Hearing on Water and Sewerage service charges proposed by the Great Lakes Water Authority for Fiscal Year 2020.

**DATE: Wednesday, February 27, 2019**

**TIME: 2:00 p.m.**

**PLACE: 5th Floor Board Room  
735 Randolph  
Detroit, Michigan 48226**

The proposed service charges are scheduled to take effect on July 1, 2019.

The proposed schedule of charges is available for public inspection at the office of the Authority, Water Board Building, 735 Randolph, Detroit, Michigan 48226. The proposed schedule of charges may also be found online at <https://www.glwater.org/financials/>.

Individuals or groups wishing to make oral presentations or submit prepared statements pertaining to the proposed service charges may do so at the Public Hearing. Individuals or groups giving oral presentations are encouraged to have their presentations in writing, with a copy to be submitted for the record to the Great Lakes Water Authority Board of Directors. Oral presentations should be brief to allow all parties the opportunity to participate. A time limit may be imposed based upon registration at the hearing.

Interested parties who are unable to attend the Public Hearing may submit their comments in writing to:

Sue F. McCormick, Chief Executive Officer  
Great Lakes Water Authority  
735 Randolph  
Detroit, Michigan, 48226

Great Lakes Water Authority  
Proposed FY 2020 Water Supply System Allocated Revenue Requirements and Service Charges

Line No.	<u>Wholesale Customer</u>	Fixed Monthly Charge (a) \$/mo	Commodity Charge (a) \$/Mcf	Annual Revenue Req'ts \$
1	Allen Park	121,500	7.43	2,429,400
2	Almont Village	11,800	10.46	235,300
3	Ash Township	41,400	8.07	827,600
4	Belleville	15,400	9.75	307,100
5	Berlin Township	37,400	10.73	748,700
6	Brownstown Township	186,000	10.30	3,719,200
7	Bruce Twp	15,300	75.96	305,700
8	Canton Township	523,800	11.59	10,476,500
9	Center Line	23,500	6.01	470,100
10	Chesterfield Township	213,100	10.03	4,262,100
11	Clinton Township	386,200	7.46	7,723,400
12	Commerce Township	182,600	13.73	3,652,900
13	Dearborn	534,900	6.90	10,698,400
14	Dearborn Heights	186,900	7.38	3,738,100
15	Eastpointe	79,800	5.87	1,596,500
16	Ecorse	75,800	4.30	1,515,000
17	Farmington	52,200	8.72	1,044,400
18	Farmington Hills	457,900	9.70	9,157,300
19	Ferndale	51,600	5.96	1,032,200
20	Flat Rock	71,000	8.54	1,420,100
21	Flint (b)	571,700	8.26	11,434,800
22	Fraser	62,800	8.10	1,255,000
23	Garden City	87,000	7.94	1,740,400
24	Gibraltar	17,300	7.84	346,700
25	Grosse Ile Township	56,400	11.23	1,128,800
26	Grosse Pt. Park	76,900	10.34	1,538,200
27	Grosse Pt. Shores	33,700	12.86	674,900
28	Grosse Pt. Woods	72,100	8.89	1,442,600
29	Hamtramck	39,600	5.34	791,300
30	Harper Woods	43,200	6.19	864,800
31	Harrison Township	78,100	6.56	1,561,200
32	Hazel Park	37,200	5.87	743,800
33	Highland Park	59,300	4.46	1,185,000
34	Huron Township	75,300	9.62	1,506,100
35	Imlay City	71,300	13.61	1,426,100
36	Imlay Twp	800	36.47	15,500
37	Inkster	61,400	5.43	1,228,600
38	Keego Harbor	15,200	12.00	303,000
39	Lapeer	79,200	11.38	1,584,300
40	Lenox Township	14,900	8.07	298,400
41	Lincoln Park	111,900	6.08	2,237,200
42	Livonia	590,900	9.43	11,818,100
43	Macomb Township	649,000	15.22	12,980,700
44	Madison Heights	99,800	6.37	1,995,800
45	Mayfield Twp	2,400	23.13	47,900
46	Melvindale	33,100	6.00	662,100
47	New Haven, Village of	20,400	6.39	407,300
48	N O C W A	1,134,300	9.73	22,686,700
49	Northville	45,100	11.38	902,200
50	Northville Township	288,500	16.09	5,769,200
51	Novi	462,600	12.19	9,252,200
52	Oak Park	70,500	5.82	1,409,500
53	Oakland Co. Drain Comm.	4,000	3.40	80,100
54	Plymouth	54,400	9.93	1,087,500
55	Plymouth Township	230,200	10.62	4,603,200
56	Redford Township	164,600	7.61	3,292,200
57	River Rouge	35,200	6.97	703,700
58	Riverview	43,300	7.79	866,600
59	Rockwood	14,200	11.13	283,800
60	Romeo	12,700	17.79	253,400
61	Romulus	208,800	8.17	4,176,000
62	Roseville	135,900	5.73	2,718,100

Great Lakes Water Authority  
Proposed FY 2020 Water Supply System Allocated Revenue Requirements and Service Charges

Line No.	Wholesale Customer	Fixed Monthly Charge (a) \$/mo	Commodity Charge (a) \$/Mcf	Annual Revenue Req'ts \$		
63	Royal Oak Township	10,400	6.78	208,400		
64	S O C W A	1,183,800	7.22	23,676,300		
65	Shelby Township	720,800	14.37	14,416,000		
66	South Rockwood	5,900	9.50	118,800		
67	Southgate	113,400	7.55	2,267,900		
68	St. Clair County-Burtchville Twp	16,500	18.07	329,800		
69	St. Clair County-Greenwood	22,700	13.08	454,400		
70	St. Clair Shores	155,300	6.48	3,105,800		
71	Sterling Heights	780,300	10.43	15,605,500		
72	Sumpter Township	33,800	9.36	676,500		
73	Sylvan Lake	11,900	14.48	238,900		
74	Taylor	239,500	6.90	4,789,700		
75	Trenton	85,700	7.75	1,714,500		
76	Troy	701,400	11.40	14,028,000		
77	Utica	29,400	8.95	588,800		
78	Van Buren Township	173,200	10.85	3,464,900		
79	Walled Lake	41,000	10.30	819,000		
80	Warren	516,500	6.75	10,329,300		
81	Washington Township	115,800	11.94	2,315,500		
82	Wayne	153,000	13.42	3,059,100		
83	West Bloomfield Township	535,200	15.46	10,703,600		
84	Westland	317,400	7.49	6,347,900		
85	Wixom	126,700	13.06	2,533,700		
86	Woodhaven	85,900	11.38	1,718,200		
87	Ypsilanti Comm Util Auth	535,400	8.37	10,707,300		
88	Total Wholesale Contract Customers	183,300	0.40	318,880,800		
89	Adjustment to Flint Revenue Requirement for KWA Debt Service			(6,652,200)		
90	Adjustment for Highland Park Bad Debt			(1,185,000)		
91	<b>Net Requirement from Wholesale Charges (agrees with GLWA Budget "Schedule 3A")</b>			<b>311,043,600</b>		
					<b>Alternative A- Includes GLWA Facilities Adjustment</b>	<b>Alternative B- Without GLWA Facilities Adjustment</b>
	<b><u>Detroit Customer Class</u></b>				<b>\$</b>	<b>\$</b>
92	<b>Wholesale</b> Revenue Requirement (c)			40,817,100	40,817,100	42,236,700
93	less: Ownership Benefit per Lease			(20,700,000)	(20,700,000)	(20,700,000)
94	<b>Net Wholesale</b> Revenue Requirement			20,117,100	20,117,100	21,536,700
95	<b>Indirect Retail</b> Revenue Requirements (d)			46,087,500	46,087,500	46,098,000
96	less: Use of Lease Payment for Debt Service			(6,556,300)	(6,556,300)	(4,478,600)
97	<b>Net Indirect Retail</b> Revenue Requirements (d)			39,531,200	39,531,200	41,619,400
98	Subtotal Subject to GLWA Board Approval (94) + (97)			59,648,300	59,648,300	63,156,100
99	<b>Direct Retail</b> Revenue Requirements (e)			36,654,600	36,654,600	36,654,600
100	<b>Total Local System Revenue Requirement (97) + (99)</b>			76,185,800	76,185,800	78,274,000
101	<b>Net Requirement from Detroit Customer Class (agrees with GLWA Budget "Schedule 3A)</b>			96,302,900	96,302,900	99,810,700

(a) Reflects proposed charges originally presented on January 24, 2019.

(b) Net fixed monthly charge will include \$554,400 monthly credits for KWA debt service.

(c) Wholesale revenue requirements for the Detroit Customer Class.

(d) Local System revenue requirements related to Master Bond Ordinance (local debt service, etc.)

(e) Local System operating expenses (net of shared services reimbursement) and I&E deposit. Not Subject to GLWA Board approval.

Great Lakes Water Authority - FY 2020 Sewage Disposal System  
Proposed Allocated Revenue Requirements and Service Charges

	Fixed Monthly <u>Charge</u> \$/mo	Annual Revenue <u>Requirement</u> \$
<b><u>Suburban Wholesale</u></b>		
1	OMID	6,353,700
2	Rouge Valley	4,545,200
3	Oakland GWK	3,798,500
4	Evergreen Farmington	2,923,900
5	SE Macomb San Dist	2,084,400
6	Dearborn	1,636,300
7	Grosse Pointe Farms	230,700
8	Grosse Pointe Park	152,100
9	Melvindale	128,700
10	Farmington	96,600
11	Center Line	86,700
12	Allen Park	71,700
13	Highland Park	475,200
14	Hamtramck	334,700
15	Grosse Pointe	74,900
16	Harper Woods	18,400
17	Redford Township	22,000
18	Wayne County #3	4,200
19	<b>Subtotal "Regional Wholesale Revenues from Charges"</b>	276,449,400
20	Industrial Specific Revenues	13,784,000
21	<b>Subtotal "Regional Wholesale Revenues from Charges"</b>	290,233,400
22	less: Highland Park Bad Debt	(2,260,000)
23	<b>Total "Regional Wholesale Revenues" (a)</b>	<b>287,973,400</b>

\* Wholesale charges will be effective July 1, 2019

	<u>Alternative A- Includes GLWA Facilities Adjustment</u> \$	<u>Alternative B- Without GLWA Facilities Adjustment</u> \$
<b><u>Detroit Customer Class</u></b>		
24	<b>Wholesale</b> Revenue Requirement (c)	191,634,800
25	less: Ownership Benefit per Lease	(5,516,000)
26	<b>Net Wholesale</b> Revenue Requirement	186,118,800
27	<b>Indirect Retail</b> Revenue Requirements (d)	38,077,200
28	less: Use of Lease Payment for Debt Service	(4,040,800)
29	<b>Net Indirect Retail</b> Revenue Requirements (d)	34,036,400
30	Subtotal Subject to GLWA Board Approval (26) + (29)	220,155,200
31	<b>Direct Retail</b> Revenue Requirements (e)	72,472,800
32	<b>Total Local System Revenue Requirement</b> (29) + (31)	106,509,200
33	<b>Net Requirement from Detroit Customer Class (a)</b>	292,628,000

(a) Agrees with GLWA Budget "Schedule 3A"

(b) Reserved

(c) Wholesale revenue requirements for the Detroit Customer Class.

(d) Local System revenue requirements related to Master Bond Ordinance (local debt service, etc.)

(e) Local System operating expenses (net of shared services reimbursement) and I&E deposit. Not Subject to GLWA Board approval.

Great Lakes Water Authority - FY 2020 Sewage Disposal System  
Proposed Industrial Specific Retail Sewer Charges

<b>Industrial Waste Control Charges</b>	
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<u>Meter Size - inches</u>	<u>Charge</u> \$/mo
5/8	3.55
3/4	5.34
1	8.89
1-1/2	19.56
2	28.44
3	51.55
4	71.10
6	106.64
8	177.74
10	248.84
12	284.38
14	355.48
16	426.58
18	497.67
20	568.77
24	639.86
30	710.96
36	782.06
48	853.15

<b>Pollutant Surcharges</b>	
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<u>Pollutant</u>	<u>Charge</u> \$/lb
BIOCHEMICAL OXYGEN DEMAND (BOD) for concentrations > 275 mg/l	<b>0.483</b>
TOTAL SUSPENDED SOLIDS (TSS) for concentrations > 350 mg/l	<b>0.490</b>
PHOSPHORUS (P) for concentrations > 12 mg/l	<b>7.228</b>
FATS, OIL AND GREASE (FOG) for concentrations > 100 mg/l	<b>0.465</b>
SEPTAGE DISPOSAL FEE Per 500 gallons of disposal	<b>48.00</b>



## Financial Services Audit Committee Communication

**Date:** February 12, 2019

**To:** Great Lakes Water Authority Audit Committee

**From:** Alicia Haskin, Management Professional – Intergovernmental Relations

**Re:** Update: GLWA and DWSD Shared Services True-Up Status for FY 2017 and Summary of Shared Services Billings and Payments

**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 based on an agreed upon annual budget. 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. That being said, 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 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 shared services program are leading to a more efficient method of calculating costs while staying true to the intent of Section 5.1 above.

**Analysis:** For Fiscal Year 2017, Tables 1 (GLWA as service provider) and 2 (DWSD as service provider) quantify the current amount billed for each Shared Service for the FY2017 True-Up based upon DWSD’s and GLWA’s staff analyses. There are still ongoing reviews and discussions regarding the true-up calculations provided by each party.

DWSD and GLWA Shared Services Teams are meeting every two weeks to bring the FY 2017 Shared Services True Up to a resolution.

True-up support for DoIT-001, DoIT-002 and DoIT-003 has not yet been received from City of Detroit. The amounts reported in Table 2 are the annualized amounts paid in FY2016 for these Shared Services.

Legend for Percentage of Review Completed for Tables 1 and 2

<b>100%</b>	True up data has been exchanged. Both parties agree.
<b>75%</b>	True up data has been exchanged and discussions have started.
<b>50%</b>	True up data exchanged but review not started.
<b>25%</b>	Staff in process of getting final approval from respective Executive Leadership Team to transmit. True up data not exchanged yet.
<b>0%</b>	No true up data available at this time.

- Continued -

**Table 1 - GLWA as Service Provider**

Fiscal Year 2017 Schedule of True Up Billings - GLWA is Service Provider As of February 11, 2019		
GLWA Provider Shared Service Description	Percentage of Review Completed by DWSD	GLWA Total Billings to DWSD
OPS-002 Miss Dig	75%	\$ 12,470
OPS-004 Water Quality	75%	140,933
OPS-005 Security	75%	2,711,748
OPS-005 Security Training	75%	7,990
OPS-006 Facilities	50%	4,337
OPS-008 Systems Control Center	75%	984,242
ITS-001 Retail AMR	50%	387,407
ITS-002 Customer Service Tech Suite	50%	41,179
ITS-003 See Click Fix	50%	200,789
ITS-004 WAM	50%	1,473,943
ITS-005 Mobile Work Force	50%	320,994
ITS-006 ESRI-GIS	50%	1,201,056
ITS-007 DADS	50%	94,754
ITS-008 TIBCO	50%	122,874
ITS-009 IT Infrastructure	50%	3,656,789
LS-001-A Joint Litigation and Defense, LS-001-B Environment, LS-002 Environment, LS-003 Contract Drafting	75%	8,043
<b>Subtotal</b>		<b>\$ 11,369,547</b>
<b>Other items to bill not a defined shared service code</b>		
DWSD-R Staff Training by GLWA	25%	\$ 5,696
Bank Fees	75%	585,000
Lakeshore Invoices	75%	676,875
Public Finance	75%	12,723
<b>Subtotal</b>		<b>1,280,294</b>
<b>Grand Total</b>		<b>\$ 12,649,841</b>

**Table 2 - DWSD as Service Provider**

Fiscal Year 2017 Schedule of True Up Billings - DWSD is Service Provider As of February 11, 2019		
DWSD/City of Detroit Provider Shared Service Description	Percentage of Review Completed by GLWA	DWSD Total Billings to GLWA
OPS-001 Fleet	75%	\$ 1,366,498
OPS-002 Miss Dig	50%	54,506
OPS-003 As Needed Field Services	50%	113,584
OPS-006 Facilities	75%	2,249,678
DoIT-001 Financial Information Services	0%	150,000
DoIT-002 Radios	0%	150,000
DoIT-003 Customer Service Technology Suite	0%	44,000
<b>Subtotal</b>		<b>\$ 4,128,266</b>
<b>Other items to bill not a defined shared service code</b>		
Fuel	75%	\$ 88,211
WAM Invoices	75%	290,347
<b>Subtotal</b>		<b>378,558</b>
<b>Grand Total</b>		<b>\$ 4,506,824</b>

**Summary of Shared Services Billings and Payments**

Tables 3 (GLWA as Service Provider) and 4 (DWSD as Service Provider) below explain the following Shared Services information from the beginning of the Shared Services Agreement, 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 into FY 2017 due to significant efforts to implement the Shared Services agreement and related business processes and operating protocols. Now that there is regular ongoing dialog, and a pattern as we enter the fourth years of operations, two things need to occur. First, an amendment to the budget and related monthly billing amount if and when it is evident that the budgeted amount is too low or too high based on the past three years of operations. Second, a payment exchange between the two parties for amounts billed or as may be amended based on budget.

**Table 3 - GLWA as Service Provider (FY 2019 Billings through January 2019)**

<b>Summary of Shared Services Billings and Payments                      GLWA Provider Services                      FY2016, FY2017, FY2018 and FY2019                      As of February 11, 2019</b>				
<b>Year</b>	<b>Total Billings</b>	<b>True Up Amount Actual/Potential</b>	<b>Total Payments</b>	<b>Unpaid Amount</b>
<b>FY2016</b>	\$ 4,781,194	\$ 3,311,838	\$ 8,093,032	\$ -
<b>FY2017</b>	\$ 9,378,922	\$ 1,990,625	\$ -	\$ 11,369,547
<b>FY2018</b>	\$ 7,483,000	\$ -	\$ -	\$ 7,483,000
<b>FY2019</b>	\$ 5,255,689	\$ -	\$ -	\$ 5,255,689
<b>Subtotals</b>	<b>\$ 26,898,805</b>	<b>\$ 5,302,463</b>	<b>\$ 8,093,032</b>	<b>\$ 24,108,235</b>

**Table 4 - DWSD as Service Provider (FY 2019 Billings through January 2019)**

<b>Summary of Shared Services Billings and Payments</b> <b>DWSD Provider Services</b> <b>FY2016, FY2017, FY2018 and FY2019</b> <b>As of February 11, 2019</b>				
<b>Year</b>	<b>Total Billings</b>	<b>True Up Amount Actual/Potential</b>	<b>Total Payments</b>	<b>Unpaid Amount</b>
<b>FY2016</b>	\$ 2,543,735	\$ (1,057,735)	\$ 1,486,000	\$ -
<b>FY2017</b>	\$ 4,722,364	\$ (594,098)	\$ -	\$ 4,128,266
<b>FY2018</b>	\$ 4,633,354	\$ -	\$ -	\$ 4,633,354
<b>FY2019</b>	\$ 2,630,098	\$ -	\$ -	\$ 2,630,098
<b>Subtotals</b>	<b>\$ 14,529,551</b>	<b>\$ (1,651,833)</b>	<b>\$ 1,486,000</b>	<b>\$ 11,391,718</b>

**Proposed Action:** Receive and file report.



## Financial Services Audit Committee Communication

**Date:** February 13, 2019

**To:** Great Lakes Water Authority Audit Committee

**From:** Alicia Haskin, Management Professional – Intergovernmental Relations

**RE:** Reconciliation Committee Update

**Update:** The Great Lakes Water Authority (GLWA) and Detroit Water and Sewerage Department (DWSD) Reconciliation Committee met on Monday, February 11, 2019.

Attached for your reference are the draft Meeting Notes from the Reconciliation Committee as well as the DWSD FY2020 Preliminary Budget. This preliminary budget was presented by DWSD Chief Financial Officer at the Board of Water Commissioners Finance Committee on February 6, 2019. It should be noted that the DWSD Preliminary Budget includes a modification to the GLWA FY 2020 charges proposal.

Under the Water and Sewer Services Agreement DWSD is required to provide the following reports as it relates to the annual budgeting cycle.

- Preliminary two-year budget forecast including key assumptions and impact statement (Section 5.3) (*status: attached*)
- Current capital improvement plan (Section 5.3(d)(i)) (*status: in process*)
- Local system adopted biennial budget (Section 5.3(B)) (*status: in process*)
- Local system provides direction to GLWA on how to apply lease payment (Section 4.3) (*status: in process*)

**Proposed Action:** Receive and file report.



**DWSD & GLWA  
Reconciliation Committee  
February 11, 2019 at 9 a.m.**

Water Board Building  
735 Randolph, Ste. 1606, Detroit, MI 48226



**Meeting Notes**

Note: The following represents meeting notes (not minutes) to assist both entities with follow-up/action items and to document status of efforts underway. Page number references to the meeting binder are for Reconciliation Committee members.

1. **Review of Prior Meeting Notes from October 19, 2018** (page 1)
2. **Status Report: Cash Held for the Benefit of DWSD** (page 11)
  - A. Terms of the Note for the Budget Shortfall will be drafted in writing by the two Chief Financial Officer's, Tom Naughton and Nickie Bateson.
  - B. Detroit Water and Sewerage Department (DWSD) made a payment of approximately \$5,200,000 on Friday, February 8, 2019.
  - C. \$6,500,000 credit due to DWSD for the pervious years lookback will be shown on future reports as an MOU Adjustment, line 8 of the DWSD Trust Receipts and Disbursements Report prepared by Great Lakes Water Authority (GLWA) Audit Committee.
3. **Status Report: Watermain Arbitration/Transmission Main**
  - A. Follow up meeting regarding this issue with DWSD and GLWA will take place on Tuesday, February 12, 2019.
  - B. There have been discussions regarding lines that could be decommissioned immediately.
  - C. GLWA has filed for arbitration on this topic.
4. **Status Report: DWSD Retail Account Billings for GLWA Facilities** (page 16)
  - A. Discussion regarding the three categories of charges that need further analysis.
    - a) Billing Accounts with Disputes
    - b) Drainage Accounts
    - c) Accounts with no Disputes
  - B. This issue may go to arbitration.
5. **Status Report: Information Technology Shared Services Update** (page 21)
  - A. GLWA emphasized the operational importance of DWSD notifying GLWA in a timely manner regarding any termination or extension of termination needed to ensure adequate resource allocation.
  - B. GLWA has identified projects and priorities where the Shared Service resources are being reassigned.
6. **Status Report: Shared Services True-up** (page 25)
  - A. The FY2017 True-Up is being reviewed by staff and an update will be prepared for the GLWA Audit Committee on Friday, February 15, 2019.
  - B. The update will include the billings and payments by each entity, DWSD and GLWA.
7. **Status Report: FY 2020 Preliminary DWSD Budget** (page 28)
  - A. DWSD presented a Preliminary Budget for FY2020 as presented to the DWSD Board of Water Commissioners - Finance Committee on February 6, 2019.
  - B. DWSD is working on their five-year plan and biennial budget.

8. **Reference Item – 2018 MOU** (page 53)
9. **Scheduled Meetings:**
  - April 5, 2019 10:30 am – 12 pm
  - July 19, 2019 10:30 am – 12 pm
  - October 18, 2019 10:30 am – 12 pm

**Reconciliation Committee**

Linda D. Forte, Board of Water Commissioners

Robert J. Daddow, Great Lakes Water Authority Board of Directors

**Reconciliation Committee Participants**

Gary Brown, Director, Detroit Water & Sewerage Department

Sue McCormick, Chief Executive Officer, Great Lakes Water Authority

Tom Naughton, Chief Financial Officer, Detroit Water & Sewerage Department

Nickie Bateson, Chief Financial Officer & Treasurer, Great Lakes Water Authority

Debra Pospiech, Chief Administrative Officer and General Counsel

Randal Brown, General Counsel, Great Lakes Water Authority

*Prepared by Alicia Haskin, Intergovernmental Relations Management Professional, Great Lakes Water Authority*



# **DWSD PRELIMINARY BUDGET REVIEW**

## **FISCAL YEAR 2020**

February 6, 2019



# Agenda

- Current Budget Environment
- FY 2020 Revenue Forecasts and Preliminary Budget Recommendations
- Operations and Maintenance Preliminary Budgets
  - Direct (Departmental) Budgets
  - Indirect (Non-Departmental) Budget
- Five-Year Capital Plan will be presented at CIP Committee
- Next Steps



# FY 2020 Budget Environment

- Experiencing positive volume (Mcf) variances and increases in numbers of accounts and meters in FY 2019. Trends are expected to continue into FY 2020.
- MOU has eliminated significant uncertainties with respect to debt obligations and other funding requirements.
- Restructuring of the department is accelerating. Several opportunities exist to in-source certain functions currently contracted out.
- Technology has an aggressive agenda planned. DWSD is becoming less dependent on GLWA for network and systems.
- All operating units are developing and formalizing processes and procedures. Opportunities to improve compliance and create efficiencies have been identified.
- An aggressive capital program has been launched.
- Exposure to certain financial risks will continue (Lead service lines, GLWA transmission lines, GLWA direct water service, etc...)



# **WATER REVENUE**

## **FISCAL YEAR 2020**

# Water Revenue Summary



	Budget	Forecast	Budget	% Change
	FY 2019	FY 2019	FY 2020	v. Budget
<b><u>Operating Revenues</u></b>				
Commodity Sales	\$ 69,393,000	\$ 70,715,000	\$ 73,176,000	5.5%
Service Charges	24,766,000	24,968,000	25,964,000	4.8%
Firelines	3,031,000	3,057,000	3,057,000	0.9%
Other Fees	2,890,000	1,866,000	1,593,000	-44.9%
Penalties	1,510,000	1,098,000	1,165,000	-22.8%
Total Retail Revenue	101,590,000	101,704,000	104,955,000	3.3%
Less: Bad Debt Expense	(6,095,000)	(7,119,000)	(7,347,000)	20.5%
Net Retail Revenue	95,495,000	94,585,000	97,608,000	2.2%
Other Revenue	2,200,000	2,200,000	2,200,000	0.0%
<b>Total Revenue</b>	<b>\$ 97,695,000</b>	<b>\$ 96,785,000</b>	<b>\$ 99,808,000</b>	<b>2.2%</b>

- Assumed rate increases of 4% (excluding Firelines)
- Effective Retail Revenue Increase of 3.3%
- Expected Collection Rate of 93% (down from 94%)



# Water Retail Revenue Assumptions

	Total Usage (MCFs)						
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019 Estimated	FY 2020 Estimated
Water MCF	3,379,911	3,149,433	3,051,044	2,951,798	2,883,971	2,861,799	2,847,490
% Change v. Prior Year	-7.47%	-6.82%	-3.12%	-3.25%	-2.30%	-0.77%	-0.50%

- MCF charge increasing from \$24.71 to \$25.70
- FY 2020 budget assumes a decrease of 0.5% in water usage from FY 2019 forecast; 1.4% increase from FY 2019 budget
- Increase in meters from 175,300 to 176,800 (0.8%)
- Fireline charges to remain the same



# **SEWER REVENUE**

## **FISCAL YEAR 2020**



# Sewer Revenue Summary

	<b>Budget</b>	<b>Forecast</b>	<b>Budget</b>	<b>% Change</b>
	<b>FY 2019</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>v. Budget</b>
<b><u>Operating Revenues</u></b>				
Commodity Sales	\$ 136,714,000	\$ 149,930,000	\$ 155,538,000	13.8%
Service Charges	13,184,000	13,292,000	13,824,000	4.9%
Drainage Fees	152,874,000	142,233,000	154,465,000	1.0%
Penalties	4,965,000	4,276,000	4,420,000	-11.0%
<b>Total Retail Revenue</b>	<b>307,737,000</b>	<b>309,731,000</b>	<b>328,247,000</b>	<b>6.7%</b>
<b>Less: Bad Debt Expense</b>	<b>(27,696,000)</b>	<b>(34,070,000)</b>	<b>(36,107,000)</b>	<b>30.4%</b>
<b>Net Retail Revenue</b>	<b>280,041,000</b>	<b>275,661,000</b>	<b>292,140,000</b>	<b>4.3%</b>
Other Revenue	500,000	500,000	500,000	0.0%
<b>Total Revenue</b>	<b>\$ 280,541,000</b>	<b>\$ 276,161,000</b>	<b>\$ 292,640,000</b>	<b>4.3%</b>

- Effective Retail Revenue Increase of 6.7% largely due to strong FY 2019 volumes
- Significant decrease in billable Impervious acreage
- FY 2020 collection rate reduced from 91% to 89%
- Expected Collection Rate for Drainage fees is 87%



# Sewer Retail Revenue Assumptions

	Total Usage (MCFs)						FY 2019	FY 2020
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Estimated	Estimated	
Sewer MCF	3,104,167	2,842,014	2,728,344	2,595,579	2,612,352	2,733,960	2,727,125	
% Change v. Prior Year	-5.08%	-8.45%	-4.00%	-4.87%	0.65%	4.66%	-0.25%	

- Sewer MCF charge increased from \$54.84 to \$57.03
- Sewer service charge increased from \$6.28 to \$6.53
- FY 2020 budget assumes a decrease of 0.25% in sewer usage from FY 2019 forecast; (9.4% over FY 2019 Budget)
- Increase of meters from 175,000 to 176,400 (0.8%)
- Drainage Rates will transition based on pre-determined rate structure



# Billable Impervious Acres

<u>Customer Class</u>	Budget FY 2019	Forecast FY 2019	Forecast FY 2020	Change (+/-) v. Budget
Industrial	3,800	3,800	3,800	-
Commercial	5,900	6,000	6,000	100
<b>Residential</b>	<b>12,200</b>	<b>11,500</b>	<b>11,500</b>	<b>(700)</b>
City of Detroit	1,400	1,300	1,300	(100)
Wayne State	100	100	100	-
Tax Exempt	1,800	1,600	1,600	(200)
Faith Based	500	600	600	100
Highway Drainage	2,800	2,800	2,800	-
<b>Grand Total</b>	<b>28,500</b>	<b>27,700</b>	<b>27,700</b>	<b>(800)</b>

- Reduction of 800 billable impervious acres results in revenue loss of \$6 Million



# **OPERATIONS & MAINTENANCE BUDGET**

## **FISCAL YEAR 2020**



# Operation and Maintenance – Direct Expenses

	Budget 2019	Budget 2020	Increase (Decrease)	Percent Change
<b>Summary by Fund</b>				
Water Fund	\$ 37,161,200	\$ 39,934,600	\$ 2,773,400	7.5%
Sewer Fund	70,637,700	74,244,300	3,606,600	5.1%
<b>Total O&amp;M Appropriations</b>	<b><u>\$ 107,798,900</u></b>	<b><u>\$ 114,178,900</u></b>	<b><u>\$ 6,380,000</u></b>	<b><u>5.9%</u></b>
<b>Summary by Appropriation Unit</b>				
BOWC and Administration	\$ 11,435,300	\$ 9,832,400	\$ (1,602,900)	-14.0%
Operations	45,628,700	56,431,000	10,802,300	23.7%
Compliance	23,036,800	19,431,800	(3,605,000)	-15.6%
Finance	16,147,200	17,667,100	1,519,900	9.4%
Customer Service	8,131,500	7,097,900	(1,033,600)	-12.7%
Stormwater Management Group	3,419,400	3,718,700	299,300	8.8%
<b>Total O&amp;M Appropriations</b>	<b><u>\$ 107,798,900</u></b>	<b><u>\$ 114,178,900</u></b>	<b><u>\$ 6,380,000</u></b>	<b><u>5.9%</u></b>



# Administration

	FY 2019	FY 2020
<b>Administration</b>	<b>Budget</b>	<b>Request</b>
Salaries/Wages	\$ 3,005,000	\$ 3,307,000
Employee Benefits (Fringes)	1,307,000	1,351,000
Professional & Contractual Services	3,300,000	3,166,000
Shared Services Expense	425,000	575,000
Supplies & Other	3,398,000	1,433,000
Utilities	-	-
<b>Total Appropriation</b>	<b>\$ 11,435,000</b>	<b>\$ 9,832,000</b>

- Includes: CEO, Public Affairs, Security and BOWC
- Transferred 1 FTE from Customer Service (PAA)
- Moved City Indirect Cost Allocation to CFO cost Center (\$2.1M)



# Operations

	<b>FY 2019</b>	<b>FY 2020</b>
<b>Operations</b>	<b>Budget</b>	<b>Request</b>
Salaries/Wages	\$ 17,357,000	\$21,358,000
Employee Benefits (Fringes)	7,437,000	8,642,000
Professional & Contractual Services	8,600,000	12,291,000
Shared Services Expense	1,000,000	800,000
Supplies & Other	8,204,000	8,720,000
Utilities	3,031,000	4,619,000
<b>Total Appropriation</b>	<b>\$ 45,629,000</b>	<b>\$56,430,000</b>

- Includes: Field Engineering, Field Services, Fleet, Facilities, Meter Operations and Storm Water Management
- Increase of 45 FTEs
- Decrease in Shared Service for Systems Control Center: Detroit Only Pump Stations



# Operations – Field Services

	<b>FY 2019</b>	<b>FY 2020</b>
<b>Field Service Operations</b>	<b>Budget</b>	<b>Request</b>
Salaries/Wages	\$ 9,855,000	\$11,632,000
Employee Benefits (Fringes)	4,221,000	4,672,000
Professional & Contractual Service	650,000	1,465,000
Shared Services Expense	-	-
Supplies & Other	4,594,000	4,686,000
Utilities	-	-
<b>Total Cost Center</b>	<b>\$ 19,320,000</b>	<b>\$22,455,000</b>

- Increase of 15 FTEs
- Expand water and sewer preventative maintenance program
- Implement a Sewer Cleaning Program
  - 5-8 year cleaning cycle
  - Clean 450 miles of sewer lines per year
- Assuming MISS DIG functions
- Create Lead Line Replacement Program



# Operations – Meter Operations

	<b>FY 2019</b>	<b>FY 2020</b>
<b>Meter Operations</b>	<b>Budget</b>	<b>Request</b>
Salaries/Wages	\$ 2,054,000	\$ 3,140,000
Employee Benefits (Fringes)	846,000	1,286,000
Professional & Contractual Service	1,460,000	3,503,000
Shared Services Expense	-	-
Supplies & Other	472,000	481,000
Utilities	-	-
<b>Total Cost Center</b>	<b>\$ 4,832,000</b>	<b>\$ 8,410,000</b>

- Increase of 14 FTEs
- Transfer service interruption contract to Meter Operations
- Expansion of service availability to Saturday and Sundays
- Support implementation of AMR Migrations Project(ITRON)
- Implement a Meter Data Management Program
- Reduce Non-Revenue Water



# Operations - Fleet

	FY 2019 Budget	FY 2020 Request
<b>Fleet Operations</b>		
Salaries/Wages	\$ 1,394,000	\$ 1,733,000
Employee Benefits (Fringes)	608,000	708,000
Professional & Contractual Services	2,083,000	2,717,000
Shared Services Expense	-	-
Supplies & Other	1,693,000	1,819,000
Utilities	-	-
<b>Total Cost Center</b>	<b>\$ 5,778,000</b>	<b>\$ 6,977,000</b>

- Maintains vehicles for both DWSD and GLWA (approximately 700)
- Maintains over 1,000 pieces of equipment
- Increase of 5 FTEs based on national benchmarks
- Establish an afternoon shift to increase availability and productivity



# Compliance

<b>Compliance</b>	<b>FY 2019 Budget</b>	<b>FY 2020 Request</b>
Salaries/Wages	\$ 2,582,000	\$ 3,481,000
Employee Benefits (Fringes)	1,141,000	1,439,000
Professional & Contractual Services	3,476,000	3,593,000
Shared Services Expense	7,380,000	2,970,000
Supplies & Other	3,458,000	6,949,000
Claims and Judgements	5,000,000	1,000,000
Utilities	-	-
<b>Total Appropriation</b>	<b>\$ 23,037,000</b>	<b>\$ 19,432,000</b>

- Includes: General Counsel, Organizational Development, Information Technology
- Increase of 7 FTEs
  - General Counsel (-1 FTE)
  - Safety Office (2 FTE)
  - Technology (6 FTE)
- Reduced contingency for damage and other claims (\$4 M)
- Reduction in IT Shared Services and increase in FTEs and supplies as IT transitions the services in-house (\$3.3M)

# Finance



<b>Finance</b>	<b>FY 2019 Budget</b>	<b>FY 2020 Request</b>
Salaries/Wages	\$ 4,335,000	\$ 4,988,000
Employee Benefits (Fringes)	1,887,000	2,066,000
Professional & Contractual Services	9,051,000	7,533,000
Shared Services Expense	-	40,000
Supplies & Other	875,000	3,041,000
Utilities	-	-
<b>Total Appropriation</b>	<b><u>\$ 16,148,000</u></b>	<b><u>\$ 17,668,000</u></b>

- Increase of 5 FTEs
- Moved City Indirect Cost Allocation from CEO (\$2.1M)
- Transferred service interruption contract to Meter Operations (\$2.3M)
- Increased mailing system contract (\$400K)
- Transferred utility rate consulting contract from CEO (\$250K)



# Customer Service

	<b>FY 2019</b>	<b>FY 2020</b>
	<b>Budget</b>	<b>Request</b>
<b>Customer Service</b>		
Salaries/Wages	\$ 4,739,000	\$ 4,424,000
Employee Benefits (Fringes)	2,062,000	1,813,000
Professional & Contractual Services	1,075,000	601,000
Shared Services Expense	-	-
Supplies & Other	255,000	260,000
Utilities	-	-
<b>Total Appropriation</b>	<b>\$ 8,131,000</b>	<b>\$ 7,098,000</b>

- Decrease of 21 FTEs
  - 3 transferred to Meter Operations
  - 1 transferred to Stormwater Management
  - 1 transferred to CEO
  - 16 vacant positions eliminated
- Reduce consulting contracts based on current spend



# Stormwater Management Group

	<b>FY 2019</b>	<b>FY 2020</b>
<b>Stormwater Drainage</b>	<b>Budget</b>	<b>Request</b>
Salaries/Wages	\$ 841,000	\$ 1,084,000
Employee Benefits (Fringes)	366,000	446,000
Professional & Contractual Services	1,730,000	1,697,000
Supplies & Other	82,000	84,000
Utilities	400,000	408,000
<b>Total Appropriation</b>	<b>\$ 3,419,000</b>	<b>\$ 3,719,000</b>

- Responsibilities include NPDES permit compliance, green infrastructure project management and customer care for drainage related requests
- Increase of 4 FTEs
  - Customer Service Specialists (2 FTE)
  - Green Infrastructure Engineers (2 FTE)



# **INDIRECT EXPENSES BUDGET**

## **FISCAL YEAR 2020**



# Indirect Expenses Budget

	Budget 2019	Budget 2020	Increase (Decrease)	Percent Change
<b>Water Fund</b>				
Wholesale Charges	\$ 20,324,800	\$ 21,536,700	\$ 1,211,900	6.0%
Obligation to GLWA	33,438,800	33,438,800	-	0.0%
Operating Pension	4,272,000	4,272,000	-	0.0%
Non-Operating Pension	3,809,200	3,809,200	-	0.0%
Series B & C Notes	618,200	618,200	-	0.0%
WRAP Contribution	480,300	535,800	55,500	11.6%
<b>Total Water Fund</b>	<b><u>\$ 62,943,300</u></b>	<b><u>\$ 64,210,700</u></b>	<b><u>\$ 1,267,400</u></b>	<b><u>2.0%</u></b>
<b>Sewer Fund</b>				
Wholesale Charges	\$ 183,009,100	\$186,901,100	\$ 3,892,000	2.1%
Obligation to GLWA	26,271,500	26,271,500	-	0.0%
Operating Pension	2,856,000	2,856,000	-	0.0%
Non-Operating Pension	2,546,200	2,546,200	-	0.0%
Series B & C Notes	520,200	520,200	-	0.0%
Budget Stabilization	(6,527,200)	-	6,527,200	-100.0%
WRAP Contribution	1,154,300	1,643,700	489,400	42.4%
<b>Total Sewer Fund</b>	<b><u>\$ 209,830,100</u></b>	<b><u>\$220,738,700</u></b>	<b><u>\$10,908,600</u></b>	<b><u>5.2%</u></b>

- Wholesale charges are based on GLWA preliminary worksheets.
- Budget Stabilization reduction is non-recurring (MOU adjustment).



## Next Steps

- Final reviews with Executive Management
- Water and Sewer allocation assessments
- GLWA wholesale charge adjustments
- Public Hearing scheduled for February 20th
- Budget adoption planned for March 2019

# Thank You



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## Financial Services Audit Committee Communication

**Date:** February 15, 2019

**To:** Great Lakes Water Authority Audit Committee

**From:** Deirdre Henry, Treasury Manager

**Re:** Quarterly Investment Report through December 31, 2018 (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 December 31, 2018 (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 (current quarter compared to prior)
  - As of December 31, 2018: 2.40% vs 2.26% (3-Month Treasury Index)
  - As of September 30, 2018: 2.30% vs 2.02% (3-Month Treasury Index)
  
- Portfolio Allocation in Cash/Money Market Securities (current quarter compared to prior)
  - As of December 31, 2018: 39%
  - As of September 30, 2018: 34%

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 – December 2018*



## Table of Contents

### I. Executive Summary

### II. Investment Strategy

### III. 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

## Great Lakes Water Authority 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 98% 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 reduce its weighting to overnight funds, with only 39% of the total assets maturing overnight.
- **Return** – The overall yield increased to 2.40% as of December 31, 2018 versus 2.30% at September 30, 2018. The Authority earned \$10,169,274 in investment income for fiscal year-to-date on a book value basis. Based on the current interest rate environment, the investment income earned for the previous quarter, and assuming that the Authority maintains the same investable balances for the remainder of the fiscal year, we are projecting that the Authority will earn approximately \$20.3 million in investment income for fiscal year 2019.
- **Compliance** – The aggregate portfolio is in compliance with the Authority’s investment policy and Michigan Public Act 20.

### AVAILABLE FUNDS (Unaudited)

Type	Financial Institution	Book Value	Market Value	YTM @ Market (as of 12/31/18)
Deposit Account	Comerica	\$434	\$434	0.25%
Deposit Account - Retainage	First Independence	\$16,285,172	\$16,285,172	0.05%
Deposit Account – Flint Security Deposit	Chase	\$3,770,118	\$3,770,118	1.30%
Deposit Account	Chase	\$12,057,153	\$12,057,153	1.30%
Trust Money Market Fund	U.S. Bank	\$259,601,496	\$259,601,496	2.27%
Money Market Fund	JP Morgan	\$51,374,656	\$51,374,656	2.19%
Local Government Investment Pool	GovMIC	\$71,292,089	\$71,292,089	2.38%
Managed Funds	PFM	\$645,931,515	\$645,512,782	2.57%
<u>TOTAL</u>		<u>\$1,060,312,633</u>	<u>\$1,059,893,899</u>	<u>2.40%</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 12/31/2018.*

**Great Lakes Water Authority  
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 funds maturing overnight at the end of December to cover early January obligations for debt and operations.
- The aggregate portfolio was yielding 2.40% at the end of December.\*
  - This compares to the 2.39% yield of the Bank of America / Merrill Lynch 3-Month U.S. Treasury Bill Index as of 12/31/2018, 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 third quarter of FY 2019, the Authority’s investment advisor will continue to actively manage specifically benchmarked long-term portfolios with full discretion, subject to the Authority’s investment policy.
- The Authority will continue to work with its investment manager to identify strategies in this volatile market to maximize future investment income while meeting the objectives of safety and liquidity.
- Assuming that the Authority maintains the same investable balances for FY 2019 and the interest rate environment remains in a similar range, we conservatively expect to earn approximately \$20.3 million in interest income in FY 2019.

\* Current market yield as of December 31, 2018.

**Great Lakes Water Authority  
Market Overview and Outlook**

**ECONOMIC HIGHLIGHTS UPDATE**

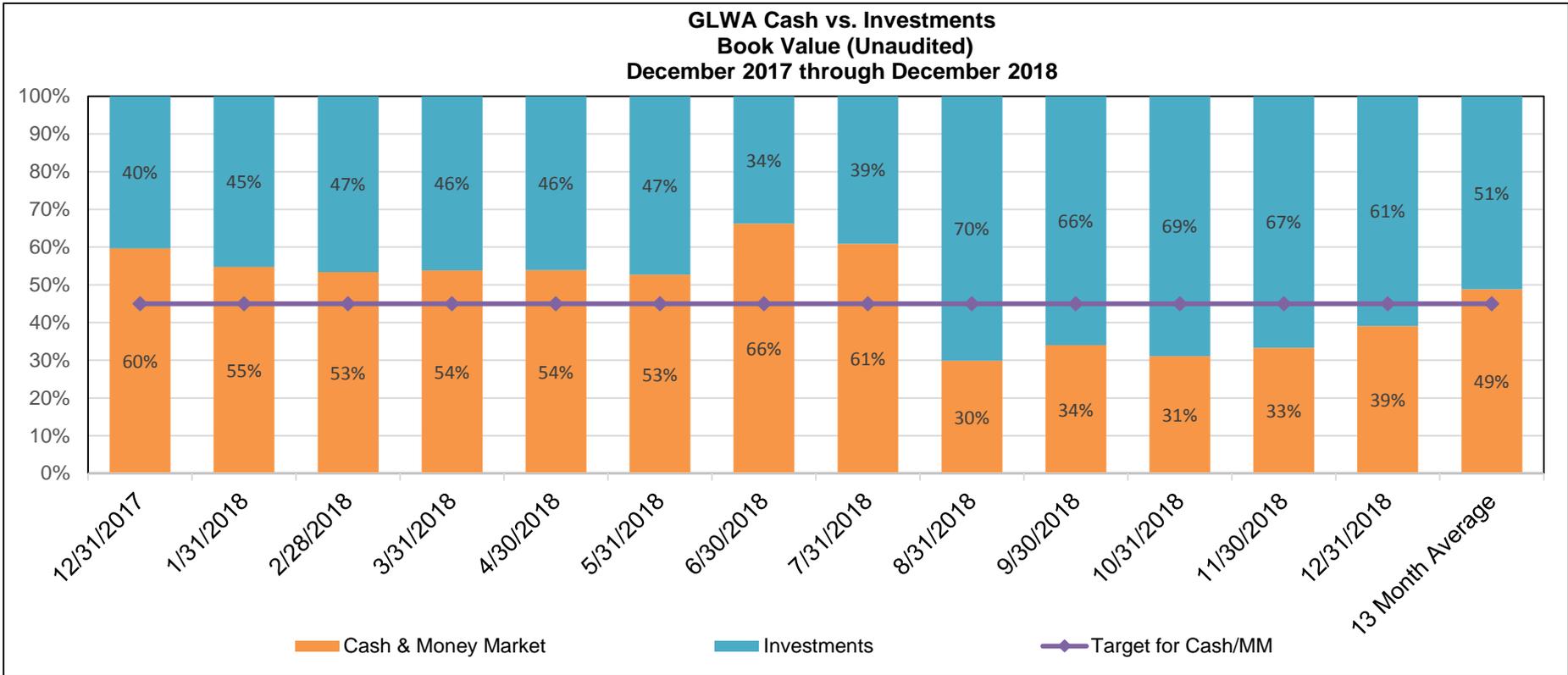
- December was not for the faint of heart as 2018 ended with surging volatility, worldwide equity sell-offs, U.S. Treasury yield curve inversion, trade tensions, and a partial government shutdown. Surprisingly, for the moment, some calm has returned, with the backdrop of “steady-as-she-goes” for the U.S. economy.
- The Federal Reserve is recalibrating its monetary policy. While the median consensus of Fed governors is for two rate hikes in 2019, the market expectation is for none (as measured by Federal Funds futures). Fed Chair Jerome Powell tempered expectations in a recent speech, expressing that the Fed is “prepared to adjust policy quickly and flexibly” if necessary, and other Fed policy makers have joined in tempering expectations.

**ECONOMIC IMPACT ON PORTFOLIO**

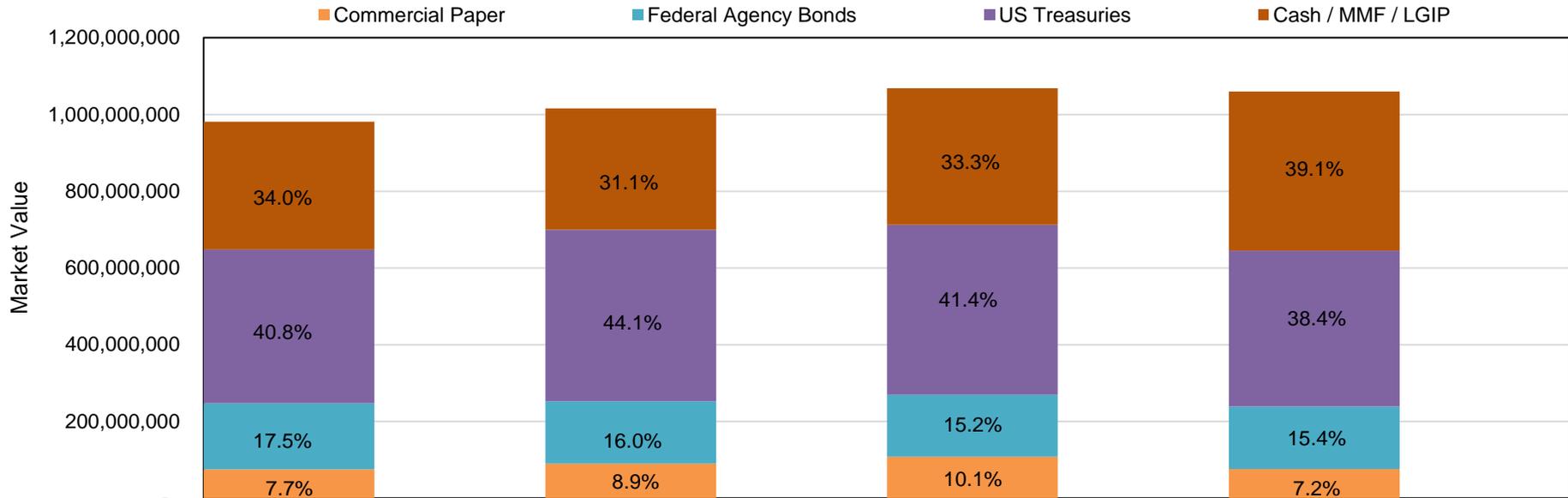
- After narrowing to 12-month lows in the third quarter of calendar year 2018, spreads on commercial paper issuers rebounded in the fourth quarter of calendar year 2018. As a result, the Authority’s portfolios benefited from additional allocations to these high-quality, short-term credit instruments at attractive yields.
- In December, the U.S. Treasury yield curve inverted between two and five-year maturities for the first time since 2007. Yields on maturities greater than two years rallied 25 to 30 basis points, while shorter-term yields were pinned to the steady Federal Funds rate.
- The pace of Fed rate hikes was well-telegraphed throughout 2018, and the prospect of higher rates down the road rewarded investors who maintained a short duration bias, such as GLWA. Now, the path of future rate hikes is less clear. As a result, we will no longer be betting on interest rate increases by employing a short duration bias.
- Cash and money market securities produce the best returns of all sectors in 2018 and were the highest in a decade. For calendar year 2019, supported by the 2.50% overnight Federal Funds rate, the sector is expected to produce comparable returns.

**Great Lakes Water Authority  
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 December 2018 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 slight increase in the cash/money market holdings for December of 2018 is related to increased liquidity to meet early January debt payments and operational requirements.



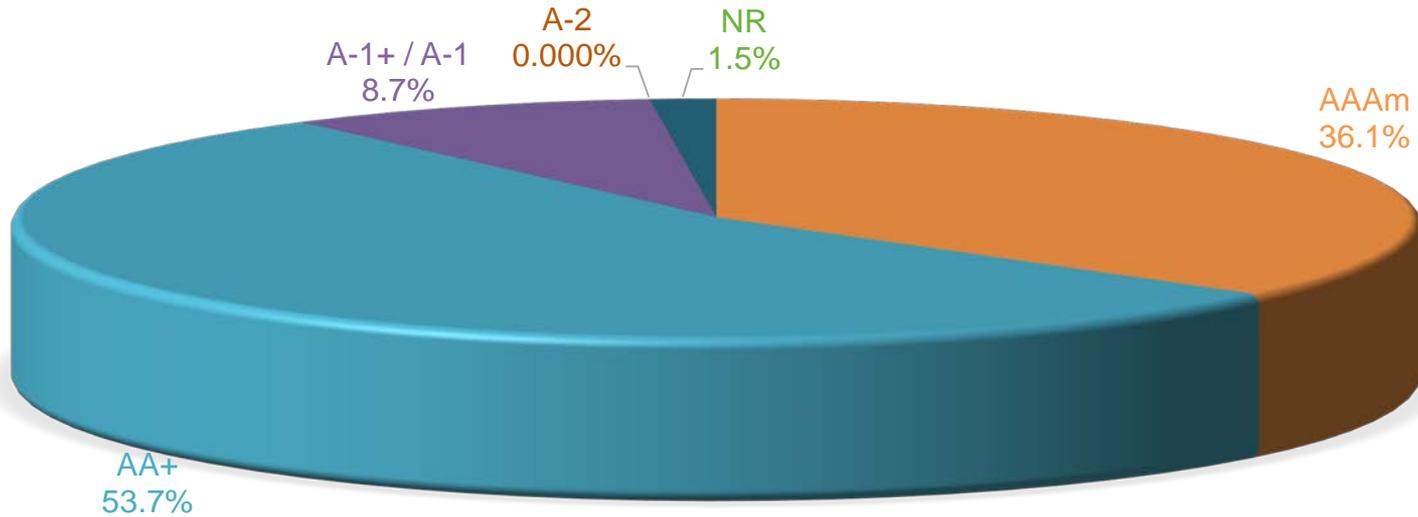
**Great Lakes Water Authority  
Investments – By Security Type**



Security Type	September		October		November		December	
	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation	Market Value	Asset Allocation
Commercial Paper	75,609,931	7.7%	90,111,948	8.9%	107,565,791	10.1%	76,085,397	7.2%
Federal Agencies	172,066,823	17.5%	162,046,361	16.0%	162,295,744	15.2%	162,894,722	15.4%
U.S. Treasuries	400,260,370	40.8%	447,588,677	44.1%	442,701,524	41.4%	406,532,663	38.4%
Cash / MMF / LGIP	333,640,087	34.0%	316,050,687	31.1%	356,205,874	33.3%	414,381,117	39.1%
<b>Total</b>	<b>981,577,211</b>	<b>100.0%</b>	<b>1,015,797,673</b>	<b>100.0%</b>	<b>1,068,768,932</b>	<b>100.0%</b>	<b>1,059,893,899</b>	<b>100.0%</b>

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

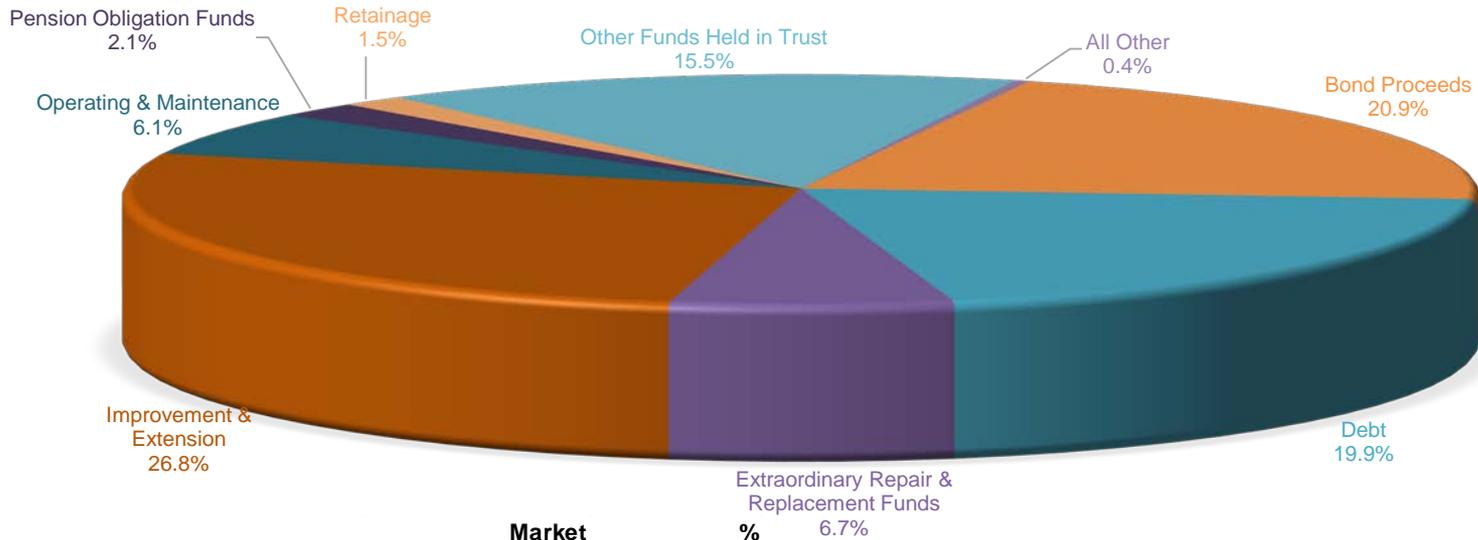
**Great Lakes Water Authority  
Investments – By Credit Quality  
As of December 31, 2018**



Credit Quality	Market Value	Asset Allocation
<b>Ratings</b>		
AAAm	382,268,241	36.1%
AA+	569,427,385	53.7%
A-1 + / A-1	91,912,668	8.7%
A-2	434	0.000%
NR	16,285,172	1.5%
<b>Totals</b>	<b>1,059,893,899</b>	<b>100.0%</b>

*In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.*

**Great Lakes Water Authority  
Investment Analysis – By Account Purpose  
As of December 31, 2018**



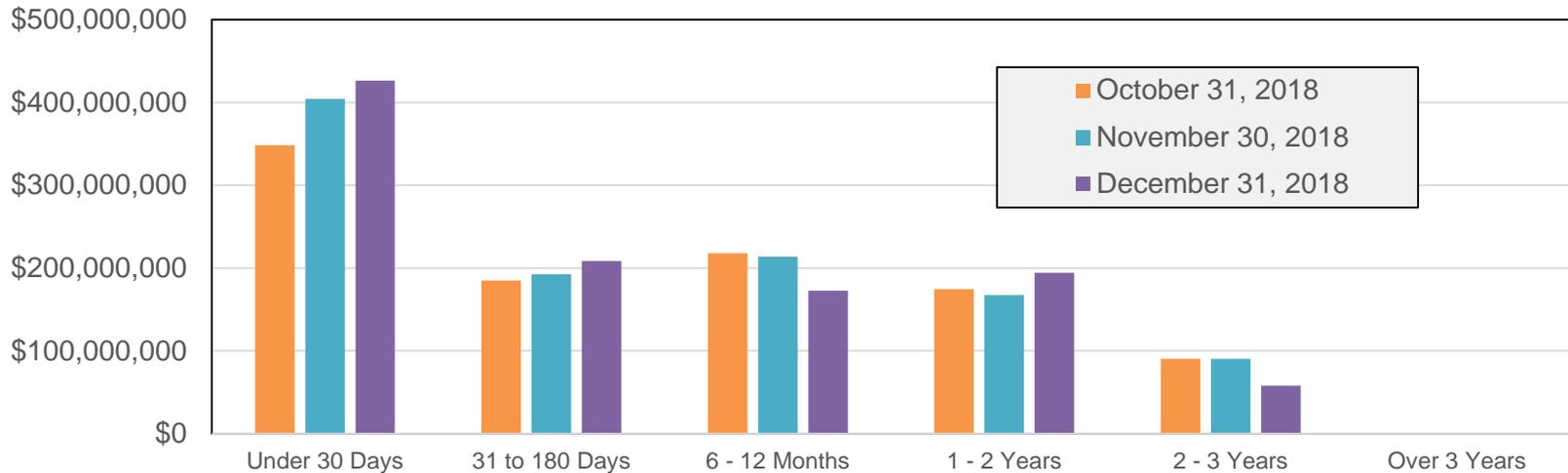
Account Purpose	Market Value	% Allocation
Bond Proceeds	\$ 221,822,752	20.9%
Debt	\$ 210,858,803	19.9%
Extraordinary Repair & Replacement Funds	\$ 71,470,864	6.7%
Improvement & Extension	\$ 284,169,823	26.8%
Operating & Maintenance	\$ 65,141,754	6.1%
Pension Obligation Funds	\$ 21,762,835	2.1%
Retainage	\$ 16,285,172	1.5%
Other Funds Held in Trust	\$ 164,611,778	15.5%
All Other	\$ 3,770,118	0.4%
<b>Total</b>	<b>\$ 1,059,893,899</b>	<b>100.0%</b>

Other Funds Held in Trust	Market Value	% Allocation
Budget Stabilization Funds	\$ 7,486,302	4.5%
Receiving Funds	\$ 147,657,301	89.7%
WRAP Funds	\$ 9,468,175	5.8%
<b>Total</b>	<b>\$ 164,611,778</b>	<b>100.0%</b>

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018. "All Other" funds includes funds in the Flint Security Deposit account that are held on behalf of the City of Flint and do not belong to GLWA.

**Great Lakes Water Authority  
Investment Analysis – By Maturity**

Maturity Distribution	October 31, 2018	%	November 30, 2018	%	December 31, 2018	%
Under 30 Days	\$ 348,408,066	34.3%	\$ 404,460,028	37.8%	\$ 426,271,668	40.2%
31 to 180 Days	184,907,514	18.2%	192,528,328	18.0%	208,515,616	19.7%
6 - 12 Months	217,747,309	21.4%	213,723,539	20.0%	172,711,556	16.3%
1 - 2 Years	174,432,180	17.2%	167,558,613	15.7%	194,487,303	18.3%
2 - 3 Years	90,302,604	8.9%	90,498,424	8.5%	57,907,756	5.5%
Over 3 Years	-	0.0%	-	0.0%	-	0.0%
<b>Totals</b>	<b>\$ 1,015,797,673</b>	<b>100.0%</b>	<b>\$ 1,068,768,932</b>	<b>100.0%</b>	<b>\$ 1,059,893,899</b>	<b>100.0%</b>



In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

**Great Lakes Water Authority  
Investment Accounts – Yield at Cost & Market  
As of December 31, 2018**

	As of December 31, 2018		As of September 30, 2018	
	YTM @ Cost	YTM @ Market	YTM @ Cost	YTM @ Market
<b>Bank Deposits</b>				
Comerica	0.25%	0.25%	0.25%	0.25%
First Indenpedence	0.05%	0.05%	0.05%	0.05%
Flint Deposit Account	1.30%	1.30%	0.69%	0.69%
JP Morgan Chase	1.30%	1.30%	0.69%	0.69%
<b>Sub-Total Bank Deposits</b>	<b>0.67%</b>	<b>0.67%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Money Market Funds / LGIPs</b>				
GoMIC	2.38%	2.38%	2.08%	2.08%
U.S. Bank - First American MMF	2.27%	2.27%	1.95%	1.95%
JP Morgan Securities - Blackrock MMF	2.19%	2.19%	1.88%	1.88%
<b>Sub-Total MMF / LGIPs</b>	<b>2.28%</b>	<b>2.28%</b>	<b>1.94%</b>	<b>1.94%</b>
<b>Investment Portfolios</b>				
Sewage SR Debt Serv 5403	1.75%	2.55%	2.38%	2.43%
Sewage SR Res 5400	1.59%	2.53%	1.51%	2.66%
Sew 2nd Debt Serv 5403	2.47%	2.49%	2.35%	2.40%
Sewage 2nd Res 5481	2.47%	2.49%	1.51%	2.67%
Sew SRF Debt Serv 5410	2.85%	2.92%	2.18%	2.40%
Sewage ER & R	1.51%	2.53%	2.61%	2.72%
Sewer Improvement & Extension	2.90%	2.96%	2.53%	2.65%
Sewer Pension Obligation	1.96%	2.54%	2.36%	2.48%
Sewer Wrap Fund	2.60%	2.75%	2.11%	2.34%
Sewer Budget Stabilization Fund	2.60%	2.51%	2.62%	2.74%
Sewer Bond Fund	2.54%	2.52%	1.53%	2.42%
Sewer O&M Pension Sub Account	2.47%	2.48%	2.41%	2.52%
Water SR Debt Ser 5503	2.59%	2.55%	2.37%	2.42%
Water SR Reserve 5500	2.62%	2.52%	1.44%	2.33%
Water 2nd Debt Serv 5503	2.86%	2.94%	2.37%	2.42%
Water 2nd Res 5581	2.49%	2.55%	2.14%	2.54%
Water SRF Debt Serv 5575	2.81%	2.88%	0.00%	0.00%
Water ER & R	2.15%	2.52%	2.61%	2.72%
Water Improvement & Extension	2.66%	2.80%	2.60%	2.71%
Water Pension Obligation	2.60%	2.51%	2.37%	2.49%
Water Wrap Fund	2.60%	2.52%	2.11%	2.34%
Water Budget Stabilization Fund	2.47%	2.48%	2.62%	2.74%
Water Bond Fund	2.59%	2.55%	1.67%	2.49%
Water O&M Pension Sub Account	2.62%	2.52%	2.41%	2.52%
<b>Sub-Total Investment Portfolios</b>	<b>2.32%</b>	<b>2.57%</b>	<b>2.15%</b>	<b>2.58%</b>
<b>Grand Total</b>	<b>2.26%</b>	<b>2.40%</b>	<b>2.02%</b>	<b>2.30%</b>

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.

**Great Lakes Water Authority  
Demonstration of Yield to Maturity vs. Duration  
As of December 31, 2018**

- 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 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 December 31, 2018				
	<i>Market Value</i>	<i>YTM @ Market</i>	<i>Effective Duration</i>	<i>Weighted Average Maturity</i>
<b>GLWA</b>				
Great Lakes Water Authority	\$1,059,893,899	2.40%	0.55 Years	204 Days
<b>Short/Intermediate-Term Indices</b>				
S&P Rated Government Investment Pool Index		2.27%	0.08 Years	30 Days
BoA / ML 3-Month Treasury Index		2.39%	0.16 Years	90 Days
BoA / ML 6-Month Treasury Index		2.47%	0.40 Years	180 Days
BoA / ML 1-Year Treasury Index		2.63%	0.90 Years	365 Days
BoA / ML 1-3 Year Treasury Index		2.53%	1.81 Years	661 Days
BoA / ML 1-5 Year Treasury Index		2.51%	2.56 Years	934 Days
<b>Peer Analysis (Water Entities / Utilities)</b>				
Alameda County Water District, CA	\$130,025,702	2.68%	2.43 Years	932 Days
Coachella Valley Water District, CA	\$450,427,986	2.72%	1.69 Years	739 Days
District of Columbia Water & Sewer Authority, DC	\$251,312,054	2.51%	0.93 Years	353 Days
DuPage Water Commission, IL	\$138,737,331	2.60%	2.06 Years	1,007 Days
Fairfax County Water Authority, VA	\$222,236,711	2.56%	1.66 Years	642 Days
San Bernardino Valley Municipal Water District, CA	\$304,932,075	2.76%	1.64 Years	621 Days
Truckee Meadows Water Authority, NV	\$106,789,877	2.53%	1.63 Years	621 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.*

**Great Lakes Water Authority**  
**Investment Income (by Book Value)**  
**As of December 31, 2018**

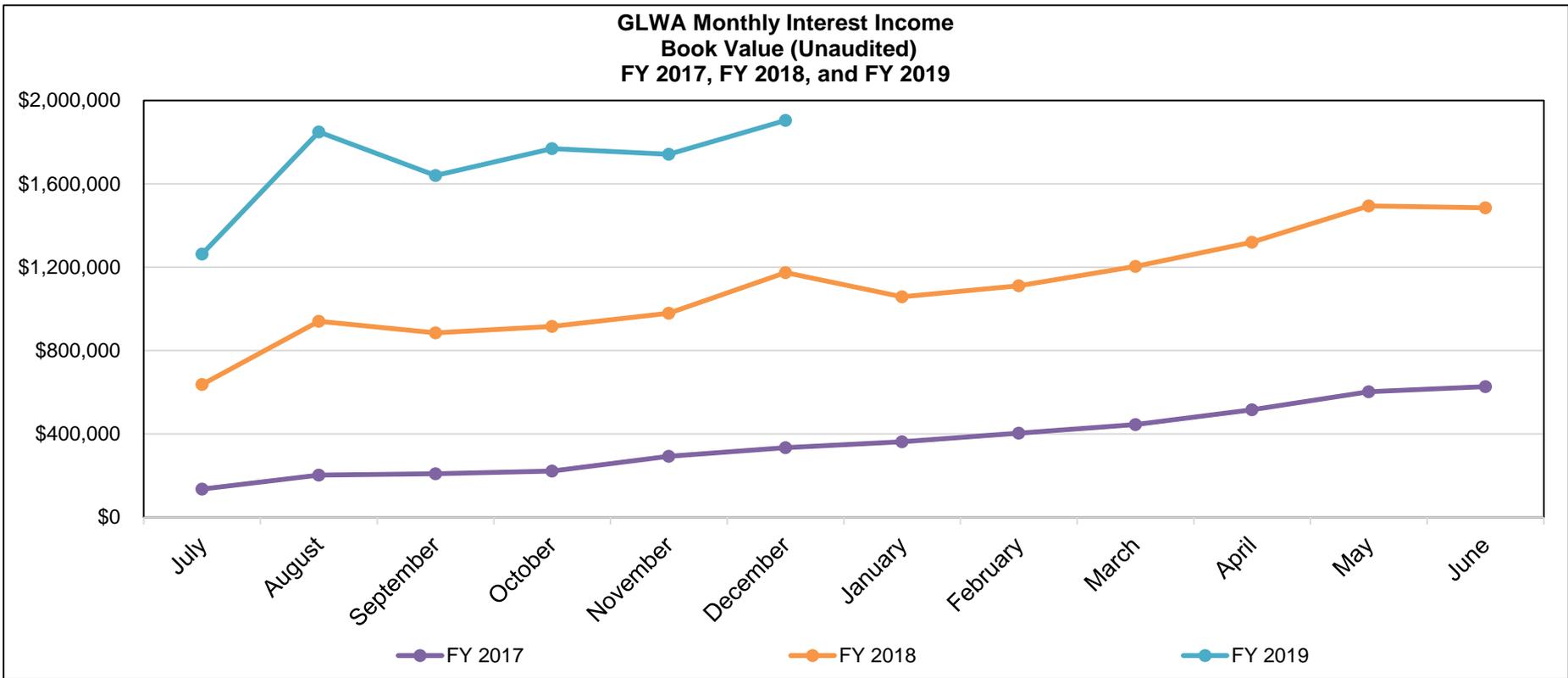
**INVESTMENT INCOME BY MONTH (Unaudited)**

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
<b><u>FY 2019 Y-T-D</u></b>	<b><u>\$10,167,641.88</u></b>	<b><u>\$1,631.65</u></b>	<b><u>\$10,169,273.53</u></b>

*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.*

**Great Lakes Water Authority  
Monthly Investment Income**

- The Authority has earned \$10,169,274 in investment income through December for fiscal year 2019 on a book value basis compared to \$5,534,062 for the first six months of fiscal year 2018.
- The monthly investment earnings are continuing on an upward trend as the Authority continues to refine cash flows and work with its investment advisor to identify strategies to maximize future investment income while meeting the objectives of safety and liquidity.
- Projected investment income for fiscal year 2019 is \$20.3 million.



# Appendix I: Portfolio Holdings

**Great Lakes Water Authority  
Portfolio Holdings  
As of December 31, 2018**

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
<b>Short-Term Bank Deposits / MMF / LGIP</b>									
COMERICA BANK		\$ 434	1/1/2019	12/31/2018	0.25%	\$ 434	1	\$ -	\$ 434
FIRST INDEPENDENCE BANK		16,285,172	1/1/2019	12/31/2018	0.05%	16,285,172	1	-	16,285,172
FLINT DEPOSIT ACCOUNT		3,770,118	1/1/2019	12/31/2018	1.30%	3,770,118	1	-	3,770,118
JP MORGAN CHASE		12,057,153	1/1/2019	12/31/2018	1.30%	12,057,153	1	-	12,057,153
GovMIC		71,292,089	1/1/2019	12/31/2018	2.38%	71,292,089	1	-	71,292,089
U.S. BANK - FIRST AMERICAN MMF		259,601,496	1/1/2019	12/31/2018	2.27%	259,601,496	1	-	259,601,496
JP MORGAN SECURITIES - BLACKROCK MMF		51,374,656	1/1/2019	12/31/2018	2.19%	51,374,656	1	-	51,374,656
<b>Commercial Paper</b>									
MUFG Bank NY 0 2/1/2019	62479MP15	\$ 4,005,000	2/1/2019	11/7/2018	2.60%	\$ 3,980,316	32	\$ -	\$ 3,996,229
Prudential Funding 0 2/1/2019	74433HP16	174,000	2/1/2019	12/7/2018	2.51%	173,323	32	-	173,619
MUFG Bank NY 0 2/1/2019	62479MP15	5,068,000	2/1/2019	11/7/2018	2.60%	5,036,764	32	-	5,056,901
Prudential Funding 0 2/1/2019	74433HP16	241,000	2/1/2019	12/7/2018	2.51%	240,063	32	-	240,472
JPMorgan Securities 0 3/22/2019	46640QQN4	218,000	3/22/2019	11/7/2018	2.75%	215,776	81	-	216,642
JPMorgan Securities 0 3/22/2019	46640QQN4	368,000	3/22/2019	10/5/2018	2.54%	363,689	81	-	365,707
Toyota Motor Credit 0 3/22/2019	89233HQN7	213,000	3/22/2019	12/7/2018	2.77%	211,292	81	-	211,673
JPMorgan Securities 0 3/22/2019	46640QQN4	7,196,000	3/22/2019	10/5/2018	2.54%	7,111,711	81	-	7,151,169
JPMorgan Securities 0 3/22/2019	46640QQN4	4,748,000	3/22/2019	11/7/2018	2.75%	4,699,570	81	-	4,718,420
Toyota Motor Credit 0 3/22/2019	89233HQN7	4,809,000	3/22/2019	12/7/2018	2.77%	4,770,428	81	-	4,779,040
ING Funding 0 4/9/2019	4497W1R99	251,000	4/9/2019	7/16/2018	2.62%	246,216	99	-	249,052
ING Funding 0 4/9/2019	4497W1R99	3,049,000	4/9/2019	7/16/2018	2.62%	2,990,884	99	-	3,025,340
ING Funding 0 4/9/2019	4497W1R99	1,352,000	4/9/2019	7/16/2018	2.62%	1,326,230	99	-	1,341,508
ING Funding 0 4/9/2019	4497W1R99	478,000	4/9/2019	7/16/2018	2.62%	468,889	99	-	474,291
ING US Funding 0 6/20/2019	4497W1TL0	5,845,000	6/20/2019	11/7/2018	2.88%	5,741,617	171	-	5,764,339
JPMorgan Securities 0 6/20/2019	46640QTL5	3,609,000	6/20/2019	12/7/2018	2.93%	3,552,700	171	-	3,559,196
Lloyds Bank 0 6/20/2019	53943STL1	1,500,000	6/20/2019	12/7/2018	2.92%	1,476,681	171	-	1,479,300
Lloyds Bank 0 6/20/2019	53943STL1	6,390,000	6/20/2019	12/7/2018	2.92%	6,290,662	171	-	6,301,818
ING US Funding 0 6/20/2019	4497W1TL0	6,293,000	6/20/2019	11/7/2018	2.88%	6,181,693	171	-	6,206,157
Lloyds Bank 0 6/20/2019	53943STL1	2,610,000	6/20/2019	12/7/2018	2.92%	2,569,425	171	-	2,573,982
Lloyds Bank 0 6/20/2019	53943STL1	7,500,000	6/20/2019	12/7/2018	2.92%	7,383,406	171	-	7,396,500
Natixis NY 0 6/20/2019	63873KTL1	1,990,000	6/20/2019	12/21/2018	2.95%	1,960,885	171	-	1,962,538
Natixis NY 0 6/20/2019	63873KTL1	3,240,000	6/20/2019	12/21/2018	2.95%	3,192,596	171	-	3,195,288
JPMorgan Securities 0 6/28/2019	46640QTU5	2,846,000	6/28/2019	12/7/2018	2.93%	2,799,781	179	-	2,804,875
JPMorgan Securities 0 6/28/2019	46640QTU5	2,883,000	6/28/2019	12/7/2018	2.93%	2,836,180	179	-	2,841,341

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

**Great Lakes Water Authority  
Portfolio Holdings  
As of December 31, 2018**

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
<b>Federal Agencies</b>									
FNMA 1.375 1/28/2019	3135G0H63	\$ 5,200,000	1/28/2019	7/26/2017	1.39%	\$ 5,198,908	28	\$ 30,388	\$ 5,195,913
FNMA 1.375 1/28/2019	3135G0H63	6,695,000	1/28/2019	8/31/2017	1.31%	6,700,758	28	39,124	6,689,738
FNMA 1 2/26/2019	3135G0J53	5,205,000	2/26/2019	7/26/2017	1.39%	5,173,666	57	18,073	5,193,403
FNMA 1 2/26/2019	3135G0J53	6,690,000	2/26/2019	8/31/2017	1.33%	6,657,821	57	23,229	6,675,095
FHLB 1.5 3/8/2019	3133782M2	6,595,000	3/8/2019	8/31/2017	1.34%	6,611,026	67	31,051	6,583,413
FHLB 1.375 3/18/2019	3130AAXX1	5,175,000	3/18/2019	7/26/2017	1.38%	5,174,431	77	20,359	5,163,268
FHLB 1.375 5/28/2019	3130ABF92	5,260,000	5/28/2019	7/26/2017	1.40%	5,257,423	148	6,630	5,234,352
FHLB 1.375 5/28/2019	3130ABF92	5,245,000	5/28/2019	8/31/2017	1.34%	5,248,409	148	6,611	5,219,425
FHLB 1.625 6/14/2019	313379EE5	7,050,000	6/14/2019	9/1/2017	1.38%	7,080,033	165	5,410	7,019,438
FHLMC 0.875 7/19/2019	3137EAEB1	5,230,000	7/19/2019	7/26/2017	1.41%	5,176,079	200	20,593	5,180,111
FHLMC 0.875 7/19/2019	3137EAEB1	6,720,000	7/19/2019	8/31/2017	1.36%	6,659,386	200	26,460	6,655,898
FHLMC 1.375 8/15/2019	3137EAEH8	5,215,000	8/15/2019	7/26/2017	1.45%	5,206,917	227	27,089	5,173,103
FNMA 1 8/28/2019	3135G0P49	6,715,000	8/28/2019	8/31/2017	1.39%	6,664,100	240	22,943	6,643,445
FNMA 1.75 9/12/2019	3135G0ZG1	4,705,000	9/12/2019	7/26/2017	1.45%	4,734,171	255	24,930	4,676,229
FHLB 1 9/26/2019	3130A9EP2	7,550,000	9/26/2019	8/31/2017	1.39%	7,490,053	269	19,924	7,458,705
FHLMC 1.25 10/2/2019	3137EADM8	5,045,000	10/2/2019	12/28/2017	1.93%	4,985,469	275	15,590	4,992,870
FHLB 2.125 2/11/2020	3130ADN32	3,750,000	2/11/2020	6/28/2018	2.52%	3,726,750	407	30,990	3,732,435
FHLMC 2.5 4/23/2020	3137EAEJ7	3,750,000	4/23/2020	6/28/2018	2.56%	3,746,288	479	17,708	3,744,799
FHLB 2.625 5/28/2020	3130AECJ7	3,750,000	5/28/2020	6/28/2018	2.57%	3,753,825	514	9,023	3,755,411
FHLMC 2.375 2/16/2021	3137EAEI9	3,500,000	2/16/2021	8/8/2018	2.79%	3,465,210	778	31,172	3,487,855
FHLMC 2.375 2/16/2021	3137EAEI9	20,000,000	2/16/2021	8/8/2018	2.79%	19,801,200	778	178,125	19,930,600
FHLMC 2.375 2/16/2021	3137EAEI9	250,000	2/16/2021	8/9/2018	2.78%	247,563	778	2,227	249,133
FHLMC 2.375 2/16/2021	3137EAEI9	685,000	2/16/2021	8/9/2018	2.78%	678,321	778	6,101	682,623
FNMA 2.5 4/13/2021	3135G0U27	3,500,000	4/13/2021	8/8/2018	2.82%	3,471,685	834	18,958	3,497,130
FNMA 2.5 4/13/2021	3135G0U27	20,000,000	4/13/2021	8/8/2018	2.82%	19,838,200	834	108,333	19,983,600
FNMA 2.5 4/13/2021	3135G0U27	250,000	4/13/2021	8/9/2018	2.81%	247,985	834	1,354	249,795
FNMA 2.5 4/13/2021	3135G0U27	3,400,000	4/13/2021	8/8/2018	2.81%	3,372,698	834	18,417	3,397,212
FNMA 2.5 4/13/2021	3135G0U27	685,000	4/13/2021	8/9/2018	2.81%	679,479	834	3,710	684,438
FNMA 2.5 4/13/2021	3135G0U27	5,750,000	4/13/2021	8/8/2018	2.81%	5,703,828	834	31,146	5,745,285

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

**Great Lakes Water Authority  
Portfolio Holdings  
As of December 31, 2018**

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
<b>U.S. Treasuries</b>									
T-Bill 0 2/7/2019	912796QW2	\$ 110,000	2/7/2019	8/31/2018	2.23%	\$ 108,938	38	\$ -	\$ 109,740
T-Bill 0 2/7/2019	912796QW2	198,000	2/7/2019	9/5/2018	2.25%	196,125	38	-	197,533
T-Bill 0 2/7/2019	912796QW2	3,550,000	2/7/2019	8/9/2018	2.23%	3,510,965	38	-	3,541,622
T-Bill 0 2/7/2019	912796QW2	126,000	2/7/2019	9/5/2018	2.25%	124,807	38	-	125,703
T-Bill 0 2/7/2019	912796QW2	605,000	2/7/2019	8/31/2018	2.23%	599,157	38	-	603,572
T-Bill 0 2/7/2019	912796QW2	21,975,000	2/7/2019	8/9/2018	2.23%	21,733,367	38	-	21,923,139
T-Bill 0 2/7/2019	912796QW2	250,000	2/7/2019	8/9/2018	2.23%	247,246	38	-	249,410
T-Bill 0 2/7/2019	912796QW2	3,525,000	2/7/2019	8/9/2018	2.23%	3,486,240	38	-	3,516,681
T-Bill 0 2/7/2019	912796QW2	715,000	2/7/2019	8/9/2018	2.23%	707,124	38	-	713,313
T-Bill 0 2/7/2019	912796QW2	5,800,000	2/7/2019	8/9/2018	2.23%	5,736,224	38	-	5,786,312
T-Note 1 3/15/2019	912828P95	603,000	3/15/2019	8/8/2018	2.27%	598,430	74	1,782	601,312
T-Note 1 3/15/2019	912828P95	904,000	3/15/2019	8/8/2018	2.27%	897,149	74	2,672	901,469
T-Note 1 3/15/2019	912828P95	810,000	3/15/2019	4/6/2018	2.10%	801,742	74	2,394	807,732
T-Note 1 3/15/2019	912828P95	794,000	3/15/2019	6/7/2018	2.28%	786,277	74	2,347	791,777
T-Note 1 3/15/2019	912828P95	793,000	3/15/2019	5/15/2018	2.26%	784,760	74	2,344	790,780
T-Note 1.625 4/30/2019	912828D23	2,000,000	4/30/2019	8/8/2018	2.35%	1,989,609	120	5,477	1,994,380
T-Note 1.25 4/30/2019	912828S78	5,225,000	4/30/2019	7/26/2017	1.37%	5,214,183	120	11,006	5,203,567
T-Note 1.625 4/30/2019	912828D23	4,000,000	4/30/2019	8/8/2018	2.35%	3,979,219	120	10,953	3,988,760
T-Note 1.25 4/30/2019	912828S78	6,680,000	4/30/2019	8/31/2017	1.31%	6,673,216	120	14,070	6,652,599
T-Note 1.25 5/31/2019	912828XS4-1	5,180,000	5/31/2019	7/26/2017	1.37%	5,168,669	151	5,514	5,153,494
T-Note 1.25 5/31/2019	912828XS4-2	3,690,000	5/31/2019	10/1/2018	2.49%	3,660,019	151	3,928	3,671,107
T-Note 1.25 5/31/2019	912828XS4-2	3,875,000	5/31/2019	10/1/2018	2.49%	3,843,516	151	4,125	3,855,160
T-Note 0.875 6/15/2019	912828R85-1	508,000	6/15/2019	11/2/2018	2.56%	502,781	166	195	504,289
T-Note 0.875 6/15/2019	912828R85-1	510,000	6/15/2019	9/5/2018	2.40%	504,063	166	196	506,274
T-Note 0.875 6/15/2019	912828R85-1	506,000	6/15/2019	12/4/2018	2.57%	501,513	166	195	502,304
T-Note 0.875 6/15/2019	912828R85-1	508,000	6/15/2019	10/2/2018	2.51%	502,265	166	195	504,289
T-Note 0.875 6/15/2019	912828R85-1	1,077,000	6/15/2019	8/8/2018	2.41%	1,063,117	166	414	1,069,133
T-Note 0.875 6/15/2019	912828R85-1	908,000	6/15/2019	11/2/2018	2.56%	898,672	166	349	901,367
T-Note 0.875 6/15/2019	912828R85-1	912,000	6/15/2019	9/5/2018	2.40%	901,384	166	351	905,338
T-Note 0.875 6/15/2019	912828R85-1	910,000	6/15/2019	10/2/2018	2.51%	899,727	166	350	903,352
T-Note 0.875 6/15/2019	912828R85-1	1,929,000	6/15/2019	8/8/2018	2.41%	1,904,134	166	742	1,914,909
T-Note 0.875 6/15/2019	912828R85-1	906,000	6/15/2019	12/4/2018	2.57%	897,966	166	348	899,382
T-Note 0.875 6/16/2019	912828R85-2	729,000	6/16/2019	8/8/2018	2.41%	719,603	167	280	723,678
T-Note 0.875 6/16/2019	912828R85-2	900,000	6/16/2019	9/5/2018	2.39%	889,523	167	346	893,430
T-Note 0.875 6/16/2019	912828R85-2	896,000	6/16/2019	12/4/2018	2.56%	888,055	167	345	889,459

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

**Great Lakes Water Authority  
Portfolio Holdings  
As of December 31, 2018**

DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
<b>U.S. Treasuries</b>									
T-Note 0.875 6/16/2019	912828R85-2	905,000	6/16/2019	10/2/2018	2.49%	894,819	167	348	898,394
T-Note 0.875 6/16/2019	912828R85-2	1,503,000	6/16/2019	11/2/2018	2.55%	1,487,618	167	578	1,492,028
T-Note 0.875 6/16/2019	912828R85-2	1,240,000	6/16/2019	10/2/2018	2.49%	1,226,050	167	477	1,230,948
T-Note 0.875 6/16/2019	912828R85-2	2,143,000	6/16/2019	11/2/2018	2.55%	2,121,068	167	824	2,127,356
T-Note 0.875 6/16/2019	912828R85-2	860,000	6/16/2019	8/8/2018	2.41%	848,914	167	331	853,722
T-Note 0.875 6/16/2019	912828R85-2	1,236,000	6/16/2019	9/5/2018	2.39%	1,221,612	167	475	1,226,977
T-Note 0.875 6/16/2019	912828R85-2	1,230,000	6/16/2019	12/4/2018	2.56%	1,219,093	167	473	1,221,021
T-Note 1.25 6/30/2019	912828XV7-1	20,185,000	6/30/2019	8/8/2018	2.43%	19,975,265	181	-	20,058,844
T-Note 1.25 6/30/2019	912828XV7-1	15,140,000	6/30/2019	8/8/2018	2.43%	14,982,686	181	-	15,045,375
T-Note 1.25 6/30/2019	912828XV7-2	1,700,000	6/30/2019	9/20/2018	2.16%	1,688,115	181	-	1,689,375
T-Note 1.25 6/30/2019	912828XV7-1	4,763,000	6/30/2019	2/28/2018	2.17%	4,705,695	181	-	4,733,231
T-Note 1.625 6/30/2019	912828WS5	135,000	6/30/2019	10/3/2018	2.53%	134,104	181	-	134,388
T-Note 1.625 6/30/2019	912828WS5	146,000	6/30/2019	7/21/2017	1.35%	146,776	181	-	145,339
T-Note 1 6/30/2019	912828TC4	127,000	6/30/2019	7/13/2018	2.36%	125,358	181	-	126,048
T-Note 1 6/30/2019	912828TC4	1,021,000	6/30/2019	7/13/2018	2.36%	1,007,799	181	-	1,013,343
T-Note 1.625 6/30/2019	912828WS5	5,500,000	6/30/2019	10/30/2018	2.56%	5,466,055	181	-	5,475,085
T-Note 1.625 6/30/2019	912828WS5	1,625,000	6/30/2019	2/27/2017	1.27%	1,638,267	181	-	1,617,639
T-Note 1.25 6/30/2019	912828XV7-1	5,800,000	6/30/2019	10/11/2017	1.49%	5,776,664	181	-	5,763,750
T-Note 1.25 6/30/2019	912828XV7-1	159,000	6/30/2019	2/28/2018	2.17%	157,087	181	-	158,006
T-Note 1.625 6/30/2019	912828WS5	4,475,000	6/30/2019	2/10/2017	1.32%	4,506,989	181	-	4,454,728
T-Note 1 6/30/2019	912828TC4	2,059,000	6/30/2019	7/13/2018	2.36%	2,032,378	181	-	2,043,558
T-Note 1.25 6/30/2019	912828XV7-1	195,000	6/30/2019	2/28/2018	2.17%	192,654	181	-	193,781
T-Note 1.25 6/30/2019	912828XV7-1	10,050,000	6/30/2019	10/11/2017	1.49%	10,009,564	181	-	9,987,188
T-Note 1.625 6/30/2019	912828WS5	2,450,000	6/30/2019	2/27/2017	1.27%	2,470,002	181	-	2,438,902
T-Note 1.25 6/30/2019	912828XV7-1	100,000	6/30/2019	9/20/2018	1.49%	99,818	181	-	99,375
T-Note 1.625 8/31/2019	912828D80	3,500,000	8/31/2019	8/8/2018	2.51%	3,467,734	243	19,168	3,476,900
T-Note 1.625 8/31/2019	912828D80	20,000,000	8/31/2019	8/8/2018	2.51%	19,815,625	243	109,530	19,868,000
T-Note 1.625 8/31/2019	912828D80	250,000	8/31/2019	8/9/2018	2.50%	247,715	243	1,369	248,350
T-Note 1.625 8/31/2019	912828D80	3,400,000	8/31/2019	8/8/2018	2.51%	3,368,656	243	18,620	3,377,560
T-Note 1.625 8/31/2019	912828D80	685,000	8/31/2019	8/9/2018	2.50%	678,739	243	3,751	680,479
T-Note 1.625 8/31/2019	912828D80	5,750,000	8/31/2019	8/8/2018	2.51%	5,696,992	243	31,490	5,712,050
T-Note 1.5 10/31/2019	912828F62-2	2,000,000	10/31/2019	8/8/2018	2.56%	1,974,453	304	5,055	1,981,320
T-Note 1.5 10/31/2019	912828F62-1	3,405,000	10/31/2019	6/28/2018	2.43%	3,363,636	304	8,607	3,373,211
T-Note 1.5 10/31/2019	912828F62-2	4,000,000	10/31/2019	8/8/2018	2.56%	3,948,906	304	10,111	3,962,640
T-Note 1.75 11/30/2019	9128283H1	3,350,000	11/30/2019	6/28/2018	2.44%	3,317,809	334	4,993	3,323,696

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

**Great Lakes Water Authority  
Portfolio Holdings  
As of December 31, 2018**

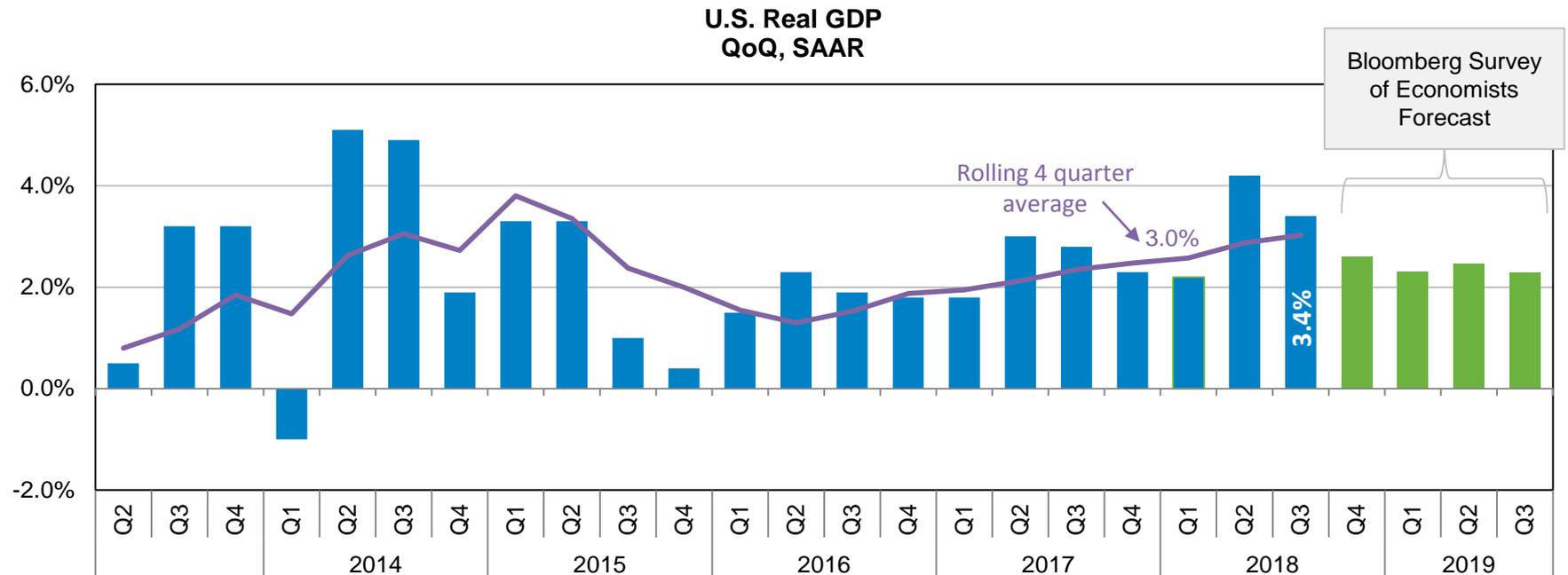
DESCRIPTION	CUSIP	PAR AMOUNT	MATURITY DATE	SETTLEMENT DATE	YTM AT COST	ORIGINAL COST	DAYS TO MATURITY	ACCRUED INTEREST	TOTAL VALUE
<b>U.S. Treasuries</b>									
T-Note 1.75 11/30/2019	9128283H1	3,780,000	11/30/2019	6/28/2018	2.44%	3,743,677	334	5,634	3,750,319
T-Note 1.875 12/31/2019	9128283N8	3,300,000	12/31/2019	6/28/2018	2.46%	3,271,770	365	-	3,276,022
T-Note 1.875 12/31/2019	9128283N8	3,750,000	12/31/2019	6/28/2018	2.46%	3,717,920	365	-	3,722,753
T-Note 2 1/31/2020	9128283S7	3,750,000	1/31/2020	6/28/2018	2.46%	3,723,047	396	31,182	3,725,539
T-Note 2.25 2/29/2020	9128283Y4	3,500,000	2/29/2020	8/8/2018	2.63%	3,479,902	425	26,540	3,485,930
T-Note 2.25 2/29/2020	9128283Y4	20,000,000	2/29/2020	8/8/2018	2.63%	19,885,156	425	151,657	19,919,600
T-Note 2.25 2/29/2020	9128283Y4	250,000	2/29/2020	8/9/2018	2.62%	248,594	425	1,896	248,995
T-Note 2.25 2/29/2020	9128283Y4	3,400,000	2/29/2020	8/8/2018	2.63%	3,380,477	425	25,782	3,386,332
T-Note 2.25 2/29/2020	9128283Y4	685,000	2/29/2020	8/9/2018	2.62%	681,147	425	5,194	682,246
T-Note 2.25 2/29/2020	9128283Y4	5,750,000	2/29/2020	8/8/2018	2.63%	5,716,982	425	43,602	5,726,885
T-Note 2.25 3/31/2020	9128284C1	3,725,000	3/31/2020	6/28/2018	2.49%	3,709,431	456	21,183	3,709,720
T-Note 2.5 5/31/2020	9128284Q0	3,500,000	5/31/2020	8/8/2018	2.66%	3,489,883	517	7,452	3,496,850
T-Note 2.5 5/31/2020	9128284Q0	20,000,000	5/31/2020	8/8/2018	2.66%	19,942,188	517	42,582	19,982,000
T-Note 2.5 5/31/2020	9128284Q0	250,000	5/31/2020	8/9/2018	2.66%	249,297	517	532	249,775
T-Note 2.5 5/31/2020	9128284Q0	3,400,000	5/31/2020	8/8/2018	2.66%	3,390,172	517	7,239	3,396,940
T-Note 2.5 5/31/2020	9128284Q0	685,000	5/31/2020	8/9/2018	2.66%	683,073	517	1,458	684,384
T-Note 2.5 5/31/2020	9128284Q0	5,750,000	5/31/2020	8/8/2018	2.66%	5,733,379	517	12,242	5,744,825
T-Note 1.875 6/30/2020	912828VJ6-1	3,750,000	6/30/2020	6/28/2018	2.52%	3,703,271	547	-	3,712,793
T-Note 1.875 6/30/2020	912828VJ6-2	4,600,000	6/30/2020	10/30/2018	2.81%	4,530,102	547	-	4,554,368
T-Note 1.875 6/30/2020	912828VJ6-2	2,900,000	6/30/2020	7/3/2018	2.54%	2,862,730	547	-	2,871,232
T-Note 1.625 6/30/2020	912828XH8	9,705,000	6/30/2020	10/11/2017	1.61%	9,709,928	547	-	9,573,788
T-Note 2.5 6/30/2020	912828XY1	10,500,000	6/30/2020	10/3/2018	2.81%	10,444,219	547	-	10,491,810
T-Note 1.625 6/30/2020	912828XH8	6,560,000	6/30/2020	10/11/2017	1.61%	6,563,331	547	-	6,471,309
T-Note 1.625 6/30/2020	912828XH8	4,565,000	6/30/2020	2/27/2017	1.54%	4,578,374	547	-	4,503,281
T-Note 2.125 8/31/2020	912828VV9	3,500,000	8/31/2020	8/8/2018	2.69%	3,460,762	609	25,066	3,476,760
T-Note 2.125 8/31/2020	912828VV9	20,000,000	8/31/2020	8/8/2018	2.69%	19,775,781	609	143,232	19,867,200
T-Note 2.125 8/31/2020	912828VV9	250,000	8/31/2020	8/9/2018	2.69%	247,188	609	1,790	248,340
T-Note 2.125 8/31/2020	912828VV9	3,400,000	8/31/2020	8/8/2018	2.69%	3,361,883	609	24,349	3,377,424
T-Note 2.125 8/31/2020	912828VV9	685,000	8/31/2020	8/9/2018	2.69%	677,294	609	4,906	680,452
T-Note 2.125 8/31/2020	912828VV9	5,750,000	8/31/2020	8/8/2018	2.69%	5,685,537	609	41,179	5,711,820
T-Note 2 11/30/2020	912828A42	3,500,000	11/30/2020	8/8/2018	2.72%	3,444,082	700	5,962	3,467,590
T-Note 2 11/30/2020	912828A42	20,000,000	11/30/2020	8/8/2018	2.72%	19,680,469	700	34,066	19,814,800
T-Note 2 11/30/2020	912828A42	250,000	11/30/2020	8/9/2018	2.72%	246,006	700	426	247,685
T-Note 2 11/30/2020	912828A42	3,400,000	11/30/2020	9/17/2018	2.81%	3,341,828	700	5,791	3,368,516
T-Note 2 11/30/2020	912828A42	685,000	11/30/2020	8/9/2018	2.72%	674,056	700	1,167	678,657
T-Note 2 11/30/2020	912828A42	5,750,000	11/30/2020	9/17/2018	2.81%	5,651,621	700	9,794	5,696,755

In addition to the totals listed above, there also exists surety bonds in the amount of \$322,809,258 as of December 31, 2018.

# Appendix II: Economic Update

# Economic Growth Remains Solid in Third Quarter

- U.S. economic activity continued to expand at a strong pace in the third quarter
  - U.S. gross domestic product (“GDP”) grew at an annual rate of 3.4%, marking the strongest back-to-back quarters since 2014
  - Consumer spending, government spending, and the rebuilding of inventories, offsetting weak business investment, and a drop in U.S exports, were positive contributors
- However, the rise in third quarter growth may not be sustainable, as reflected in moderated future growth forecasts
  - A widening trade deficit and slower housing market activity are expected headwinds

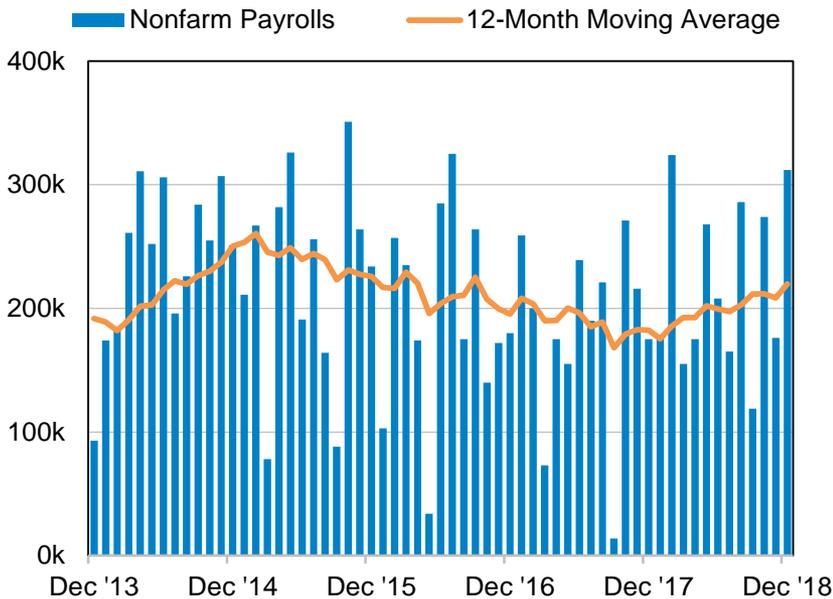


Source: Bloomberg, as of Q3 2018. SAAR is seasonally adjusted annualized rate. Orange denotes rolling four-quarter averages

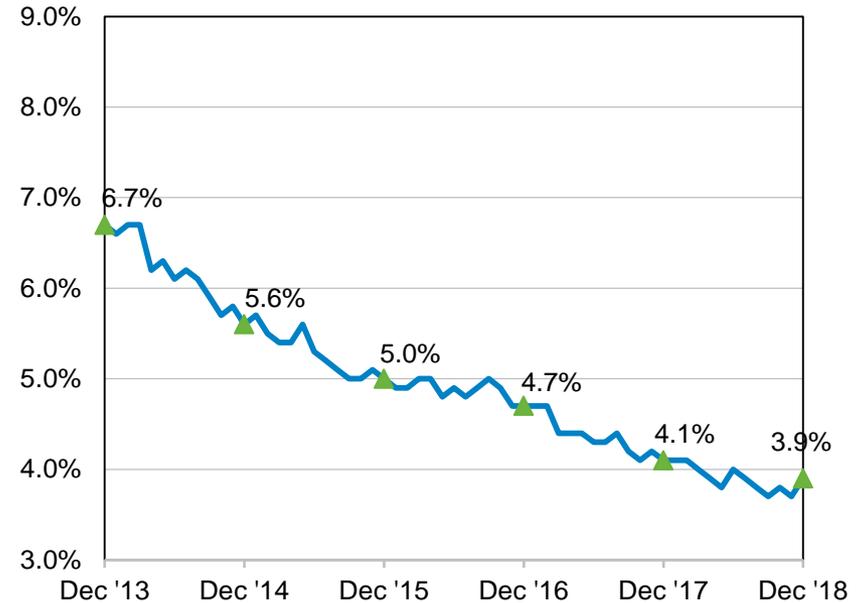
# Labor Market Shows Continued Strength in December

- The U.S. economy added 312,000 jobs in December
- Job gains averaged 216,000 per month in 2018
  - The unemployment rate rose to 3.9% in December
  - Average hourly earnings – a key measure of wage growth – rose to 3.2% in December

**Monthly Change in Nonfarm Payrolls**



**Unemployment Rate**

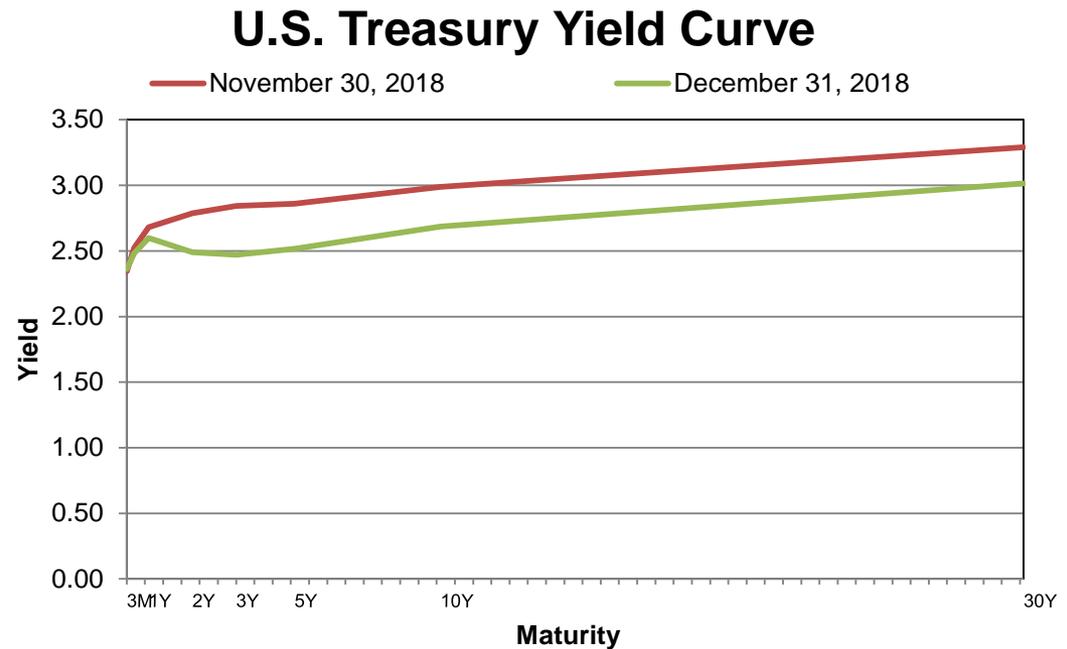


Source: Bloomberg, as of December 2018.

## U.S. Treasury Yield Curve

- The U.S. Treasury yield curve is beginning to exhibit a slight inversion
- One-year Treasury notes are yielding higher than intermediate-term notes as of December 31<sup>st</sup>, 2018, causing the abnormal curvature at the shorter end of the curve

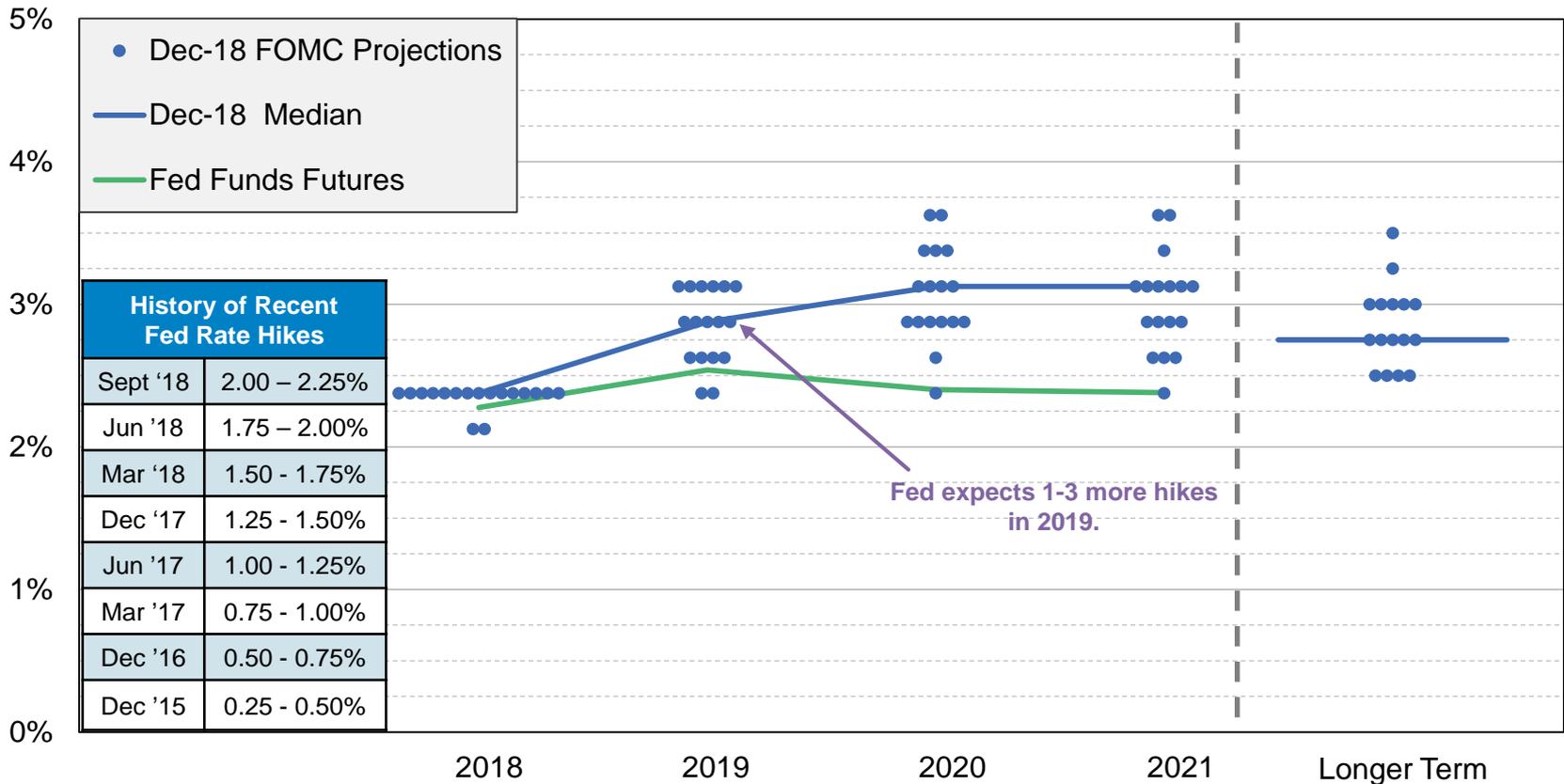
	<u>11/30/18</u>	<u>12/31/18</u>	<u>Change</u>
3 month	2.35%	2.36%	0.02%
6 month	2.52%	2.48%	-0.04%
1 year	2.68%	2.60%	-0.08%
2 year	2.79%	2.49%	-0.30%
3 year	2.84%	2.47%	-0.37%
5 year	2.86%	2.52%	-0.34%
10 year	2.99%	2.69%	-0.30%
30 year	3.29%	3.02%	-0.27%



Source: Bloomberg

# FOMC's December "Dot Plot" Appears Mixed For 2019

## Fed Participants' Assessments of 'Appropriate' Monetary Policy

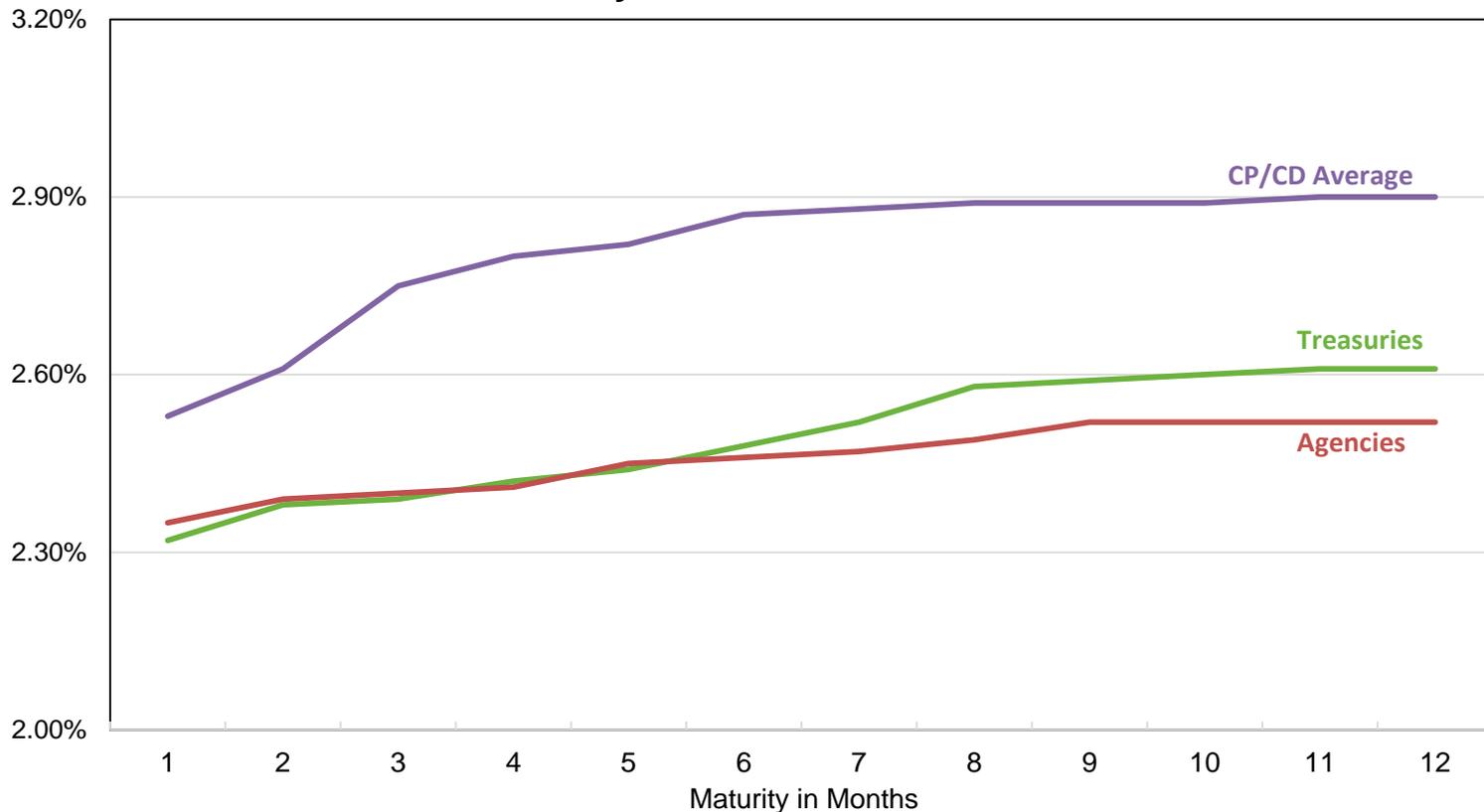


Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the Federal Funds rate at each year-end. Fed Funds futures as of 12/19/18.

# Current Short-Term Credit Environment

- Commercial paper and negotiable bank CDs remain attractive alternatives to short-term Treasuries, Agencies, bank deposits, and government money market funds

### Money Market Yield Curves



Source: Bloomberg, PFMAM Trading Desk, as of 12/31/18. Not a specific recommendation.

**Great Lakes Water Authority  
Market Overview and Outlook**

**FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS**

- Economic conditions, which remain solid, were characterized by:
  - U.S. GDP grew at 3.4% in the third quarter (following 4.2% growth in the second quarter; both figures are the highest since the third quarter of 2014)
  - Inflation continued to hover just shy of the Fed’s objective of 2.0%, as measured by the personal consumption expenditures (“PCE”) core price index
  - Wage growth continued its ascent, maintaining an upward trend and reinforcing the desired trajectory of inflation
  - The labor market remained a tailwind for the economy as the U.S. unemployment rate remained near a 50-year low amid robust job growth
  - Investment-grade credit spreads generally widened to near three-year highs
  - The Fed increased short-term rates by an additional 0.25% in December (the fourth hike of 2018)
  - The pace of future Fed rate hikes is uncertain heading into the new year – while median Fed projections indicate two rate hikes in 2019, market-based measures (i.e., Fed Funds futures) reflect market expectations for no hikes this calendar year
  - Consumer confidence, albeit still elevated, retraced from a two-decade high at year-end as markets digested Fed speak, equity jitters, and the government’s partial shutdown
  
- U.S. Treasury yields reversed course during the quarter as maturities beyond one year declined by 30 – 40 basis points (0.30% to 0.40%) as investors sought safe havens:
  - The yield curve ended the quarter inverted as the 1-year Treasury (2.60%) out-yielded all tenors out to seven years
  - Short-term Treasury Bill yields rose by 15 – 30 basis points
  - The yield on the 2-year Treasury declined by 33 basis points to end the quarter at 2.49%
  - The yield on the 10-year Treasury declined by 38 basis points to end the quarter at 2.68%

**Great Lakes Water Authority  
Market Overview and Outlook**

**FIXED INCOME MARKET – ECONOMIC HIGHLIGHTS**

- Investors gravitated toward lower-risk assets through the final months of 2018 as volatility surged, stocks lost their footing, credit spreads widened, and the belly of the curve (maturities between one and five years) began trading at rates lower than shorter and longer-term securities (maturities one year or less and maturities greater than five years); U.S. Treasury yields reversed course during the quarter as maturities beyond one year declined by 30 – 40 basis points (0.30% to 0.40%)
- While the path of future Fed rate hikes is less clear than in recent years, the market expects future tightening (additional Fed rate hikes) to be modest; further, political gridlock adds additional uncertainty
- The outlook for some of the major investment-grade fixed-income sectors are as follows:
  - Federal Agency spreads (incremental yield) remain very narrow as most maturities offer less than five basis points (0.05%) of incremental yield relative to U.S. Treasuries
  - Short-term money market investors continue to reap the rewards of current monetary policy as the Fed Funds effective rate now nears 2.50%; short-term commercial paper investments have since normalized following very narrow yield differences at year-end, and once again provide an attractive, high-quality source of incremental income

## 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.*



## Financial Services Audit Committee Communication

**Date:** February 15, 2019

**To:** Great Lakes Water Authority Audit Committee

**From:** Jon Wheatley, Public Finance Manager

**Re:** Update: GLWA One Water Charge Methodology Initiatives

**Background:** GLWA continues to pursue strategies to ensure equitability and stability in its wholesale water and sewer charge structure, while embracing the best available, verifiable information to prepare recommended charges. In 2017, GLWA identified a timeline for the related initiatives to plan for, and understand, how these strategies impact member partner water and/or sewer charges. **Table 1 - Charge Methodology Initiatives** is the most current version of that timeline which was shared with GLWA's member partners in May 2018.

**Analysis:** Since **Table 1 - Charge Methodology Initiatives** has been presented, GLWA has completed the following water initiatives and the results of which were included in the proposed FY 2020 water service charges.

- 1) The Contract Alignment Process (CAP); and
- 2) The Phase 2 of the Units of Service Study for GLWA's non-master metered member partners.

One of the key GLWA projects to be completed during calendar year 2019 is the Wastewater Master Plan (WWMP). This project includes modeling and analysis of flows in the sewage collection system and Combined Sewage Overflow (CSO) Facilities as well as flows and treatment processes through the Water Resource Recovery Facility. Several flow scenarios will be evaluated with the purposes of planning for future capacities and developing updated short and long term CSO and wet weather operational plans. Additionally, recommendations for improvement in treatment processes as well as evaluation of long-term solids disposal and disinfection methods will be evaluated and proposed. While this study is designed to establish the most efficient and effective overall wastewater operating scenario, it will provide valuable information for the equitable allocation of costs. The Wastewater Master Plan is scheduled to be completed in October 2019.

A topic related to wastewater that arose outside the WWMP, began with a June 7, 2017 Board Resolution related to peaking and the FY 2021 Charges (see attached Board resolution). Peaking and other considerations are being evaluated by two work groups through the Member Partner Outreach efforts: Charges Methodology Work Group and Sewer Shares Work Group. As we work to strategically and efficiently align initiatives, a timing question arises as to revisiting shares and methodology (with peaking as a new concept) before completion of the Wastewater Master Plan (WWMP)– especially as it relates to a regional perspective. Below is a high-level summary of the WWMP timing from GLWA’s Planning Group for calendar year 2019. Much of the financial analysis requested by the planning consultant is for May and June 2019 with a target completion date of October 2019.

- January - Complete investigation of existing systems
- February - Complete models
- March - Formulate alternatives by water body
- April - Select regional alternatives
- May - Review water quality impacts of regional alternatives
- June - Review costs of regional alternatives
- July - Draft report submitted and continued discussion of alternatives and costs
- August - Decisions on alternatives, discussion of cost allocations
- September-Final Draft Report
- October - Project Completion

**Table 2- Charge Methodology Initiatives** includes the proposed changes as a *discussion draft* to the original **Table 1** timelines for each initiative. The proposed updates are shown in gray. Since the Wastewater Master Plan will include information that will be vital to the next Sewer Shares update initiatives, we have extended the timelines in this draft. GLWA will continue to meet with the wastewater member partners via the Sewer Shares Workgroup and Sewer Charges Methodology Workgroup during 2019 to complete the technical and financial evaluations that are necessary for the next Sewer Shares Update. Based on the revised schedule, it is anticipated that the results of these initiatives will be included in the future charges.

As a reminder as it relates to sewer SHARES which emerged from the 2013 Rate Simplification, the initial “Rate Period” was three years (FY 2015, 2016, and 2017) and the working understanding was that the second “Rate Period” was five years subject to evaluation of first “Rate Period”. After changes were made related to strength of flow as a result of the Member Partner Outreach/strength of flow report dated March 15, 2017 for FY 2018, the second “Rate Period” was amended to be three years (FY 2018, 2019, and 2020) rather than five years.

Also included in ***Table 2 - Charge Methodology Initiatives*** are changes in the timeline for several water initiatives. As GLWA gets closer to taking its Northeast Water Treatment Plant offline as a treatment facility, we will be embarking on initiatives to evaluate possible changes to the water charges model. This includes looking at alternate ways to allocate pumping and transmission costs and reviewing the distance and elevation concepts. As shown in ***Table 2 - Charge Methodology Initiatives***, we may want to consider extending those schedules into calendar year 2020, to accommodate the resources needed to complete the Sewer Shares Update. Based on the revised schedule, it is anticipated that the results of these initiatives would be included in future water charges.

GLWA management believes it is important to work with its member partners to deliver on each of these initiatives and to do so in a manner that is consistent with having best available information. It is also important to manage internal and external resources effectively to deliver a quality outcome for all stakeholders. This may result in strategically revising the timeline for the completion of certain projects in order to achieve these goals.

**Budget Impact:** None

**Proposed Action:** Receive and file report.

# Table 1

GLWA One Water Charge Methodology Initiatives (May 2018) \*

	Calendar 2018				Calendar 2019				Calendar 2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>1 Cost Allocation Project</b>	<i>Continual process improvement and phased implementation</i>											
1.0 Functional GL Cost Reporting Implementation			x				x				x	
1.1 Administrative and General Cost Allocation Approaches			x				x				x	
1.2 Refined Functional Cost Structure			x				x				x	
1.3 Fixed Asset Project- <b>Completed</b>			x									
<b>2 Wastewater Charges / Methodology Update</b>												
2.1 2nd year of phase in for FY 2018 SHARES- <b>Completed</b>			X									
2.2 SHARE Update - 3rd Fixed SHARE Period											X	
2.3 Evaluation of Peak Wastewater Flows and Costs												
2.4 Wastewater Strength of Flow Sampling Plan- <b>Completed</b>												
2.5 Wastewater Strength of Flow Sampling												
2.6 Wastewater Master Plan												
2.7 Modeling & Monitoring												
2.8 Wet Weather Optimization Refinements												
2.9 Leverage National Expertise and Benchmarks												
Charge Update - Current Methodology			x				x					
<b>3 Water Charges / Methodology Update</b>												
3.1 Units of Service Study PHASE 1- Non-Master Metered- <b>Completed</b>												
Updated Water Charges - Current Methodology, Aligned Contracts												
3.2 Units of Service Study PHASE 2- Non-Master Metered												
3.3 System Water Audit												
3.4 Contract Alignment Project (CAP)												
3.5 Alternative Allocators for Pumping and Transmission												
3.6 Reflection of NE WTP Repurposing												
3.7 Leverage National Expertise and Benchmarks												
3.8 Updated Water Charges - potential new methods												X

\* Designed to achieve hallmark objectives of charge stability and equity.

## Table 2

GLWA **One Water** Charge Methodology Initiatives \*  
Discussion Draft - February 15, 2019 Update

	Calendar 2018				Calendar 2019				Calendar 2020				Calendar 2021			
	Q1	Q3	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>1 Cost Allocation Project</b>	<i>Continual process improvement and phased implementation</i>															
1.0 Functional GL Cost Reporting Implementation			x				x			x					x	
1.1 Administrative and General Cost Allocation Approaches			x				x			x					x	
1.2 Refined Functional Cost Structure			x				x			x					x	
1.3 Fixed Asset Project- <b>Completed</b>			x													
<b>2 Wastewater Charges / Methodology Update</b>																
2.1 2nd year of phase in for FY 2018 SHARES- <b>Completed</b>			X													
2.2 SHARE Update - 3rd Fixed SHARE Period										X	or...			X		
2.3 Evaluation of Peak Wastewater Flows and Costs																
2.4 Wastewater Strength of Flow Sampling Plan- <b>Completed</b>																
2.5 Wastewater Strength of Flow Sampling																
2.6 Wastewater Master Plan																
2.7 <b>Modeling &amp; Monitoring</b>																
2.8 Wet Weather Optimization Refinements																
2.9 Leverage National Expertise and Benchmarks Charge Update - Current Methodology			x				x									
<b>3 Water Charges / Methodology Update</b>																
3.1 Units of Service Study PHASE 1- Non-Master Metered- <b>Completed</b>																
Updated Water Charges - Current Methodology, Aligned Contracts										X						
3.2 Units of Service Study PHASE 2- Non-Master Metered										X						
3.3 <b>System Water Audit</b>																
3.4 Contract Alignment Project (CAP) <b>Completed</b>																
3.5 Alternative Allocators for Pumping and Transmission																
3.6 Reflection of NE WTP Repurposing																
3.7 Leverage National Expertise and Benchmarks																
3.8 Updated Water Charges - potential new methods																X

\* Designed to achieve hallmark objectives of charge stability and equity.

## Board Resolution Regarding Consideration of Peaking in Sewer Share Methodology

Source: Legistar

File ID	2017-282	ID	Type	Resolution	Status	Passed
In Control	Board of Directors			File Created	6/7/2017	
Title	Resolution Regarding Consideration of Peaking in Sewer Share Methodology			Agenda Date	6/7/2017	
				Final Action	6/7/2017	

### ..Title

**Resolution Regarding Consideration of Peaking in Sewer Share Methodology**

### ..Body

Agenda of: June 7, 2017  
Item No.: **2017-282**  
Amount: N/A

**TO:** The Honorable  
Board of Directors  
Great Lakes Water Authority

**RE: Resolution Regarding Consideration of Peaking in Sewer Share Methodology**

### MOTION

As a part of its budget deliberations, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA) notes that the Budget reflects an adjustment to the weighting of certain strength of flow factors in the methodology for determining sewer shares, that the sewer shares and sewer shares factors will be next adjusted by the Board for Fiscal Year 2021, that GLWA is actively engaging its customers regarding the factors to be considered as a part of any Fiscal Year 2021 adjustment, and that in addition to any other factors suggested by customers for consideration in that process, the Board requests that peaking be included in the factors considered as a part of the Fiscal Year 2021 determination of what, if any, adjustment should be made to sewer shares and sewer share factors.



## Financial Services Audit Committee Communication

**Date:** February 15, 2019

**To:** Great Lakes Water Authority Audit Committee

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

**Re:** Contractual Services and Initiatives Planning

**Background:** The Great Lakes Water Authority's (GLWA) began operations on January 1, 2016 with many of the financial related contractual services based on three-year terms for those agreements.

**Highlights/Analysis:** The concurrent expiration and/or transition of key contracts places risk in the progress of financial and process improvement matters, potential disruption in member partner matters, and significant workload imbalances. For this reason, a plan for overlapping contractual service terms, scopes, and initiatives has been drafted and is attached for discussion with the Audit Committee. It is intended that a second draft of this plan will be reviewed the Audit Committee in March 2019.

**Proposed Action:** Receive and file report.

Great Lakes Water Authority  
Discussion - Coordination of Financial Consulting Agreements  
For Discussion with Audit Committee on February 15, 2019

Category	Firm	Expires	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	De		
<b>Category 1 - Auditors</b>																											
External Auditors	Rehmann	Expired for Auditing (extension in process for 8/1/2019)	RFP Planning, Solicitation, Selection, Contract					On-ramp, start work																			
Internal & Construction Audit Services	Multiple	8/1/2019					RFP Planning, Solicitation, Selection, Contract					On-ramp, start work															
<b>Category 2 - Financing Team</b>																											
Bond Counsel	Dickinson Wright	3/31/2021 (in same contract with lease counsel)			RFP Planning, Solicitation, Selection, Contract					On-ramp, start work																	
Financial Advisor	PFM Financial Advisors LLC	3/31/2019		(Request extension to June 30, 2020)							RFP Planning, Solicitation, Selection, Contract					On-ramp, start work											
Underwriting Team	Various	N/A												RFP Planning, Solicitation, Selection, Contract					On-ramp, start work								
<b>Category 3 - Combined Strategic Financial Management, Feasibility Consultant, &amp; Charges Redistributed</b>																											
Strategic Financial Management, Feasibility Consultant, & Charges	The Foster Group	6/30/2019 (End present scope)																									
Strategic Financial Management	Presently combined	n/a					Specialized Procurement Start - The Foster Group																				
Charges Consultant	Presently combined	n/a		RFP Planning, Solicitation, Selection, Contract					On-ramp, start work																		
Feasibility Consultant (SRF)	Presently combined	n/a		Specialized Procurement Start Work (FY 2020) - The Foster Group																							
Feasibility Consultant (non-SRF)	Presently combined	Hold pending transaction timing/scope																									
<b>Category 4 - Investment Management</b>																											
Investment Manager	PFM Asset Management LLC	12/31/2019					RFP Planning, Solicitation, Selection, Contract					On-ramp, start work															
<b>Category 5 - Other Initiatives</b>																											
Implementation - Financial Automation Software System																											
Implementation - Ceridian Reimplementation																											
Implementation - E-payables																											
Procurement Policies & Procedures																											
Enterprise Asset Management Selection																											
Enterprise Resource Planning (ERP) specifications, selection, implementation																											
Capital Program Management																											
Strategic Asset Management Plan																											
Captures Rollout																											
Water/Sewer Transaction																											
Wastewater Master Plan Financial Analysis																											
Sewer Charges Methodology																											
Water Charges Methodology																											

**GLWA**

*Great Lakes Water Authority*



# **Monthly Financial Report Binder**

November 2018

**Presented to the  
Great Lakes Water Authority  
Audit Committee  
on February 15, 2019**

TABLE OF CONTENTS

Executive Summary..... 1

Budget to Actual ..... 2

Interim Financial Statements..... 7

Financial Report Charts..... 13

Financial Operations Key Performance Indicators..... 16

Construction Work in Progress Summary..... 17

Master Bond Ordinance Transfers..... 19

Retail Revenues, Receivables, & Collections..... 22

Wholesale Billings, Collections, and Receivables..... 26

Trust Receipts and Disbursements Report..... 33

Appendix

    Aged Accounts Receivable Report..... A-1

### Revenue and Expense Budget to Actual – Pro-rata Benchmark of 41.7%

Most revenue and expense areas are within 5% of the pro-rata benchmark.

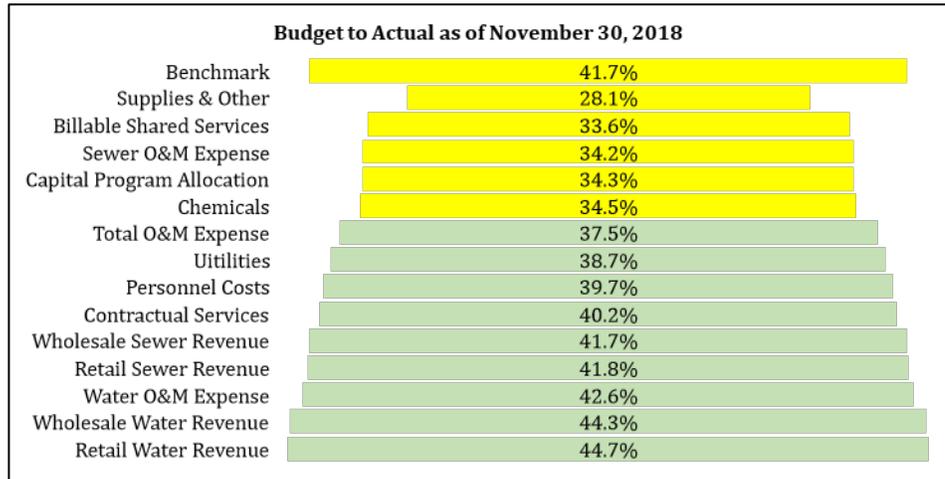
*Supplies & Other:* Due to timing of one-time or annual expenses.

*Billable Shared Services:* Ongoing analysis has supported a need to decrease the budget for Shared Services billings. December budget amendments will address this variance.

*Sewer O&M:* A refined centralized administrative cost allocation analysis reduced expenses (offset by an increase to Water O&M).

*Capital Program Allocation:* Ongoing analysis is in process to better understand the extent of variance is due to non-capitalizable maintenance programs versus capitalizable projects.

*Chemicals:* Expected variance as usage does not follow a 1/12<sup>th</sup> monthly budget pattern.

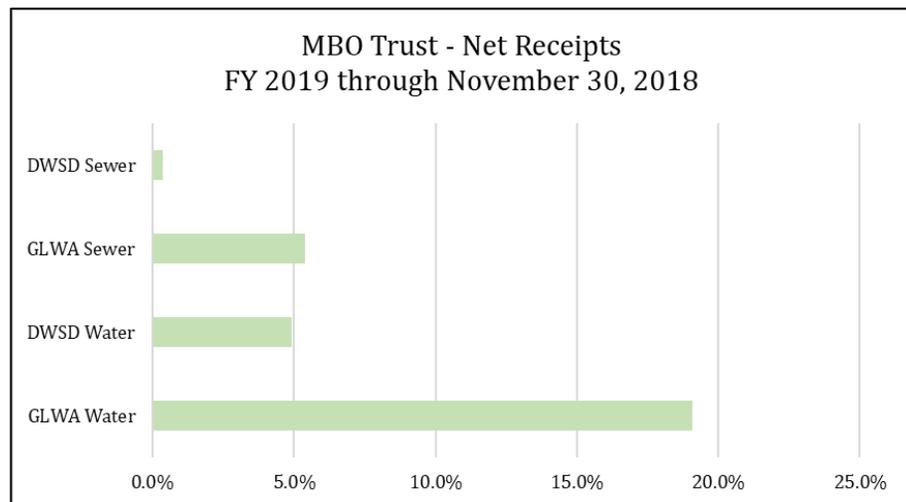


### Master Bond Ordinance Budgetary Net Receipts

Overall cash flow for both GLWA and DWSD is positive.<sup>2</sup>

#### Other Topics

Highland Park's total receivable balance is \$41.1 million. FY 2019 cash receipts equal \$629,000 through November 30, 2019, although a \$2.1 million payment has been subsequently received.



Questions? Contact the Office of the Chief Financial Officer at [CFO@glwater.org](mailto:CFO@glwater.org)

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

<sup>2</sup> The MBO Trust – Net Receipts table differs from the Trust Receipts and Disbursements section of this Financial Report because the MBO Trust – Net Receipts table reflects the impact of a \$6,527,200 adjustment completed in December 2018 for the final bad debt lookback adjustment.

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 a) the basis for calculating Member Partner charges and b) the Master Bond Ordinance flow of funds. 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 deviation between the revenue requirement 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. There have been no budget amendments to date. The revenue requirement budget is accounted for in the operations and maintenance fund for each system. Since this report is for November 2018, the pro-rata benchmark is 41.7% (5 of 12 months of the fiscal year).

Items of key interest discussed below are highlighted in gold on Tables 1A (Water) and 1B (Sewer).

1. For *both* systems, FY 2019 revenues are 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. The operations and maintenance (O&M) expense for the *water* system is slightly above the pro-rata benchmark for FY 2019 at 42.6%. Conversely the *sewer* system O&M expenses, at 34.2%, is less than the pro-rata benchmark. This variance between the funds is partly due to a project in-process to refine centralized and administrative cost allocations. It is likely that this will result in a budget amendment after the December 2018 month-end close.
3. The remaining revenue requirements for *both* systems are funded on a 1/12<sup>th</sup> basis each month in accordance with the Master Bond Ordinance. The debt service amount shown on the table is accounted for on that same basis. In October 2018, the GLWA had a successful bond sale which will provide a positive budget variance for *both* systems. That amendment will be reported with the second quarter budget amendments.
4. Overall total revenue requirements for *both* systems are in line with the benchmark.
5. For the sewer system, the FY 2019 year-to-date revenue requirements exceed revenues by \$11.6 million. This is a timing difference between revenues and revenue requirement (i.e. expenses) which is expected to be reversed by mid-fiscal year.
6. Other revenues are one-time and unusual items that do not fit an established revenue category. Both the water and sewer systems 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.

**Table 1A – Water Revenue Requirement Budget (year-over-year)**

	FY2018 AMENDED BUDGET	FY 2018 THRU 11/30/2017	Percent Year-to- Date	FY 2019 AMENDED BUDGET	FY 2019 THRU 11/30/2018	Percent Year-to- Date
<b>Water System</b>						
<b>Revenues</b>						
Wholesale Customer Charges	\$ 310,019,800	\$ 146,123,187	47.1%	\$ 307,382,500	\$ 140,286,400	45.6%
Retail Services Agreement	15,130,600	6,304,415	41.7%	20,181,400	8,469,200	42.0%
Investment Earnings	2,932,900	1,163,638	39.7%	3,802,300	1,541,100	40.5%
Other Revenues	35,900	82,299	229.2%	34,300	27,300	79.6%
Transfer In	-	156,095	0.0%	-	2,020,500	0.0%
<b>Total Revenues</b>	<b>\$ 328,119,200</b>	<b>\$ 153,829,634</b>	<b>46.9%</b>	<b>\$ 331,400,500</b>	<b>\$ 152,344,500</b>	<b>46.0%</b>
<b>Revenue Requirements</b>						
Operations & Maintenance Expense	\$ 121,562,500	\$ 31,468,146	25.9%	\$ 121,562,600	\$ 51,812,600	42.6%
O&M Legacy Pension	6,048,000	2,520,000	41.7%	6,048,000	2,520,000	41.7%
Debt Service	135,631,200	56,513,000	41.7%	134,214,600	55,922,750	41.7%
Accelerated Legacy Pension	6,268,300	2,611,792	41.7%	6,268,300	2,611,792	41.7%
Extraordinary Repair & Replacement						
Deposit	1,452,500	605,208	41.7%	-	-	0.0%
Lease Payment	22,500,000	9,375,000	41.7%	22,500,000	9,375,000	41.7%
Operating Reserve Deposit	323,700	134,875	41.7%	-	-	0.0%
Water Residential Assistance Program	1,678,600	699,417	41.7%	1,673,400	697,250	41.7%
Improvement & Extension Fund						
Deposit	32,654,400	-	0.0%	39,133,600	-	0.0%
<b>Total Revenue Requirements</b>	<b>\$ 328,119,200</b>	<b>\$ 103,927,438</b>	<b>31.7%</b>	<b>\$ 331,400,500</b>	<b>\$ 122,939,392</b>	<b>37.1%</b>
<b>Net Difference</b>		<b>\$ 49,902,196</b>			<b>\$ 29,405,108</b>	

**Table 1B – Sewer Revenue Requirement Budget (year-over-year)**

	FY2018 AMENDED BUDGET	FY 2018 THRU 11/30/2017	Percent Year-to- Date	FY 2019 AMENDED BUDGET	FY 2019 THRU 11/30/2018	Percent Year-to- Date
<b>Sewer System</b>						
<b>Revenues</b>						
Wholesale Customer Charges	\$ 271,429,300	\$ 113,096,500	41.7%	\$ 271,296,300	\$ 114,564,000	42.2%
Retail Services Agreement	178,969,100	74,570,500	41.7%	181,159,300	76,253,200	42.1%
Industrial Waste Control Charges	14,452,700	5,960,459	41.2%	15,000,800	3,827,500	25.5%
Pollutant Surcharges	5,099,000	2,597,330	50.9%	-	2,456,400	0.0%
Other Revenues	375,800	3,590,967	955.6%	485,200	288,900	59.5%
Investment Earnings	2,283,800	1,332,715	58.4%	4,085,700	2,354,200	57.6%
Transfer In	-	20,207	0.0%	-	539,100	0.0%
Bad Debt Expense Recovery	-	-	0.0%	-	-	0.0%
<b>Total Revenues</b>	<b>\$ 472,609,700</b>	<b>\$ 201,168,678</b>	<b>42.6%</b>	<b>\$ 472,027,300</b>	<b>\$ 200,283,300</b>	<b>42.4%</b>
<b>Revenue Requirements</b>						
Operations & Maintenance Expense	\$ 190,988,000	\$ 53,908,794	28.2%	\$ 191,079,400	\$ 65,396,900	34.2%
O&M Legacy Pension	10,824,000	4,510,000	41.7%	10,824,000	4,510,000	41.7%
Debt Service	205,859,900	85,774,958	41.7%	214,600,700	89,416,958	41.7%
Accelerated Legacy Pension	11,620,700	4,841,958	41.7%	11,620,700	4,841,958	41.7%
Extraordinary Repair & Replacement						
Deposit	2,283,100	951,292	41.7%	-	-	0.0%
Lease Payment	27,500,000	11,458,333	41.7%	27,500,000	11,458,333	41.7%
Operating Reserve Deposit	341,600	142,333	41.7%	-	-	0.0%
Water Residential Assistance Program	2,313,700	964,042	41.7%	2,374,100	989,208	41.7%
Improvement & Extension Fund						
Deposit	20,878,700	8,699,458	41.7%	14,028,400	5,845,167	41.7%
Operating Transfer Out	-	13,308,208	0.0%	-	29,412,700	0.0%
<b>Total Revenue Requirements</b>	<b>\$ 472,609,700</b>	<b>\$ 184,559,377</b>	<b>39.1%</b>	<b>\$ 472,027,300</b>	<b>\$ 211,871,225</b>	<b>44.9%</b>
<b>Net Difference</b>		<b>\$ 16,609,301</b>			<b>\$ (11,587,925)</b>	

## Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of November 30, 2018, is 41.7% (five months). When comparing FY 2019 to FY 2018 in **Table 2 – Operations & Maintenance Budget – Major Budget Categories**, it would appear that the 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 will decrease as we proceed through 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**

Major Budget Categories	FY2018		Percent Year-to-Date	FY 2019		Percent Year-to-Date
	AMENDED BUDGET	FY 2018 THRU 11/30/2017		AMENDED BUDGET	FY 2019 THRU 11/30/2018	
Water	\$ 73,510,500	\$ 17,168,859	23.4%	\$ 66,596,200	\$ 27,859,500	41.8%
Sewer	124,106,400	33,098,716	26.7%	118,318,900	44,280,000	37.4%
Centralized	82,628,700	27,350,899	33.1%	99,044,500	36,021,800	36.4%
Administrative	32,304,900	9,159,727	28.4%	28,682,400	10,264,000	35.8%
Employee Benefits	-	(1,401,260)	0.0%	-	(1,215,800)	0.0%
<b>Total</b>	<b>\$ 312,550,500</b>	<b>\$ 85,376,941</b>	<b>27.3%</b>	<b>\$ 312,642,000</b>	<b>\$ 117,209,500</b>	<b>37.5%</b>

## Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The purpose of **Table 3 – 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.

In total, the O&M expenses are at 37.5% which is reasonably close to the pro-rata benchmark of 41.7%. This positive variance equates to a dollar amount of \$13.1 million. The expense category commentary is provided below for items highlighted on Table 3.

**Personnel Costs:** The overall category is on target at 39.7% through November 2018.

**Utilities:** The overall category is slightly lower than the benchmark; coming in at 38.7%. Variances in this category are not unexpected given the seasonality of the operations. 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 34.5% through November 2018. This variance is not unexpected as usage varies throughout the year. Staff is working on enhancements to future monthly financial reports to correlate spending with operational metrics.

**Supplies & Other:** This category is lower than the benchmark; coming in at 28.1% through November 2018. An internal review is underway to better understand the causes for this variance. Given 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 on target at 40.2% through November 2018.

**Capital Program Allocation:** This category is lower than the benchmark; coming in at 34.3% through November 2018. 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. New processes are currently being evaluated to better understand staff resource allocation when the budget was developed versus how time is actually incurred – including time allocated to maintenance programs versus capitalizable projects.

**Shared Services:** 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. Beginning with the December 2018 close, adjustments are being made to both the billings and accounting accruals to bring them in line with the amended shared services budget. These adjustments will be reflected on the December 2018 Budget to Actual Analysis report.

**Table 3 – Expense Variance Analysis**

Expense Categories	FY2018 AMENDED BUDGET	FY 2018 THRU 11/30/2017	Percent Year-to- Date	FY 2019 AMENDED BUDGET	FY 2019 PRORATED AMENDED BUDGET (5 MONTHS)	FY 2019 THRU 11/30/2018	Percent Year-to- Date	FY 2019 PRORATED BUDGET LESS FY 2019 ACTIVITY
<b>Entity-wide</b>								
2.1 Salaries & Wages	\$ 57,113,800	\$ 20,173,368	35.3%	\$ 64,160,400	\$ 26,733,500	\$ 24,794,000	38.6%	\$ 1,939,500
2.2 Workforce								
Development	661,500	202,629	30.6%	740,200	308,417	302,000	40.8%	6,417
2.3 Overtime	6,516,600	2,578,577	39.6%	6,756,300	2,815,125	3,106,000	46.0%	(290,875)
2.4 Employee Benefits	20,998,900	9,271,240	44.2%	22,255,300	9,273,042	10,428,700	46.9%	(1,155,658)
2.5 Transition								
Services	13,865,100	2,857,193	20.6%	11,189,100	4,662,125	3,311,600	29.6%	1,350,525
2.6 Personnel								
Transition Adjustment	(1,557,200)	-	0.0%	(2,586,200)	(1,077,583)	-	0.0%	(1,077,583)
8.0 Employee Benefits								
Fund	-	(1,401,260)	0.0%	-	-	(1,215,800)	0.0%	1,215,800
Personnel Costs	<u>97,598,700</u>	<u>33,681,747</u>	<u>34.5%</u>	<u>102,515,100</u>	<u>42,714,626</u>	<u>40,726,500</u>	<u>39.7%</u>	<u>1,988,126</u>
3.1 Electric	42,324,400	9,706,406	22.9%	42,132,600	17,555,250	17,685,400	42.0%	(130,150)
3.2 Gas	7,029,500	1,084,981	15.4%	6,854,400	2,856,000	1,987,200	29.0%	868,800
3.3 Sewage Service	2,030,500	411,720	20.3%	2,544,000	1,060,000	797,900	31.4%	262,100
3.4 Water Service	4,587,600	1,418,564	30.9%	5,781,500	2,408,958	1,737,100	30.0%	671,858
Utilities	<u>55,972,000</u>	<u>12,621,671</u>	<u>22.5%</u>	<u>57,312,500</u>	<u>23,880,208</u>	<u>22,207,600</u>	<u>38.7%</u>	<u>1,672,608</u>
4.1 Chemicals	13,340,600	5,607,780	42.0%	16,620,900	6,925,375	5,731,600	34.5%	1,193,775
4.2 Supplies & Other	41,770,900	9,629,522	23.1%	36,405,600	15,169,000	10,220,000	28.1%	4,949,000
4.3 Contractual								
Services	113,680,100	27,542,561	24.2%	106,342,000	44,309,167	42,758,600	40.2%	1,550,567
5.1 Capital Program								
Allocation	(2,012,900)	(587,083)	29.2%	(4,000,000)	(1,666,667)	(1,373,100)	34.3%	(293,567)
5.2 Shared Services	(10,109,500)	(3,119,258)	30.9%	(9,123,100)	(3,801,292)	(3,061,500)	33.6%	(739,792)
7.0 Unallocated								
Reserve	2,310,600	-	0.0%	6,569,100	2,737,125	-	0.0%	2,737,125
Total Expenses	<u>\$ 312,550,500</u>	<u>\$ 85,376,940</u>	<u>27.3%</u>	<u>\$ 312,642,100</u>	<u>\$ 130,267,542</u>	<u>\$ 117,209,700</u>	<u>37.5%</u>	<u>\$ 13,057,842</u>

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

GLWA utilizes four funds daily. At the macro level for financial reporting purposes, GLWA has two primary funds: *Water Fund* and *Sewage Disposal Fund*. These funds represent the combined total of four sub-funds for each system that are used 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 November 30, 2018**

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2018
<b>Assets</b>				
Cash (a)	\$ 188,950,000	\$ 161,122,000	\$ 350,072,000	\$ 671,753,000
Investments (a)	403,387,000	311,042,000	714,430,000	343,235,000
Accounts Receivable	111,037,000	101,215,000	212,252,000	191,359,000
Due from Other Funds (b)	-	21,735,000	21,735,000	32,255,000
Other Assets (c)	606,101,000	456,528,000	1,062,630,000	985,888,000
Cash Held FBO DWSD Advance (d)	-	24,839,000	24,839,000	18,468,000
Capital Assets, net of depreciation	1,731,480,000	2,537,025,000	4,268,505,000	4,402,212,000
Construction Work in Process	170,177,000	181,281,000	351,458,000	288,052,000
<b>Total Assets</b>	<b>3,211,133,000</b>	<b>3,794,788,000</b>	<b>7,005,921,000</b>	<b>6,933,222,000</b>
<b>Deferred Inflow (e)</b>	<b>103,579,000</b>	<b>198,584,000</b>	<b>302,164,000</b>	<b>332,992,000</b>
<b>Liabilities</b>				
Liabilities – Short-Term (f)	153,264,000	162,505,000	315,769,000	270,446,000
Due to Other Funds (b)	21,735,000	-	21,735,000	32,255,000
Other Liabilities (g)	2,796,000	6,207,000	9,002,000	8,638,000
Cash Held FBO DWSD (d)	11,013,000	-	11,013,000	8,902,000
Liabilities – Long-Term (h)	3,122,746,000	3,877,802,000	7,000,548,000	6,998,296,000
<b>Total Liabilities</b>	<b>3,311,553,000</b>	<b>4,046,513,000</b>	<b>7,358,067,000</b>	<b>7,318,537,000</b>
<b>Deferred Outflow (e)</b>	<b>70,010,000</b>	<b>62,953,000</b>	<b>132,962,000</b>	<b>126,432,000</b>
<b>Net Position Deficit (i)</b>	<b>\$ (66,851,000)</b>	<b>\$ (116,094,000)</b>	<b>\$ (182,945,000)</b>	<b>\$ (178,755,000)</b>

Totals may be off due to rounding.

In general, the Statement of Net Position reflects a mature organization with no unexpected trends. One item of note as of November 30, 2018 is that there is a decrease in cash and increase in investments since June 30, 2018 (highlighted in gold on the table). These differences are due to the November 30, 2018 and June 30, 2018 investments being reported at book value and market value, respectively, and investments were converted to cash, at June 30, 2018, in preparation of the July 1, 2018 bond payments.

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.

### **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. *Deferred Inflow* and *Deferred Outflow* relate to financing activity and GLWA's share of the legacy General Retirement System (GRS) pension obligation.
- f. *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.
- g. *Other Liabilities* account for the cash receipts set aside for the Budget Stabilization Fund and the Water Residential Assistance Program.
- h. *Liabilities - Long-term* include bonds payable, lease payable, and legacy GRS pension liabilities.
- i. *Net Position Deficit* is defined by the 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 1, 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 November 2018 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 Five Months ended November 30, 2018**

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- type Activities	Comparative June 30, 2018
<b>Revenue</b>						
Wholesale customer charges	\$ 140,286,000	94.3%	\$ 114,564,000	58.0%	\$ 254,850,000	\$ 592,096,000
Local system charges	8,469,000	5.7%	76,253,000	38.6%	84,722,000	194,100,000
Industrial waste charges	-		3,859,000	2.0%	3,859,000	14,335,000
Other revenue	22,000	0.0%	255,000	0.1%	277,000	4,455,000
Pollutant surcharges	-		2,456,000	1.2%	2,456,000	6,908,000
Bad Debt Recovery	-		-		-	-
<b>Total Revenues</b>	<b>\$ 148,778,000</b>	<b>100.0%</b>	<b>\$ 197,387,000</b>	<b>100.0%</b>	<b>\$ 346,165,000</b>	<b>\$ 811,895,000</b>
<b>Operating Expenses</b>						
Operations and Maintenance Expenses	51,813,000	34.8%	65,397,000	33.1%	117,211,000	284,910,000
Depreciation	60,988,000	41.0%	74,743,000	37.9%	135,731,000	331,242,000
<b>Total Operating Expenses</b>	<b>112,801,000</b>	<b>75.8%</b>	<b>140,140,000</b>	<b>71.0%</b>	<b>252,941,000</b>	<b>616,152,000</b>
Operating Income	35,976,000	24.2%	57,247,000	29.0%	93,223,000	195,743,000
<b>Total Nonoperating (Revenue)/Expense</b>	<b>42,392,000</b>	<b>28.5%</b>	<b>55,021,000</b>	<b>27.8%</b>	<b>97,413,000</b>	<b>271,662,000</b>
<b>Increase/(Decrease) in Net Position</b>	<b>(6,416,000)</b>	<b>(4.3%)</b>	<b>2,226,000</b>	<b>1.1%</b>	<b>(4,190,000)</b>	<b>(75,920,000)</b>
Net Position Deficit, Beginning of year	(60,435,000)		(118,319,000)		(178,755,000)	(102,835,000)
<b>Net Position Deficit, End of Year</b>	<b>\$ (66,851,000)</b>		<b>\$(116,094,000)</b>		<b>\$ (182,945,000)</b>	<b>\$ (178,755,000)</b>

*Totals may be off due to rounding.*

## Water Fund

- ✓ The decrease in Water Fund Net Position is \$6.4 million.
- ✓ Wholesale water customer charges of \$140.2 million account for 94.3% of Water System revenues.
- ✓ Operating expenses of \$112.8 million represent 75.8% of total operating revenue. Depreciation is the largest operating expense at \$60.9 million or 54.1% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$35.9 million or 24.2% of operating revenue.
- ✓ The largest category within nonoperating activities is interest expense of \$47.7 million.

## Sewage Disposal Fund

- ✓ The increase in Sewer Net Position was \$2.2 million.
- ✓ Wholesale customer charges of \$114.5 million account for 58.0% 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 \$76.2 million account for 38.6% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$140.1 million represent 71.0% of total operating revenue. Depreciation is the largest operating expense at \$74.7 million or 53.3% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$57.2 million or 29.0% of operating revenue.
- ✓ The largest category within nonoperating activities is interest expense of \$60.3 million.

## Supplemental Schedule of Operations & Maintenance Expenses – All Funds Combined

This Supplemental Schedule of Operations & Maintenance Expenses (O&M) schedule is shown on the next page in Table 3. The accrual basis of operations and maintenance expense may vary from the revenue requirement basis presented in the *Budget to Actual Analysis* section of the November 2018 Financial Report Binder. Explanatory notes follow this schedule.

**Table 3 – Supplemental Schedule of Operations & Maintenance Expenses  
– All Funds Combined  
For the Five Months ended November 30, 2018**

Expenditure	Water	Percent of Total	Sewage Disposal System	Percent of Total	Total Business- type Activities	Percent of Total
<b>Personnel</b>						
Salaries & Wages	\$ 10,817,000	20.9%	\$ 17,591,000	26.9%	\$ 28,407,000	23.6%
Overtime	1,739,000	3.4%	1,368,000	2.1%	3,106,000	2.6%
Benefits	5,148,000	9.9%	4,065,000	6.2%	9,213,000	7.7%
<b>Total Personnel</b>	<b>17,703,000</b>	<b>34.2%</b>	<b>23,023,000</b>	<b>35.2%</b>	<b>40,727,000</b>	<b>33.9%</b>
<b>Utilities</b>						
Electric	11,986,000	23.1%	5,700,000	8.7%	17,686,000	14.7%
Gas	86,000	0.2%	1,901,000	2.9%	1,987,000	1.7%
Sewage	249,000	0.5%	549,000	0.8%	798,000	0.7%
Water	1,000	0.0%	1,736,000	2.7%	1,737,000	1.4%
<b>Total Utilities</b>	<b>12,321,000</b>	<b>23.8%</b>	<b>9,887,000</b>	<b>15.1%</b>	<b>22,208,000</b>	<b>18.5%</b>
Chemicals	2,254,000	4.4%	3,478,000	5.3%	5,732,000	4.8%
Supplies and other	3,472,000	6.7%	6,749,000	10.3%	10,220,000	8.5%
Contractual services	19,945,000	38.5%	22,814,000	34.9%	42,759,000	35.6%
Capital program allocation	(841,000)	-1.6%	(532,000)	-0.8%	(1,373,000)	-1.1%
Shared services allocation	(3,041,000)	-5.9%	(20,000)	0.0%	(3,062,000)	-2.5%
<b>Operations and Maintenance Expenses</b>	<b>\$ 51,813,000</b>	<b>100.0%</b>	<b>\$ 65,397,000</b>	<b>100.0%</b>	<b>\$ 117,211,000</b>	<b>100.0%</b>

Totals may be off due to rounding.

- ✓ Core expenses for water and sewage disposal systems is utilities (18.5% of total O&M expenses) and chemicals (4.8%).
- ✓ Personnel (33.9%) 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 (35.6%) includes:
  - Water System costs of sludge removal and disposal services at the Northeast, Southwest and Springwells Water Treatment Plants (approximately \$3.3 million);

- Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$6.3 million); and
- Centralized and administrative contractual costs allocated to both systems for information technology, building maintenance, 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 Five Months ended November 30, 2018**

Nonoperating (Revenue)/Expense	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2018
Interest income contractual obligation	\$ (9,520,000)	\$ (6,257,000)	\$ (15,777,000)	\$ (38,857,000)
Investment earnings	(5,364,000)	(4,736,000)	(10,100,000)	(11,396,000)
Other nonoperating revenue	(333,000)	(3,000)	(336,000)	(430,000)
Interest expense				
Bonded debt	47,847,000	56,868,000	104,715,000	255,868,000
Lease obligation	7,386,000	9,028,000	16,414,000	39,702,000
Other obligations	2,069,000	663,000	2,732,000	4,825,000
Total interest expense	<u>57,303,000</u>	<u>66,559,000</u>	<u>123,861,000</u>	<u>300,395,000</u>
Other nonoperating expense	681,000	702,000	1,383,000	1,684,000
Amortization, issuance costs, debt	(1,860,000)	(1,244,000)	(3,104,000)	(8,684,000)
Amortization, raw water rights	1,486,000	-	1,486,000	2,081,000
(Gain) loss on disposal of capital assets	-	-	-	(2,463,000)
Loss on impairment of capital assets	-	-	-	654,000
Water Residential Assistance Program	-	-	-	3,756,000
Legacy pension expense	-	-	-	24,922,000
<b>Total Nonoperating (Revenue)/Expense</b>	<b><u>\$ 42,392,000</u></b>	<b><u>\$ 55,021,000</u></b>	<b><u>\$ 97,413,000</u></b>	<b><u>\$ 271,662,000</u></b>

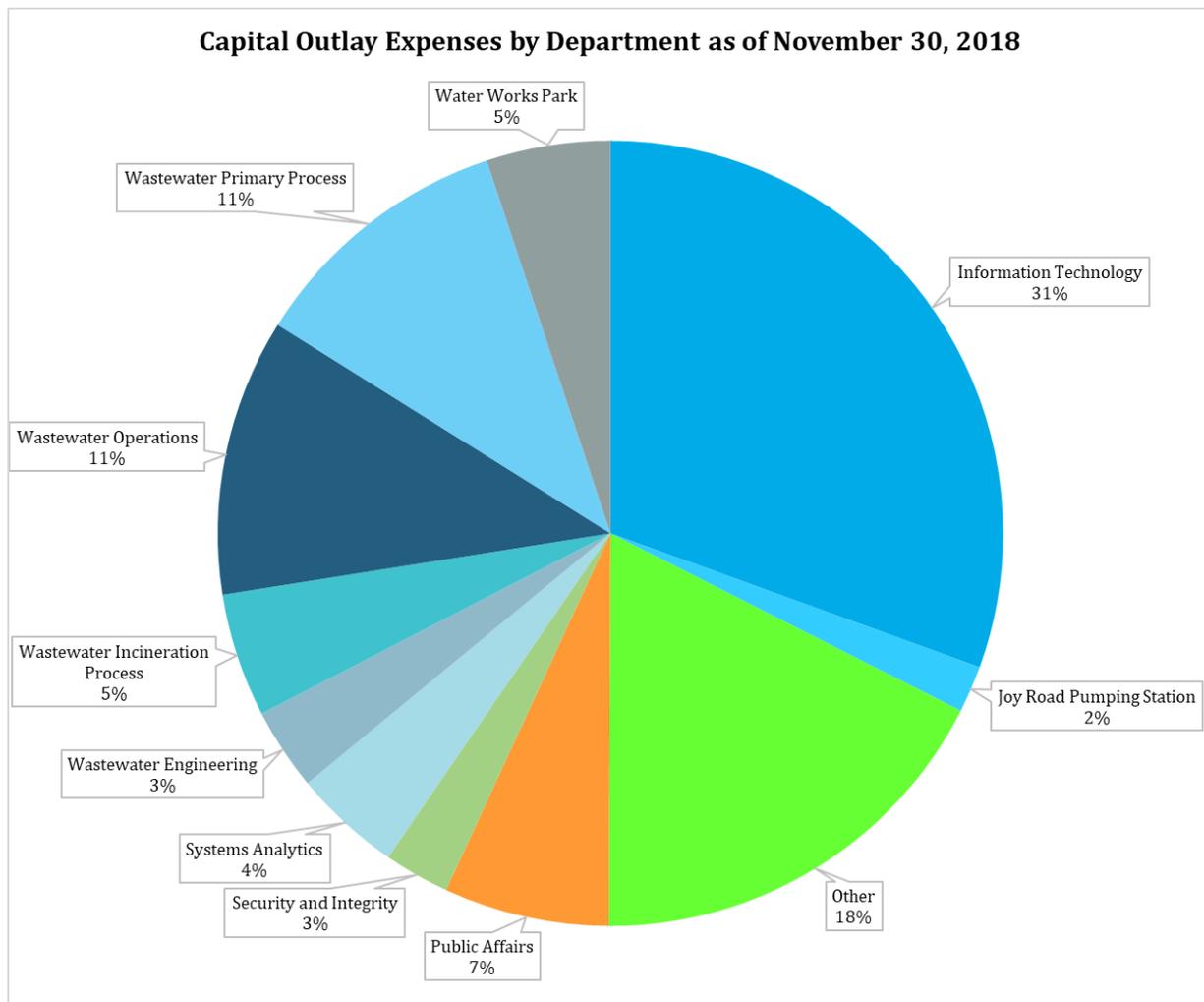
Totals may be off due to rounding.

- ✓ Interest expense, the largest category of nonoperating expenses, is due to three sources below:
  - 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 KWA Pipeline.
- ✓ Interest income on contractual obligation from DWSD.
- ✓ Investment earnings are expected to increase materially from the prior year due to the implementation of an active investment management strategy during the current fiscal year.

## Financial Activity Charts

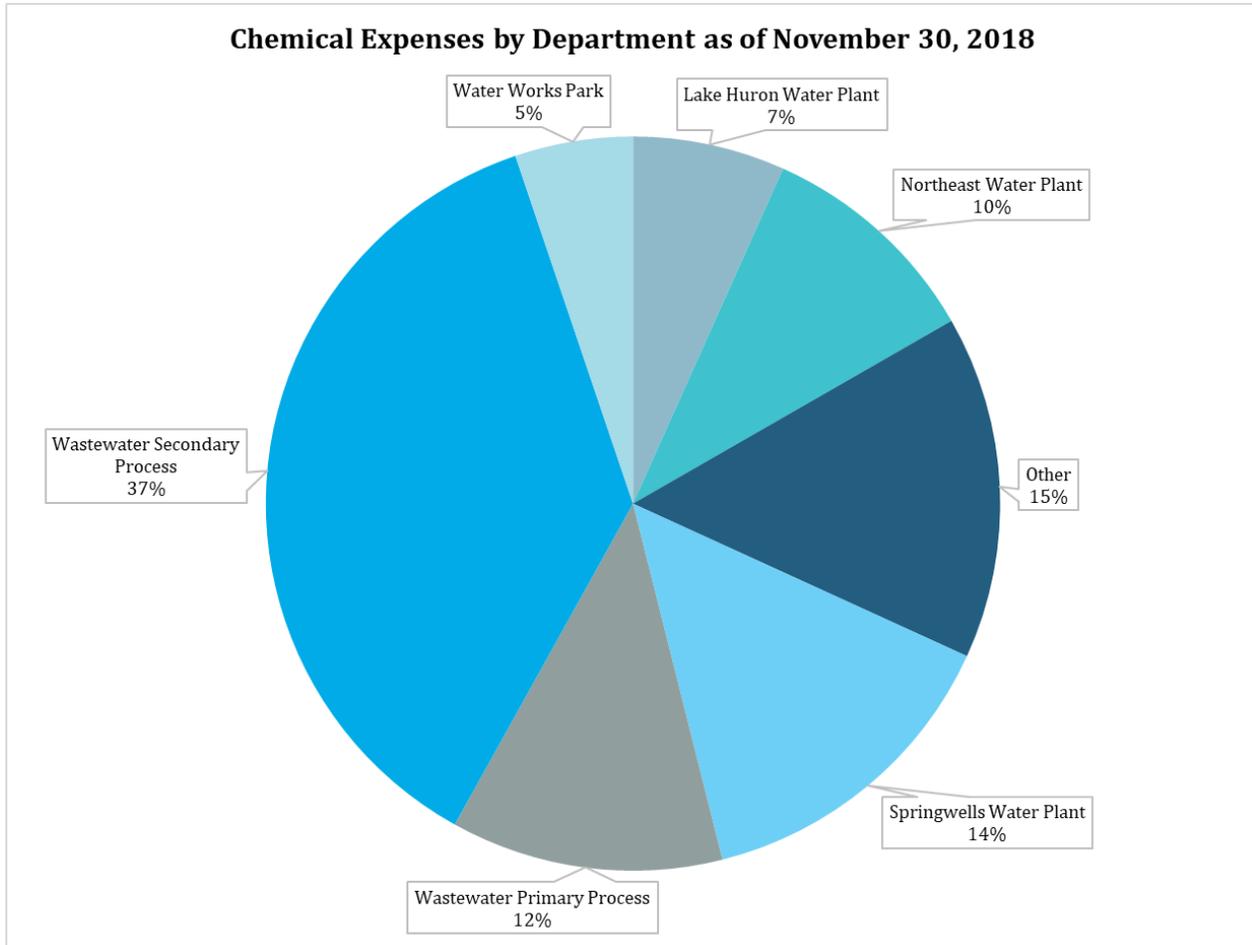
### Chart 1 – Capital Outlay

Capital Outlay spend is **\$5,835,960** through November 30, 2018. The expenses in this chart do not reflect any activity in the Capital Improvement Program. The allocation is shown in the chart below.



### Chart 2 – Chemical Spend

Chemical spend is \$5,731,824 through November 30, 2018. The allocation is shown in the chart below.

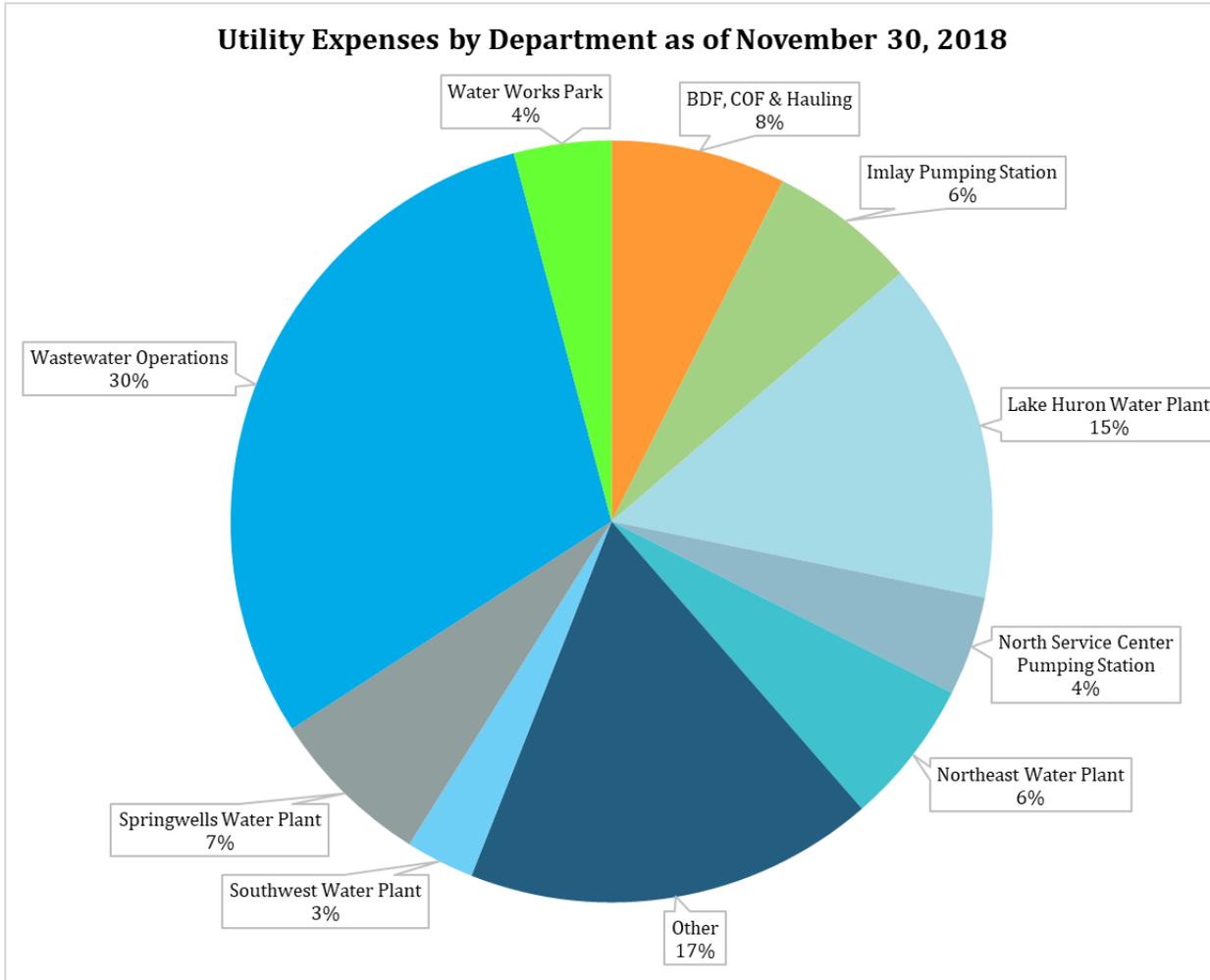


*Note: "Other" includes Combined Sewer Overflow (CSO), portions of the Wastewater process and two departments from Water.*

### Chart 3 – Utility Spend

All amounts are unaudited unless otherwise noted.

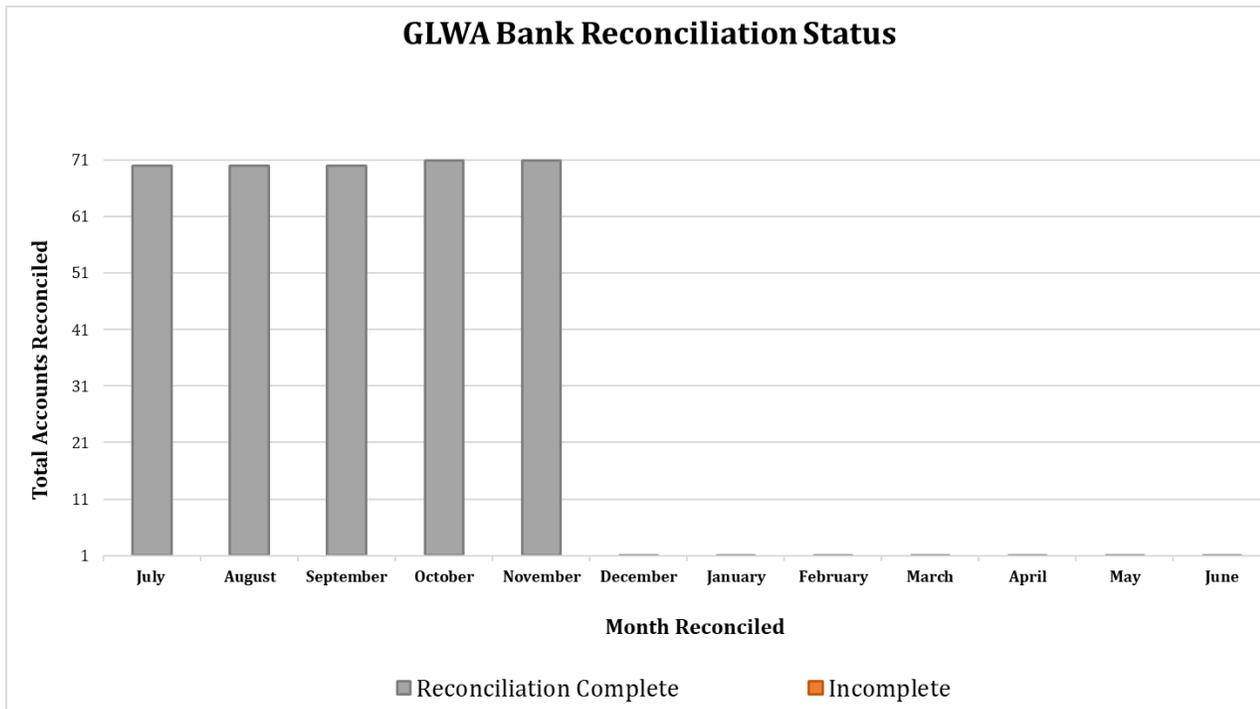
Utility spend is **\$22,207,807** through November 30, 2018. The allocation is shown in the chart below.



## 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 completed soon after month end.

**Chart 1 – Bank Reconciliation Completion Status**



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.

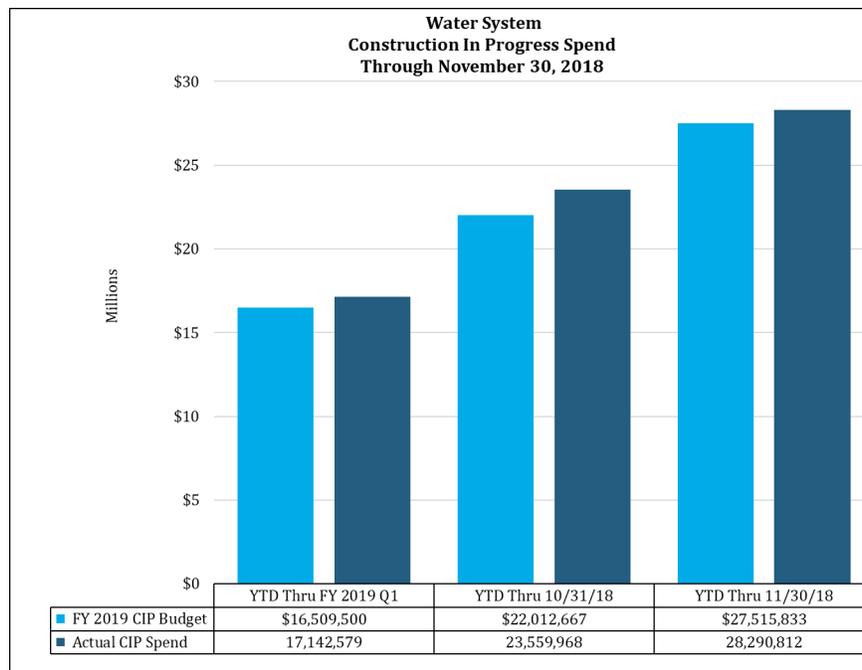
## Water System Construction Work in Progress

**Water System CWIP Spend:** 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 also reviewed and formally adopted by the GLWA Board of Directors.

As of November 2018, the Water system incurred nearly \$28.3 million of construction costs to date. This is 102.8% of the total fiscal year 2019 prorated, budgeted spend and a steady increase over the prior period.

**Note:** *These interim reports are prepared on a modified cash basis. Known expenses, where material in nature, have been accrued.*

**Chart 1 - Construction Work in Progress Spend - Water** outlines monthly CWIP spending trends against a prorated, monthly budget amount. The prorated budget amount is calculated by dividing the total fiscal year 2019 board-approved capital improvement plan by twelve, equal months.



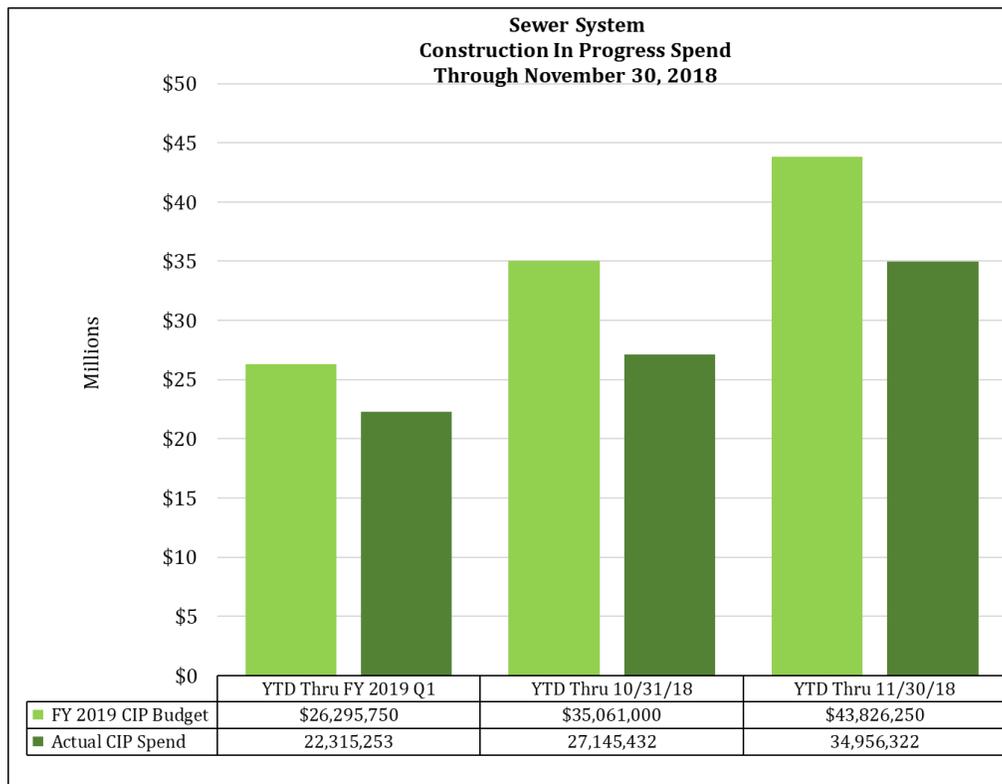
## Sewer System Construction Work in Progress

**Sewer System CWIP Spend:** 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 also reviewed and formally adopted by the GLWA Board of Directors.

As of November 2018, the Sewer system incurred nearly \$35 million of construction costs to date. This is 79.8% of the total fiscal year 2019 prorated, budgeted spend and a steady increase over the prior period.

**Note:** These interim reports are prepared on a modified cash basis. Known expenses, where material in nature, have been accrued.

**Chart 2 – Construction Work in Progress Spend – Sewer** outlines monthly CWIP spending trends against a prorated, monthly budget amount. The prorated budget amount is calculated by dividing the total fiscal year 2019 board-approved capital improvement plan by twelve, equal months.





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 Department completes required MBO transfers on the first business day of each month. Treasury completes these transfers 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, 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 April 2018 Memorandum of Understanding but is included to reflect historical activity. Treasury completes annual Extraordinary Repair & Replacement transfers as directed based on budget and year-end fund status.

**Table 1 – GLWA Water Transfers** reflects the required transfers for FY 2019 completed through November 1, 2018. The total transfers for FY 2016, FY 2017, and FY 2018 are also included to reflect historical activity. Since January 1, 2016, MBO transfers for Water totaling \$423,221,730 have been transferred to accounts held by GLWA.

**Table 2 – GLWA Sewer Transfers** reflects the required transfers for FY 2019 completed through November 1, 2018. The total transfers for FY 2016, FY 2017, and FY 2018 are also included to reflect historical activity. Since January 1, 2016, MBO transfers for Sewer totaling \$652,298,701 have been transferred to accounts held by GLWA.

**Table 1 – GLWA Water Transfers**

	WATER					Budget Stabilization <small>(For Benefit of DWSD)</small>	Extraordinary Repair & Replacement <small>(ER&amp;R)</small>	Total Water
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP				
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	
<b>FY 2019</b>								
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	
Total FY 2019	51,967,375	\$2,520,000	\$4,456,540	\$858,415	\$0	\$0	\$59,802,330	
Total Water Since Jan 1 2016	\$356,461,579	\$20,642,300	\$35,746,636	\$7,078,315	\$2,686,900	\$606,000	\$423,221,730	

**Table 2 – GLWA Sewer Transfers**

SEWER							
	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	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
<b>FY 2019</b>							
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
<b>Total FY 2019</b>	<b>\$80,467,500</b>	<b>\$4,510,000</b>	<b>\$6,119,790</b>	<b>\$1,192,415</b>	<b>\$0</b>	<b>\$0</b>	<b>\$92,289,705</b>
<b>Total Sewer Since Jan 1 2016</b>	<b>\$548,271,296</b>	<b>\$37,010,800</b>	<b>\$48,859,886</b>	<b>\$9,131,019</b>	<b>\$8,246,100</b>	<b>\$779,600</b>	<b>\$652,298,701</b>

## MBO Transfers to Accounts Held by DWSD

**DWSD Transfers:** The Treasury Department completes required MBO transfers on the first business day of each month. Treasury completes these transfers 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. GLWA Public Finance communicates planned transfers in advance of the first business day of each month and GLWA Treasury sends confirmation of transfers made to DWSD Treasury.

Monthly transfers for Operations & Maintenance and 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 3 – DWSD Water Transfers** reflects the required transfers for FY 2019 completed through November 1, 2018. The total transfers for FY 2016, FY 2017, and FY 2018 are also included to reflect historical activity. For FY 2016, \$2,326,900 of the lease payment was directed to offset a portion of debt service. For FY 2018, a DWSD budget adjustment resulted in a reduction in the lease transfer of \$1,875,000. For FY 2019, \$3,949,200 of the lease payment will be directed to offset a portion of debt service. This offset will be recognized over the year as a reduction in the monthly transfer amount. Since January 1, 2016, MBO transfers for Water totaling \$195,231,529 have been transferred to accounts held by DWSD.

**Table 4 – DWSD Sewer Transfers** reflects the required transfers for FY 2019 completed through November 1, 2018. The total transfers for FY 2016, FY 2017, and FY 2018 are also included to reflect historical activity. For FY 2016, \$19,991,500 of the lease payment was directed to offset a portion of debt service. For FY 2018, a DWSD budget adjustment resulted in a reduction in the lease transfer of \$9,166,664. For FY 2019, \$4,864,000 of the lease payment will be directed to offset a portion of debt service. This offset will be recognized over the year as a reduction in the monthly transfer amount. Since January 1, 2016, MBO transfers for Sewer totaling \$222,755,153 have been transferred to accounts held by DWSD.

**Table 3 – DWSD Water Transfers**

WATER				
	<u>Operations &amp; Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&amp;E Fund)</u>	<u>Total Water</u>
Total FY 2016	\$ 26,185,600	\$ 4,262,700	\$ 20,173,100	\$ 50,621,400
Total FY 2017	\$ 33,596,400	\$ 4,262,400	\$ 22,500,000	\$ 60,358,800
Total FY 2018	\$ 35,059,704	\$ 4,272,000	\$ 20,625,000	\$ 59,956,704
<b>FY 2019</b>				
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
Total FY 2019	\$ 14,785,125	\$ 1,780,000	\$ 7,729,500	\$ 24,294,625
Total Water Since Jan 1 2016	\$ 109,626,829	\$ 14,577,100	\$ 71,027,600	\$ 195,231,529

**Table 4 – DWSD Sewer Transfers**

SEWER				
	<u>Operations &amp; Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&amp;E Fund)</u>	<u>Total Sewer</u>
Total FY 2016	\$ 19,774,300	\$ 2,861,800	\$ 7,508,500	\$ 30,144,600
Total FY 2017	\$ 41,535,600	\$ 2,862,000	\$ 27,500,000	\$ 71,897,600
Total FY 2018	\$ 60,517,992	\$ 2,856,000	\$ 18,333,336	\$ 81,707,328
<b>FY 2019</b>				
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
Total FY 2019	\$ 28,383,960	\$ 1,190,000	\$ 9,431,665	\$ 39,005,625
Total Sewer Since Jan 1 2016	\$ 150,211,852	\$ 9,769,800	\$ 62,773,501	\$ 222,755,153



**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 November 30, 2018, the DWSD usage was at 100.13% of the budget and billed revenue was at 104.99% 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.

*Note:* DWSD is working on the additional, billings to collections rolling average report requested by the GLWA Audit Committee at the December 21, 2018 meeting. That will be included in this report when made available by DWSD.

**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	32.09	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					
January	226,600	7,978,800	35.21					
February	216,400	7,980,200	36.88					
March	213,300	8,163,900	38.27					
April	223,100	7,856,900	35.22					
May	211,000	9,109,200	43.17					
June	240,200	9,063,600	37.73					
<b>Total</b>	<b>2,808,000</b>	<b>101,590,000</b>	<b>36.18</b>	<b>1,272,494</b>	<b>45,368,787</b>	<b>35.65</b>	<b>1,594</b>	<b>2,156,287</b>
Subtotals ytd	1,270,900	43,212,500	34.00	1,272,494	45,368,787	35.65	1,594	2,156,287
Achievement of Budget				100.13%	104.99%			

(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
December	8,265,636	8,571,649	(306,013)	-3.57%
January	8,066,448	6,744,162	1,322,286	19.61%
February	6,432,245	7,682,509	(1,250,265)	-16.27%
March	8,280,635	8,218,506	62,129	0.76%
April	9,226,675	6,977,199	2,249,477	32.24%
May	8,969,019	8,568,632	400,387	4.67%
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%
<b>Rolling, 12-Month Total</b>	<b>99,970,149</b>	<b>98,298,980</b>		
<b>Rolling, 12-Month Average</b>	<b>8,330,846</b>	<b>8,191,582</b>		

## 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 November 30, 2018, the DWSD usage was at 103.05% of the budget and billed revenue was at 99.69% 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.

**Note:** DWSD is working on the additional, billings to collections rolling average report requested by the GLWA Audit Committee at the December 21, 2018 meeting. That will be included in this report when made available by DWSD.

**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				
January	198,600	24,852,800				
February	191,600	25,329,400				
March	191,000	25,474,500				
April	197,300	24,789,700				
May	187,300	26,205,200				
June	210,300	26,730,700				
<b>Total</b>	2,493,000	307,737,100	1,169,120	128,657,617	34,620	(403,683)
<i>Subtotals ytd</i>	<i>1,134,500</i>	<i>129,061,300</i>	<i>1,169,120</i>	<i>128,657,617</i>	<i>34,620</i>	<i>(403,683)</i>
<i>Achievement of Budget/Goal</i>			<i>103.05%</i>	<i>99.69%</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 4 – DWSD Retail Sewer Collections**

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
December	19,522,952	19,500,639	22,313	0.11%
January	18,308,458	16,792,983	1,515,475	9.02%
February	17,495,563	18,149,650	(654,087)	-3.60%
March	23,015,525	18,711,974	4,303,552	23.00%
April	16,159,844	17,219,106	(1,059,262)	-6.15%
May	18,341,298	20,046,357	(1,705,059)	-8.51%
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%
<b>Rolling 12-Month Total</b>	<b>251,934,590</b>	<b>235,864,892</b>		
<b>Rolling, 12-Month Average</b>	<b>20,994,549</b>	<b>19,655,408</b>		

## 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 November 30, 2018. This now includes pre-bifurcation receivables transferred to DWSD as part of the April 2018 Memorandum of Understanding.

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

Sales Class	# of Accounts	Avg. Balance	Accounts Receivable				Balance
			Current	> 30 Days	> 60 Days	> 180 Days	
Residential	284,478	\$ 306.84	\$ 13,117,006 15.0%	\$ 6,927,100 7.9%	\$ 16,500,733 18.9%	\$ 50,744,551 58.1%	\$ 87,289,390 100.0%
Commercial	27,617	1,098.09	8,044,310 26.5%	2,643,673 8.7%	7,371,185 24.3%	12,266,751 40.4%	30,325,919 100.0%
Industrial	4,649	2,926.92	4,218,021 31.0%	1,476,079 10.8%	2,776,334 20.4%	5,136,804 37.8%	13,607,238 100.0%
Tax Exempt Entities	6,839	1,168.87	1,591,900 19.9%	885,571 11.1%	1,296,036 16.2%	4,220,377 52.8%	7,993,884 100.0%
Government Entities	7,733	1,484.37	1,918,390 16.7%	713,295 6.2%	2,757,542 24.0%	6,089,412 53.0%	11,478,640 100.0%
<b>Subtotal - Active Accounts</b>	<b>331,316</b>	<b>\$ 454.84</b>	<b>\$ 28,889,625</b> 19.2%	<b>\$ 12,645,718</b> 8.4%	<b>\$ 30,701,831</b> 20.4%	<b>\$ 78,457,896</b> 52.1%	<b>\$ 150,695,071</b> 100.0%
Inactive Accounts	253,464	64.01	99,366 0.6%	229,968 1.4%	1,017,342 6.3%	14,877,691 91.7%	16,224,367 100.0%
<b>Total</b>	<b>584,780</b>	<b>\$ 285.44</b>	<b>\$ 28,988,991</b> 17.4%	<b>\$ 12,875,687</b> 7.7%	<b>\$ 31,719,173</b> 19.0%	<b>\$ 93,335,587</b> 55.9%	<b>\$ 166,919,438</b> 100.0%
% of Total A/R							
Water Fund	216,456	167.16	\$ 6,747,896	\$ 2,789,918	\$ 5,900,397	\$ 20,744,015	\$ 36,182,226
Sewer Fund	278,691	469.11	\$ 22,241,095	\$ 10,085,769	\$ 25,818,775	\$ 72,591,573	\$ 130,737,212
<b>Total</b>	<b>\$ 584,780</b>	<b>\$ 285</b>	<b>\$ 28,988,991</b>	<b>\$ 12,875,687</b>	<b>\$ 31,719,173</b>	<b>\$ 93,335,587</b>	<b>\$ 166,919,438</b>

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	81
Emergency	1
Older Contracts	5
Total	87

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

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

**Table 1 - Wholesale Water Billings** shows the FY 2019 water billed usage and revenues. As of November 30, 2018, the billed usage was at 101.17% of budget and billed revenue at 101.05% 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. Variability in collections in the current year are associated with timing of the billing cycle. Bills for December, February and August were posted later than usual due to holiday conflicts and higher volumes of meter reads requiring review (associated with meter issues and water main breaks). While at times unavoidable, the GLWA billing team is identifying steps to prevent delays wherever possible.

**Note:** Revenues reported in Table 1 below will differ from revenues reported on the Budget to Actual and Basic Financial Reports because Table 1 reports actual revenues billed, whereas the Budget to Actual and Basic Financial statements use accrual-based accounting.

**Table 1 - FY 2019 Wholesale Water Billings Report**

WHOLESALE WATER CUSTOMERS (2)								
Month (1)	FY 2019 - Budget/Goal			FY 2019 - Actual			FY 2019 - Variance	
	Volume	Revenue	Unit Revenue	Volume	Revenue	Unit Revenue	Volume	Revenue
	Mcf	\$	\$/Mcf	Mcf	\$	\$/Mcf	Mcf	\$
July	1,632,120	30,347,500	18.59	1,800,256	32,122,653	17.84	168,136	1,775,153
August	1,518,130	29,405,800	19.37	1,490,896	29,144,135	19.55	(27,234)	(261,665)
September	1,354,440	27,424,800	20.25	1,333,455	27,129,781	20.35	(20,985)	(295,019)
October	1,091,580	24,826,000	22.74	1,027,086	24,636,482	23.99	(64,494)	(189,518)
November	912,260	23,273,500	25.51	933,105	23,659,037	25.36	20,845	385,537
December	1,002,110	23,912,600	23.86					
January	1,019,240	24,133,400	23.68					
February	885,170	23,021,600	26.01					
March	1,000,060	23,933,100	23.93					
April	952,450	23,568,200	24.74					
May	1,116,620	25,296,500	22.65					
June	1,557,060	29,624,900	19.03					
<b>Total</b>	<b>14,041,240</b>	<b>308,767,900</b>	<b>21.99</b>	<b>6,584,798</b>	<b>136,692,089</b>	<b>20.76</b>	<b>76,268</b>	<b>1,414,489</b>
<b>Subtotals ytd</b>	<b>6,508,530</b>	<b>135,277,600</b>	<b>20.78</b>	<b>6,584,798</b>	<b>136,692,089</b>	<b>20.76</b>	<b>76,268</b>	<b>1,414,489</b>
<i>Achievement of Budget</i>				<i>101.17%</i>	<i>101.05%</i>			

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

(2) Includes Revenues and Usage from the City of Flint

**Table 2 - Wholesale Water Collections**

Water				
Month	Current Year	Prior Year	Variance	Ratio
December	22,125,972	26,654,068	(4,528,095)	-16.99%
January	32,002,334	23,595,948	8,406,386	35.63%
February	21,352,903	25,840,517	(4,487,613)	-17.37%
March	27,715,696	28,339,011	(623,315)	-2.20%
April	18,489,754	24,583,235	(6,093,480)	-24.79%
May	30,447,581	22,312,189	8,135,392	36.46%
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	(728,038)	-2.72%
October	27,827,722	38,336,777	(10,509,055)	-27.41%
November	29,238,260	27,261,391	1,976,869	7.25%
<b>Rolling 12-Month Total</b>	<b>310,896,725</b>	<b>321,438,036</b>		
<b>Rolling, 12-Month Average</b>	<b>25,908,060</b>	<b>26,786,503</b>		

**Note:** The high October receipt volume in 2017 was an anomaly due to system outages causing bill delays in July.

## 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	<u>7</u>
Total	<u><u>18</u></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 November 30, 2018.

**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. Variability in collections in the current year are associated with timing of the billing cycle.

The shift in wholesale sewer collection patterns is largely attributable to the timing of payments received from one customer. Starting in February 2018, Wayne County’s (Rouge Valley, NE Wayne and Wayne County #3) payments were received just after the first of the calendar month for one invoice (showing no collection for the previous month) and the subsequent invoice was paid in the same calendar month. This pattern has continued through November 30, 2018. At no time during this period has Wayne County been over 45 days delinquent in its sewer payments to GLWA. Given the payment amount of \$6.8 million, this produces noticeable swings in collection volumes by month.

**Note:** Revenues reported in Table 1 below will differ from revenues reported on the Budget to Actual and Basic Financial Reports because Table 1 reports actual revenues billed, whereas the Budget to Actual and Basic Financial statements use accrual-based accounting.

**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		N/A	
January	N/A	22,912,800	N/A		N/A	
February	N/A	22,912,800	N/A		N/A	
March	N/A	22,912,800	N/A		N/A	
April	N/A	22,912,800	N/A		N/A	
May	N/A	22,912,800	N/A		N/A	
June	N/A	22,912,800	N/A		N/A	
<b>Total</b>		274,953,600		114,564,000		-
<i>Subtotals ytd</i>		114,564,000		114,564,000		0
<i>Achievement of Budget</i>				100.00%		

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

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

**Table 4 - Wholesale Sewer Collections**

Sewer				
Month	Current Year	Prior Year	Variance	Ratio
December	23,643,400	23,514,100	129,300	0.55%
January	22,057,972	21,835,338	222,634	1.02%
February	30,280,800	21,659,900	8,620,900	39.80%
March	15,552,000	21,878,700	(6,326,700)	-28.92%
April	27,812,417	22,502,725	5,309,692	23.60%
May	15,342,700	21,620,300	(6,277,600)	-29.04%
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%
<b>Rolling 12-Month Total</b>	275,474,406	264,944,282		
<b>Rolling, 12-Month Average</b>	22,956,200	22,078,690		

## 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 November 30, 2018, Highland Park had a delinquent balance of \$41.1 million, including \$32.8 million for wastewater treatment services, \$1.6 million for industrial waste control services, and \$6.7 million for water supply services.

**Table 5 - City of Highland Park Billings and Collections** provides a life-to-date balance summary of the billing and collection history for Highland Park from with detail provided for fiscal year 2019 through November 30, 2018. 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.

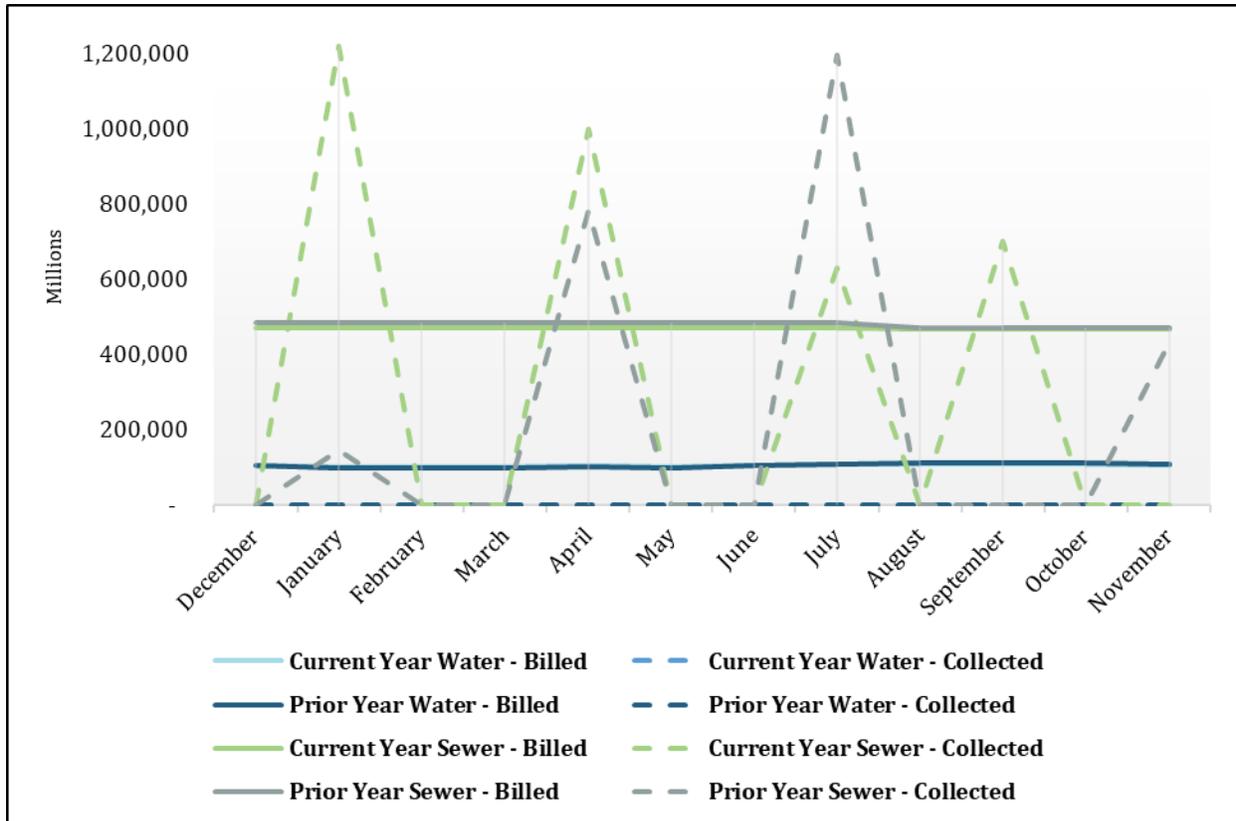
**Chart 1 - City of Highland Park Billings and Collections - Past Twelve Months** is provided to depict Highland Park's most current performance specific to Water and Sewer. Payments received-to-date are applied to Sewer at this time.

**Table 5 - City of Highland Park Billings and Collections**

	Water	Sewer	IWC
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,023
July 2018 Billing	\$ 109,568	\$ 470,200	\$ 6,754
July 2018 Payments	\$ -	\$ (629,017)	\$ -
July 31, 2018 Balance	\$ 6,221,815	\$ 30,938,511	\$ 1,630,776
August 2018 Billing	\$ 108,651	\$ 467,900	\$ 4,233
August 2018 Payments	\$ -	\$ -	\$ -
August 31, 2018 Balance	\$ 6,330,467	\$ 31,406,411	\$ 1,635,009
September 2018 Billing	\$ 109,780	\$ 467,900	\$ 4,261
September 2018 Payments	\$ -	\$ -	\$ -
September 30, 2018 Balance	\$ 6,440,247	\$ 31,874,311	\$ 1,639,270
October 2018 Billing	\$ 109,298	\$ 467,900	\$ 4,281
October 2018 Payments	\$ -	\$ -	\$ -
October 31, 2018 Balance	\$ 6,549,545	\$ 32,342,211	\$ 1,643,551
November 2018 Billing	\$ 104,007	\$ 467,900	\$ 3,963
November 2018 Payments	\$ -	\$ -	\$ -
November 30, 2018 Balance	\$ 6,653,552	\$ 32,810,111	\$ 1,647,514

**Note:** During the preparation of this report GLWA received and applied on January 25, 2019 a payment from Highland Park of \$2,116,727.41 for sewer charges outstanding.

**Chart 1 - City of Highland Park Water & Sewer Billings and Collections – Past Twelve Months**



**Note:** Current and prior year water billing amounts are very close so the two lines are nearly overlapping when reviewed at this high-level.

## 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 November 30, 2018.

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

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

**Table 6 - Wholesale Accounts Receivable Aging Report Summary**

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 42,923,963.40	\$ 36,115,425.91	\$ 475,091.23	\$ 111,630.77	\$ 6,221,815.49
Sewer	\$ 48,429,510.28	\$ 16,087,299.50	\$ 467,900.00	\$ 467,900.00	\$ 31,406,410.78
IWC	\$ 2,985,823.85	\$ 569,791.59	\$ 47,313.52	\$ -	\$ 2,368,718.74
Pollutant Surcharge	\$ 1,189,085.69	\$ 562,208.73	\$ 135,230.63	\$ 47,707.50	\$ 443,938.83
<b>Total</b>	<b>\$ 95,528,383.22</b>	<b>\$ 53,334,725.73</b>	<b>\$ 1,125,535.38</b>	<b>\$ 627,238.27</b>	<b>\$ 40,440,883.84</b>
	100.00%	55.83%	1.18%	0.66%	42.33%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 36,270,411.39	\$ 35,902,120.93	\$ 365,311.09	\$ 2,979.37	\$ -
Sewer	\$ 15,619,399.50	\$ 15,619,399.50	\$ -	\$ -	\$ -
IWC	\$ 1,338,310.26	\$ 561,548.22	\$ 43,052.21	\$ -	\$ 733,709.83
Pollutant Surcharge	\$ 1,189,085.69	\$ 562,208.73	\$ 135,230.63	\$ 47,707.50	\$ 443,938.83
<b>Total</b>	<b>\$ 54,417,206.84</b>	<b>\$ 52,645,277.38</b>	<b>\$ 543,593.93</b>	<b>\$ 50,686.87</b>	<b>\$ 1,177,648.66</b>
	100.00%	96.74%	1.00%	0.09%	2.16%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 36,270,411.39	\$ 35,902,120.93	\$ 365,311.09	\$ 2,979.37	\$ -
Sewer	\$ 15,619,399.50	\$ 15,619,399.50	\$ -	\$ -	\$ -
IWC	\$ 495,648.66	\$ 488,804.70	\$ 6,680.45	\$ -	\$ 163.51
Pollutant Surcharge	\$ 1,189,085.69	\$ 562,208.73	\$ 135,230.63	\$ 47,707.50	\$ 443,938.83
<b>Total</b>	<b>\$ 53,574,545.24</b>	<b>\$ 52,572,533.86</b>	<b>\$ 507,222.17</b>	<b>\$ 50,686.87</b>	<b>\$ 444,102.34</b>
	100.00%	98.13%	0.95%	0.09%	0.83%

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 and Receipts
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. This report begins with the operational effective date of the GLWA on January 1, 2016.

**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 five months of activity to date.

Through November 30, 2018 the water fund cash receipts exceeded MBO disbursements by 24% with a ratio of 13% since January 1, 2016. Through November 30, 2018, the sewer fund cash receipts exceeded MBO disbursements by 6% and by a ratio of 4% since January 1, 2016.

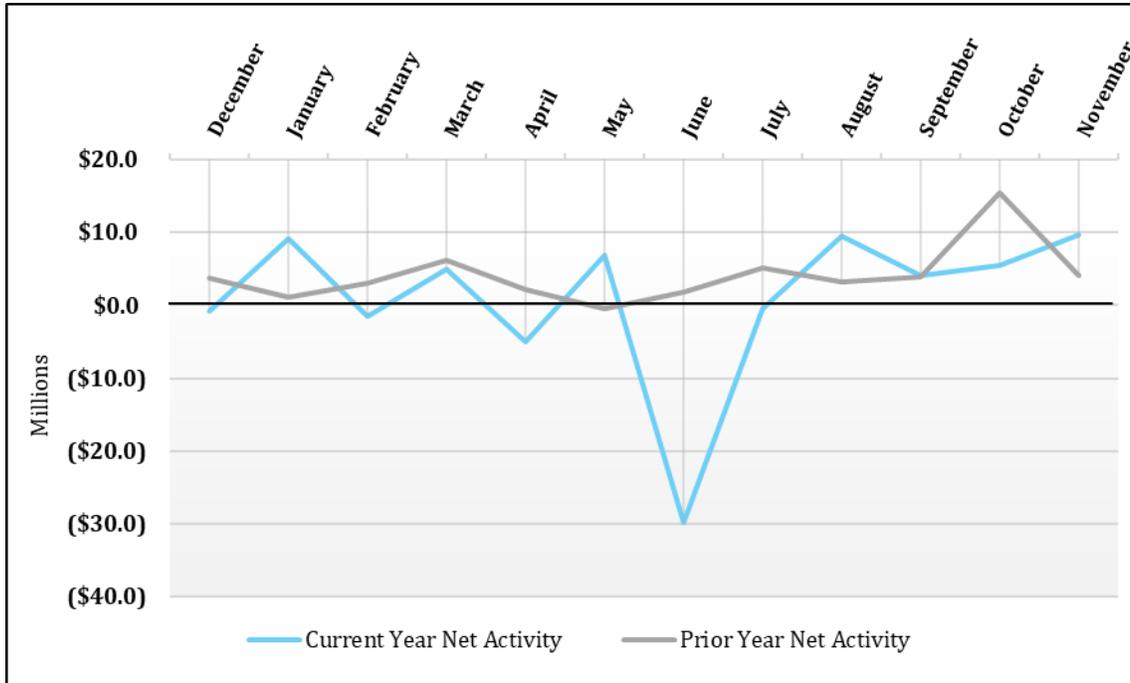
**Chart 1 – GLWA 12-Month Net Receipts – Water** outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

**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.

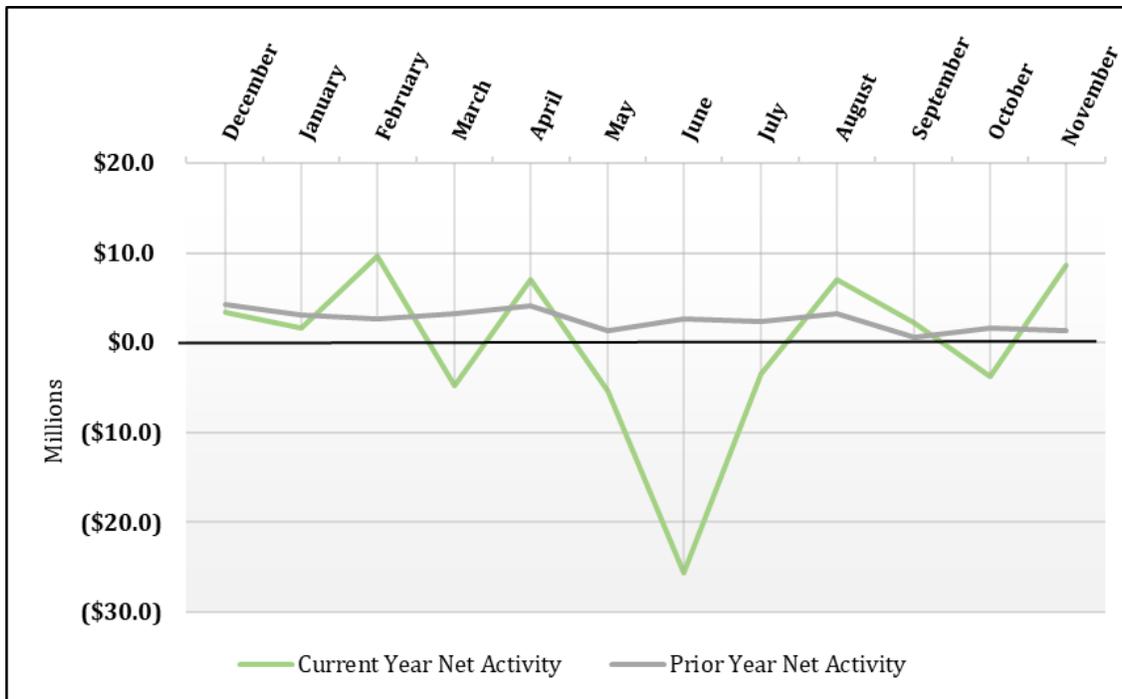
**Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements**

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
<b>Water</b>					
1 Receipts	\$ 149,624,282	352,432,096	337,488,663	148,180,943	987,725,984
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	149,624,282	352,432,096	337,488,663	148,180,943	987,725,984
4 Disbursements	146,191,756	288,268,172	321,841,171	119,889,224	876,190,323
5 Net Receipts	\$ 3,432,526	64,163,924	15,647,492	28,291,719	111,535,661
6 Ratio of Receipts to Disbursements	102%	122%	105%	124%	113%
<b>Sewer</b>					
7 Receipts	\$ 232,310,973	469,205,156	474,946,332	197,796,659	1,374,259,120
8 MOU Adjustments	-	-	-	-	-
9 Adjusted Receipts	232,310,973	469,205,156	474,946,332	197,796,659	1,374,259,120
10 Disbursements	219,471,583	440,859,613	480,278,006	187,115,140	1,327,724,342
11 Net Receipts	\$ 12,839,390	28,345,543	(5,331,674)	10,681,519	46,534,778
12 Ratio of Receipts to Disbursements	106%	106%	99%	106%	104%
<b>Combined</b>					
13 Receipts	\$ 381,935,255	821,637,252	812,434,995	345,977,602	2,361,985,104
14 MOU Adjustments	-	-	-	-	-
15 Adjusted Receipts	381,935,255	821,637,252	812,434,995	345,977,602	2,361,985,104
16 Disbursements	365,663,339	729,127,785	802,119,177	307,004,364	2,203,914,665
17 Net Receipts	\$ 16,271,916	92,509,467	10,315,818	38,973,238	158,070,439
18 Ratio of Receipts to Disbursements	104%	113%	101%	113%	107%

*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. This report begins with the operational effective date of the GLWA on January 1, 2016.

**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 five months of activity to date.

Through November 30, 2018 the local water fund cash receipts exceeded MBO disbursements by 5% with a historical ratio of cash receipts exceeding MBO disbursements at 4% since January 1, 2016.

Through November 30, 2018, the local sewer fund cash receipts fell short of MBO disbursements by -5% with a historic shortfall of -7% since January 1, 2016. DWSD has proposed a long-term plan to address this structural shortfall. The Reconciliation Committee also monitors this balance as part of its quarterly meetings.

**Note:** In December 2018, GLWA recorded a \$6.5 million sewer lookback adjustment for DWSD related to the April 2018 MOU. This eliminates the DWSD sewer shortfall reported through November 30, 2018.

**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.

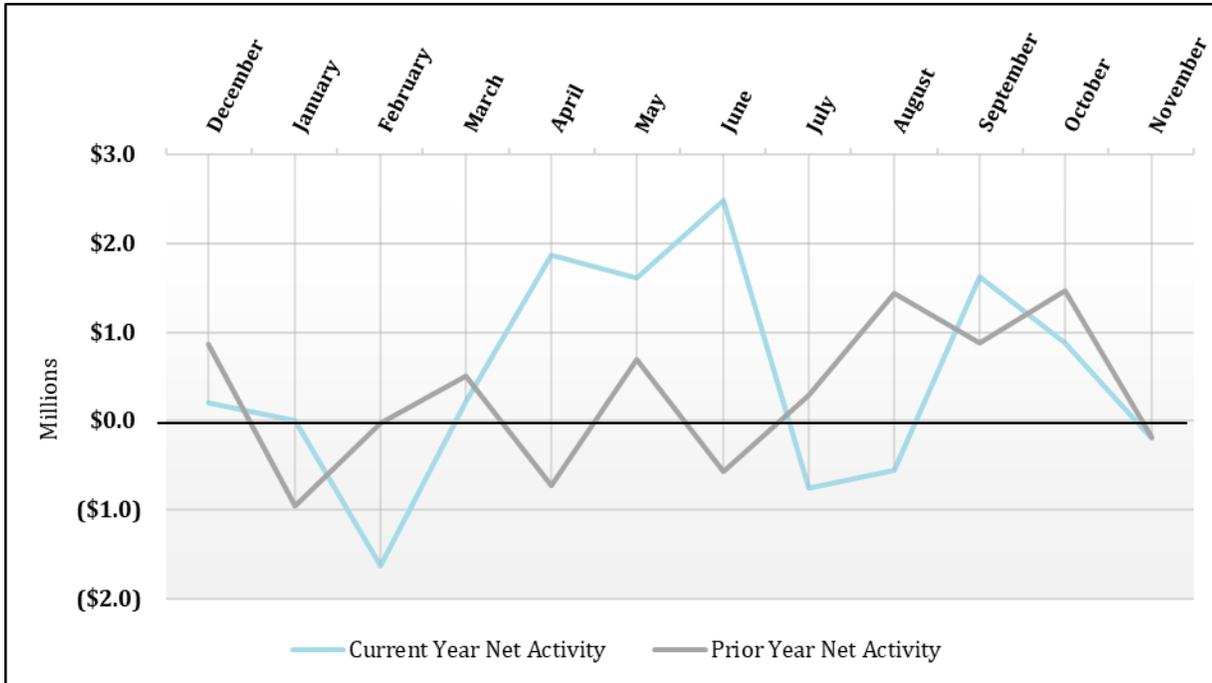
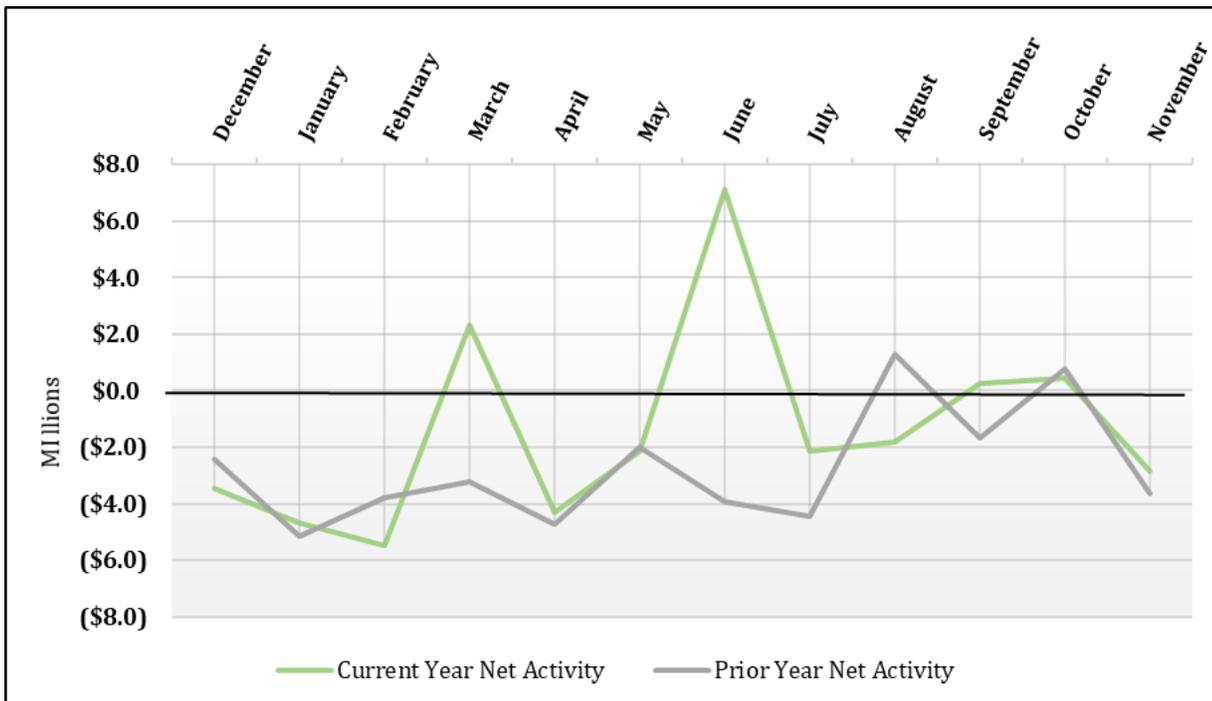
**Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements**

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
<b>Water</b>					
1 Receipts	\$ 26,201,881	96,451,105	101,716,017	42,818,466	267,187,469
2 MOU Adjustments	18,446,100	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,716,017	42,818,466	285,633,569
4 Disbursements	47,809,552	93,066,144	93,049,457	40,706,125	274,631,278
5 Net Receipts	\$ (3,161,571)	3,384,961	8,666,560	2,112,341	11,002,291
6 <i>Ratio of Receipts to Disbursements</i>	93%	104%	109%	105%	104%
<b>Sewer</b>					
7 Receipts	\$ 65,256,734	233,723,367	247,975,470	111,656,271	658,611,842
8 MOU Adjustments	55,755,100	-	-	-	55,755,100
9 Adjusted Receipts	121,011,834	233,723,367	247,975,470	111,656,271	714,366,942
10 Disbursements	122,297,300	261,963,973	266,217,825	117,755,137	768,234,235
11 Net Receipts	\$ (1,285,466)	(28,240,606)	(18,242,355)	(6,098,866)	(53,867,293)
12 <i>Ratio of Receipts to Disbursements</i>	99%	89%	93%	95%	93%
<b>Combined</b>					
13 Receipts	\$ 91,458,615	330,174,472	349,691,487	154,474,737	925,799,311
14 MOU Adjustments	74,201,200	-	-	-	74,201,200
15 Adjusted Receipts	165,659,815	330,174,472	349,691,487	154,474,737	1,000,000,511
16 Disbursements	170,106,852	355,030,117	359,267,282	158,461,262	1,042,865,513
17 Net Receipts	\$ (4,447,037)	(24,855,645)	(9,575,795)	(3,986,525)	(42,865,002)
18 <i>Ratio of Receipts to Disbursements</i>	97%	93%	97%	97%	96%

**Note:** 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**

**Chart 3 – DWSD 12-Month Net Receipts - Water**

**Chart 4 – DWSD 12-Month Net Receipts - Sewer**


## Combined System Trust Receipts & Disbursements

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

**Table 3 – Combined Net Cash Flows from Trust Receipts & Disbursements** provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2019 reflects five months of activity to date.

Through November 30, 2018 the combined water system cash receipts exceeded MBO disbursements by 19% with a ratio of 11% since January 1, 2016. Through November 30, 2018, the combined sewer system cash receipts fell short of MBO disbursements by -2% and is functioning at a breakeven status since January 1, 2016.

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

	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
<b>Water</b>					
1 Receipts	\$ 175,826,163	\$ 448,883,201	\$ 439,204,680	\$ 190,999,409	1,254,913,453
2 MOU Adjustments	\$ 18,446,100	\$ -	\$ -	\$ -	18,446,100
3 Adjusted Receipts	194,272,263	448,883,201	439,204,680	190,999,409	1,273,359,553
4 Disbursements	194,001,308	381,334,316	414,890,628	160,595,349	1,150,821,601
5 Net Receipts	\$ 270,955	67,548,885	24,314,052	30,404,060	122,537,952
6 <i>Ratio of Receipts to Disbursements</i>	100%	118%	106%	119%	111%
<b>Sewer</b>					
7 Receipts	\$ 297,567,707	\$ 702,928,523	\$ 722,921,802	\$ 309,452,930	2,032,870,962
8 MOU Adjustments	\$ 55,755,100	\$ -	\$ -	\$ -	55,755,100
9 Adjusted Receipts	353,322,807	702,928,523	722,921,802	309,452,930	2,088,626,062
10 Disbursements	341,768,883	702,823,586	746,495,831	304,870,277	2,095,958,577
11 Net Receipts	\$ 11,553,924	\$ 104,937	\$ (23,574,029)	\$ 4,582,653	(7,332,515)
12 <i>Ratio of Receipts to Disbursements</i>	103%	100%	97%	102%	100%
<b>Combined</b>					
13 Receipts	\$ 473,393,870	\$ 1,151,811,724	\$ 1,162,126,482	\$ 500,452,339	3,287,784,415
14 MOU Adjustments	\$ 74,201,200	\$ -	\$ -	\$ -	74,201,200
15 Adjusted Receipts	547,595,070	1,151,811,724	1,162,126,482	500,452,339	3,361,985,615
16 Disbursements	535,770,191	1,084,157,902	1,161,386,459	465,465,626	3,246,780,178
17 Net Receipts	\$ 11,824,879	\$ 67,653,822	\$ 740,023	\$ 34,986,713	115,205,437
18 <i>Ratio of Receipts to Disbursements</i>	102%	106%	100%	108%	104%

## APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$181,919.93	\$181,919.93	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$131,141.80	\$131,141.80	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$25,878.88	\$25,878.88	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$59,253.59	\$59,253.59	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$284,464.46	\$284,464.46	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$14,583.28	\$14,583.28	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$23,528.56	\$23,528.56	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$768,425.50	\$768,425.50	\$0.00	\$0.00	\$0.00
CENTER LINE	\$37,909.10	\$37,909.10	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$685,109.88	\$685,109.88	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$652,708.58	\$652,708.58	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$283,559.21	\$283,559.21	\$0.00	\$0.00	\$0.00
DEARBORN	\$2,065,271.45	\$2,065,271.45	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$285,356.20	\$285,356.20	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$254,342.29	\$245,022.67	\$9,319.62	\$0.00	\$0.00
ECORSE	\$129,128.26	\$129,128.26	\$0.00	\$0.00	\$0.00
FARMINGTON	\$79,027.24	\$79,027.24	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$702,555.07	\$702,555.07	\$0.00	\$0.00	\$0.00
FERNDALE	\$160,579.42	\$160,579.42	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$98,507.34	\$98,507.34	\$0.00	\$0.00	\$0.00
FLINT	\$597,265.36	\$597,265.36	\$0.00	\$0.00	\$0.00
FRASER	\$94,522.87	\$94,522.87	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$134,893.04	\$134,893.04	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GIBRALTAR	\$27,509.91	\$27,509.91	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$63,803.18	\$63,803.18	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$108,310.69	\$108,310.69	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$223,146.54	\$223,146.54	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$50,288.69	\$50,288.69	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$125,942.05	\$125,942.05	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$58,631.79	\$58,631.79	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$68,591.00	\$68,591.00	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$120,990.28	\$120,990.28	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$58,410.87	\$58,410.87	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$6,653,552.01	\$213,304.98	\$109,780.14	\$108,651.40	\$6,221,815.49
HURON TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$110,592.69	\$110,592.69	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$1,079.32	\$1,079.32	\$0.00	\$0.00	\$0.00
INKSTER	\$101,368.02	\$101,368.02	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$24,916.57	\$24,916.57	\$0.00	\$0.00	\$0.00
LAPEER	\$375,128.21	\$244,887.95	\$127,260.89	\$2,979.37	\$0.00
LENOX TOWNSHIP	\$31,990.49	\$31,990.49	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$199,494.31	\$199,494.31	\$0.00	\$0.00	\$0.00
LIVONIA	\$2,366,462.57	\$2,366,462.57	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$831,653.22	\$831,653.22	\$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 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	\$5,397.13	\$5,397.13	\$0.00	\$0.00	\$0.00
MELVINDALE	\$110,155.37	\$110,155.37	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$30,415.54	\$30,415.54	\$0.00	\$0.00	\$0.00
NOCWA	\$3,977,756.51	\$3,977,756.51	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$61,260.21	\$61,260.21	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$419,030.50	\$419,030.50	\$0.00	\$0.00	\$0.00
NOVI	\$624,185.26	\$624,185.26	\$0.00	\$0.00	\$0.00
OAK PARK	\$111,541.04	\$111,541.04	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$6,303.70	\$6,303.70	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$86,667.09	\$86,667.09	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$335,226.78	\$335,226.78	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$249,594.72	\$249,594.72	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$45,441.86	\$45,441.86	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$152,179.77	\$152,179.77	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$24,695.29	\$24,695.29	\$0.00	\$0.00	\$0.00
ROMEO	\$22,378.11	\$22,378.11	\$0.00	\$0.00	\$0.00
ROMULUS	\$337,866.01	\$337,866.01	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$215,845.72	\$215,845.72	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$17,839.00	\$17,839.00	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$1,043,520.15	\$1,043,520.15	\$0.00	\$0.00	\$0.00
SOCWA	\$3,928,502.17	\$3,928,502.17	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$9,024.31	\$9,024.31	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$177,148.57	\$177,148.57	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR SHORES	\$636,038.96	\$432,878.94	\$203,160.02	\$0.00	\$0.00
STERLING HEIGHTS	\$2,478,355.95	\$2,478,355.95	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$55,487.68	\$55,487.68	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$18,609.04	\$18,609.04	\$0.00	\$0.00	\$0.00
TAYLOR	\$366,795.08	\$366,795.08	\$0.00	\$0.00	\$0.00
TRENTON	\$177,515.71	\$177,515.71	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,079,811.71	\$1,079,811.71	\$0.00	\$0.00	\$0.00
UTICA	\$46,901.53	\$46,901.53	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$293,117.25	\$293,117.25	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$18,763.48	\$18,763.48	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$77,970.06	\$77,970.06	\$0.00	\$0.00	\$0.00
WARREN	\$842,288.25	\$842,288.25	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$165,617.11	\$165,617.11	\$0.00	\$0.00	\$0.00
WAYNE	\$234,551.75	\$234,551.75	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,803,964.04	\$1,803,964.04	\$0.00	\$0.00	\$0.00
WESTLAND	\$1,081,583.74	\$1,081,583.74	\$0.00	\$0.00	\$0.00
WIXOM	\$194,015.35	\$194,015.35	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$292,202.03	\$266,631.47	\$25,570.56	\$0.00	\$0.00
YCUA	\$1,716,606.15	\$1,716,606.15	\$0.00	\$0.00	\$0.00
<b>TOTAL WATER ACCOUNTS</b>	<b>\$42,923,963.40</b>	<b>\$36,115,425.91</b>	<b>\$475,091.23</b>	<b>\$111,630.77</b>	<b>\$6,221,815.49</b>

GLWA Aged Accounts Receivable- SEWER

Balances as of 11/30/18

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	\$2,881,500.00	\$2,881,500.00	\$0.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$150,100.00	\$150,100.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$18,200.00	\$18,200.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$32,810,110.78	\$467,900.00	\$467,900.00	\$467,900.00	\$31,406,410.78
MELVINDALE	\$126,900.00	\$126,900.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$3,747,700.00	\$3,747,700.00	\$0.00	\$0.00	\$0.00
OMID	\$6,461,100.00	\$6,461,100.00	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$21,700.00	\$21,700.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$0.00	\$0.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL SEWER</b>	<b>\$48,429,510.28</b>	<b>\$16,087,299.50</b>	<b>\$467,900.00</b>	<b>\$467,900.00</b>	<b>\$31,406,410.78</b>

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$2,261.17	\$2,261.17	\$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)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$5,588.72	\$5,588.72	\$0.00	\$0.00	\$0.00
BLOOMFIELD HILLS	\$1,539.41	\$1,539.41	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$7,189.58	\$7,189.58	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$441,671.60	\$38,132.92	\$19,066.46	\$0.00	\$384,472.22
CENTER LINE	\$3,683.10	\$3,683.10	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$24,344.05	\$24,344.05	\$0.00	\$0.00	\$0.00
CITY OF FARMINGTON (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CITY OF FERNDALE	\$5,323.49	\$5,323.49	\$0.00	\$0.00	\$0.00
CITY OF ROCHESTER	\$3,725.23	\$3,725.23	\$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	\$25,328.56	\$25,328.56	\$0.00	\$0.00	\$0.00
DEARBORN	\$36,609.14	\$36,609.14	\$0.00	\$0.00	\$0.00
DEARBORN HEIGHTS	\$9,397.01	\$9,397.01	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$106.64	\$106.64	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$19,202.16	\$12,847.07	\$6,355.09	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON	\$2,886.83	\$2,886.83	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$24,058.74	\$24,058.74	\$0.00	\$0.00	\$0.00
FRASER	\$4,960.88	\$4,960.88	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$6,174.35	\$6,174.35	\$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	\$1,182.65	\$1,182.65	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$318.17	\$318.17	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$2,625.78	\$2,625.78	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$4,175.13	\$4,175.13	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$1,921.08	\$1,921.08	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$3,138.32	\$3,138.32	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$3,239.66	\$3,239.66	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,647,513.59	\$8,243.37	\$4,261.31	\$0.00	\$1,635,008.91
HUNTINGTON WOODS	\$286.18	\$286.18	\$0.00	\$0.00	\$0.00
INDEPENDENCE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
INKSTER	\$5,559.87	\$5,559.87	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$686.05	\$686.05	\$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	\$1,139.59	\$650.72	\$325.36	\$0.00	\$163.51
LIVONIA	\$40,282.45	\$40,282.45	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$206.29	\$206.29	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$7,259.98	\$7,259.98	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$433.71	\$433.71	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,160.97	\$2,160.97	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$105,983.96	\$9,148.06	\$4,574.03	\$0.00	\$92,261.87
NOVI	\$17,366.84	\$17,366.84	\$0.00	\$0.00	\$0.00
OAK PARK	\$6,759.06	\$6,759.06	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$440.84	\$440.84	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$375.09	\$375.09	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$1,015.02	\$1,015.02	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$1,259.16	\$1,259.16	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$273.77	\$273.77	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$3,945.37	\$3,945.37	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$295,006.04	\$25,462.54	\$12,731.27	\$0.00	\$256,812.23
REDFORD TOWNSHIP	\$2,012.35	\$2,012.35	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$18,276.49	\$18,276.49	\$0.00	\$0.00	\$0.00
ROMULUS	\$926.07	\$926.07	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,805.27	\$14,805.27	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$13,570.50	\$13,570.50	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$880.00	\$880.00	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$24,193.00	\$24,193.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 11/30/18

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)	\$3,813.08	\$3,813.08	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$12,098.91	\$12,098.91	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$31,228.29	\$31,228.29	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$36,951.25	\$36,951.25	\$0.00	\$0.00	\$0.00
UTICA	\$2,938.01	\$2,938.01	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$2,044.19	\$2,044.19	\$0.00	\$0.00	\$0.00
VILLAGE OF FRANKLIN	\$65.69	\$65.69	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$2,762.20	\$2,762.20	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$944.01	\$944.01	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$6,325.77	\$6,325.77	\$0.00	\$0.00	\$0.00
WESTLAND	\$22,982.39	\$22,982.39	\$0.00	\$0.00	\$0.00
<b>TOTAL IWC ACCOUNTS</b>	<b>\$2,985,823.85</b>	<b>\$569,791.59</b>	<b>\$47,313.52</b>	<b>\$0.00</b>	<b>\$2,368,718.74</b>

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HOUGHTON INTERNATIONAL INC.	\$3,072.26	\$3,072.26	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$135.03	\$135.03	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$130.73	\$130.73	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$ (34.24)	\$0.00	\$ (34.24)	\$0.00	\$0.00
FRESH-PAK	\$4,469.42	\$4,469.42	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNING	\$1,386.24	\$0.00	\$1,386.24	\$0.00	\$0.00
WOLVERINE PACKING CO	\$5,864.01	\$5,864.01	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,233.92	\$2,233.92	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$2,987.03	\$2,987.03	\$0.00	\$0.00	\$0.00
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CAPITAL REPRODUCTIONS	\$1.62	\$1.62	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$117.49	\$117.49	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$174.45	\$72.32	\$0.00	\$0.00	\$102.13
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PINE TREE ACRES, INC.	\$31,339.44	\$31,339.44	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$1,438.70	\$1,438.70	\$0.00	\$0.00	\$0.00
3M COMPANY	\$4,935.28	\$4,935.28	\$0.00	\$0.00	\$0.00
BREW DETROIT	\$4,516.55	\$4,516.55	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$8.85	\$8.85	\$0.00	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$5,652.06	\$5,652.06	\$0.00	\$0.00	\$0.00

**GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE**

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
A & R PACKING CO., LLC	\$4,115.15	\$4,115.15	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$1,279.40	\$1,279.40	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$45.76	\$45.76	\$0.00	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$199.36	\$129.47	\$69.89	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$111.98	\$111.98	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$38,973.92	\$38,973.92	\$0.00	\$0.00	\$0.00
SEAFARE FOODS, INC.	\$72.50	\$72.50	\$0.00	\$0.00	\$0.00
DETROIT BEER	\$117.69	\$117.69	\$0.00	\$0.00	\$0.00
HACIENDA MEXICAN FOODS	\$2,635.13	\$0.00	\$0.00	\$543.81	\$2,091.32
MOTOR CITY BREWING WORKS	\$ (23.25)	\$0.00	\$0.00	\$0.00	\$ (23.25)
TRAFFIC JAM & SNUG	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BOZEK'S MARKET	\$72.73	\$72.73	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$71.26	\$71.26	\$0.00	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTH CENTER BREWING COMPANY	\$94.69	\$94.69	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAYS MICHIGAN CORPORATION	\$278.49	\$278.49	\$0.00	\$0.00	\$0.00
MIBA HYDRAMECHANICA CORP.	\$342.82	\$342.82	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHERN LAKES SEAFOOD & MEAT	\$63.39	\$63.39	\$0.00	\$0.00	\$0.00
RAY'S ICE CREAM CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HUNTINGTON CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & SE	\$126.83	\$126.83	\$0.00	\$0.00	\$0.00
BARON INDUSTRIES	\$1,658.03	\$1,658.03	\$0.00	\$0.00	\$0.00
HOME STYLE FOOD INC.	\$5,212.96	\$5,212.96	\$0.00	\$0.00	\$0.00
RED SPOT PAINT #409139	\$15.35	\$15.35	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$1,054.82	\$1,054.82	\$0.00	\$0.00	\$0.00
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$3,897.15	\$3,897.15	\$0.00	\$0.00	\$0.00
ETON ST BREWERY- GRIFFIN CLA	\$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
MACDERMID, INC.	\$3,014.51	\$3,014.51	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$6,593.04	\$6,593.04	\$0.00	\$0.00	\$0.00
ACME RUSTPROOF	\$ (1.90)	\$0.00	\$ (1.90)	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$103.77	\$51.37	\$52.40	\$0.00	\$0.00
KAR NUT PRODUCTS	\$1,330.46	\$1,330.46	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$ (1,531.50)	\$0.00	\$0.00	\$0.00	\$ (1,531.50)
EQ DETROIT, INC.	\$637.37	\$637.37	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$2,848.23	\$2,848.23	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$ (1,238.68)	\$0.00	\$0.00	\$0.00	\$ (1,238.68)

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	\$ (4,580.80)	\$0.00	\$0.00	\$0.00	\$ (4,580.80)
HOUGHTON INTERNATIONAL INC.	\$200.19	\$200.19	\$0.00	\$0.00	\$0.00
ALGAL SCIENTIFIC CORPORATION	\$16,533.05	\$0.00	\$0.00	\$1,392.94	\$15,140.11
US ECOLOGY MICHIGAN	\$ (1,481.61)	\$0.00	\$0.00	\$0.00	\$ (1,481.61)
ALPHA STAMPING COMPANY	\$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
FARMINGTON BREWING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$8.12	\$8.12	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$1,018.31	\$1,018.31	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$458,060.59	\$98,773.16	\$53,249.28	\$38,612.25	\$267,425.90
BETTER MADE SNACK FOOD	\$23,810.88	\$23,810.88	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$ (59.51)	\$0.00	\$0.00	\$0.00	\$ (59.51)
QUALA SERVICES, LLC	\$334.60	\$334.60	\$0.00	\$0.00	\$0.00
DARLING INGREDIENTS, INC.	\$7,721.62	\$7,721.62	\$0.00	\$0.00	\$0.00
CF BURGER CREAMERY	\$20,071.51	\$20,071.51	\$0.00	\$0.00	\$0.00
G2O ENERGY, LLC	\$1,491.93	\$1,491.93	\$0.00	\$0.00	\$0.00
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$1,789.04	\$1,789.04	\$0.00	\$0.00	\$0.00
WIGLEY'S MEAT PROCESS	\$649.02	\$649.02	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$819.08	\$707.30	\$111.78	\$0.00	\$0.00

**GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE**

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
DIFCO LABORATORIES, INC.	\$11,129.82	\$11,129.82	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$664.57	\$664.57	\$0.00	\$0.00	\$0.00
PREMIER PLATING, LLC	\$1,583.65	\$1,583.65	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$257.37	\$257.37	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$89,752.23	\$89,752.23	\$0.00	\$0.00	\$0.00
B. NEKTAR MEADERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$528.31	\$0.00	\$0.00	\$0.00	\$528.31
DETROIT RIVERTOWN BREWERY CC	\$2,333.81	\$2,333.81	\$0.00	\$0.00	\$0.00
SWEETHEART BAKERY, INC.	\$864.65	\$152.86	\$72.86	\$74.29	\$564.64
DETROIT METRO WC AIRPORT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$463.16	\$463.16	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$57.60	\$57.60	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$2,005.73	\$2,005.73	\$0.00	\$0.00	\$0.00
LIBERTY STREET PROD. BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CANTON BREW WORKS	\$142.63	\$72.32	\$0.00	\$0.00	\$70.31
ROAK BREWING CO. LLC	\$691.24	\$691.24	\$0.00	\$0.00	\$0.00
METROPOLITAN BAKERY	\$561.72	\$561.72	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$9,963.91	\$9,963.91	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$14,025.02	\$14,025.02	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$29,981.82	\$29,981.82	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$2,146.72	\$2,146.72	\$0.00	\$0.00	\$0.00
MICHIGAN SOY PRODUCTS CO.	\$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**

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
CROSS CHEMICAL COMPANY, INC.	\$4,730.36	\$1,029.10	\$2,154.95	\$0.00	\$1,546.31
ITALIAN BUTTER BREAD STICKS	\$9.49	\$9.49	\$0.00	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SMITH-WATKINS, LLC	\$988.62	\$988.62	\$0.00	\$0.00	\$0.00
TOM LAUNDRY CLEANERS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DEARBORN BREWING	\$37.91	\$37.91	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$4,972.79	\$4,972.79	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FORD NEW MODEL PROGRAM	\$2,424.00	\$2,424.00	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$3,910.97	\$3,910.97	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$664.52	\$664.52	\$0.00	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$63,745.60	\$12,854.02	\$6,040.92	\$6,817.45	\$38,033.21
BATCH BREWING COMPANY	\$(263.56)	\$0.00	\$0.00	\$0.00	\$(263.56)
ADVANCED RESOURCE RECOVERY	\$581.55	\$581.55	\$0.00	\$0.00	\$0.00
CINTAS CORP. - MACOMB TWP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELLO MEATS INC, - KUBISCH S	\$83.92	\$83.92	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$4,425.43	\$4,425.43	\$0.00	\$0.00	\$0.00
RTT	\$23,842.21	\$0.00	\$123.61	\$243.03	\$23,475.57
MILANO BAKERY	\$735.98	\$735.98	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$24,900.79	\$0.00	\$24,900.79	\$0.00	\$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE

Balances as of 11/30/18

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BEIRUT BAKERY, INC.	\$ (2.12)	\$0.00	\$ (2.12)	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$292.71	\$292.71	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$13,931.61	\$13,931.61	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$30.77	\$30.77	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$5,556.29	\$0.00	\$5,556.29	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$24,414.86	\$0.00	\$24,414.86	\$0.00	\$0.00
HENKEL CORPORATION	\$473.94	\$473.94	\$0.00	\$0.00	\$0.00
AACTRON	\$56.47	\$56.47	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$769.26	\$769.26	\$0.00	\$0.00	\$0.00
ALL CHEM CORP, LLC.	\$ (92.50)	\$0.00	\$0.00	\$0.00	\$ (92.50)
GRANITE CITY FOOD & BREWERY	\$245.32	\$115.99	\$0.00	\$0.00	\$129.33
MICHIGAN PROD. MACHINING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GREAT BARABOO BREWING CO.	\$ (2,187.50)	\$0.00	\$0.00	\$0.00	\$ (2,187.50)
US ECOLOGY ROMULUS, INC.	\$5,576.71	\$5,576.71	\$0.00	\$0.00	\$0.00
BROOKS BREWING, LLC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$100.41	\$64.15	\$36.26	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$2,190.93	\$143.99	\$23.73	\$23.73	\$1,999.48
EXTRUDE HONE CORPORATION	\$127.51	\$127.51	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$160.58	\$160.58	\$0.00	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$4,358.07	\$3,738.65	\$619.42	\$0.00	\$0.00

**GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE**

Balances as of 11/30/18

<b>Customer Name</b>	<b>Total Due</b>	<b>Current</b>	<b>46 - 74 Days</b>	<b>75 - 104 Days</b>	<b>&gt;105 Days</b>
LILY'S SEAFOOD GRILL & BREWE	\$55.97	\$55.97	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$273.14	\$273.14	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$4,308.53	\$4,308.53	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$29,883.41	\$29,883.41	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$39.04	\$39.04	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$2,562.55	\$2,562.55	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$29.90	\$29.90	\$0.00	\$0.00	\$0.00
MCNICHOLS POLISHING & ANODIZ	\$15.29	\$0.00	\$15.29	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$179.06	\$179.06	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$219.55	\$219.55	\$0.00	\$0.00	\$0.00
MIDWEST WIRE PRODUCTS, INC.	\$(2.94)	\$0.00	\$0.00	\$0.00	\$(2.94)
DEARBORN SAUSAGE CO., INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$120,524.02	\$0.00	\$16,440.32	\$0.00	\$104,083.70
AUTOMOTIVE FINISH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HOOD CLEANERS	\$210.36	\$0.00	\$0.00	\$0.00	\$210.36
AMERICAN WASTE TECH INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL POLLUTANT SURCHARGE</b>	<b>\$1,189,085.69</b>	<b>\$562,208.73</b>	<b>\$135,230.63</b>	<b>\$47,707.50</b>	<b>\$443,938.83</b>

## 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 (12 Months)	1,277,179	5,657,101	80,472	7,014,752
FY 2018 Payments (12 Months)	<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 (5 Months)	541,304	2,341,800	23,491	2,906,595
FY 2019 Payments (5 Months)	<u>-</u>	<u>(629,017)</u>	<u>-</u>	<u>(629,017)</u>
				-
<b>Balance as of November 30, 2018</b>	<b><u>\$ 6,653,552</u></b>	<b><u>\$ 32,810,110</u></b>	<b><u>\$ 1,647,513</u></b>	<b><u>\$ 41,111,176</u></b>