



## Audit Committee

**Wednesday, April 24, 2019 at 11:30 a.m.**

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

### AGENDA

*Note: Binders 1&2 are combined  
in agenda order and document  
was renumbered.*

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
  - A. March 15, 2019 (Page 1)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
7. NEW BUSINESS
  - A. Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds an Amount Not to Exceed \$12,000,000 (Ordinance 2019-01) (Page 5)
  - B. Authorizing Publication of Notice of Intent to Issue Water Supply System Revenue Bonds (Page 28)
  - C. Drinking Water Revolving Fund Project Plan Submittal for the Detroit Water and Sewerage Department Water Main Replacement – FY 2020 Drinking Water Revolving Fund Project Plan (Page 33)
8. REPORTS
  - A. Monthly Financial Report for January 2019 (Page 38)
  - B. CFO Updates (verbal)
    - Charges Methodology (Page 111)
    - External Auditor Selection
    - Financial Automation System Implementation
9. LOOK AHEAD
  - Next Audit Committee Meetings
    - A. Regular Meeting May 17, 2019 at 8 am
10. INFORMATION
11. OTHER MATTERS
12. ADJOURNMENT



# Great Lakes Water Authority

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

## Meeting Minutes - Draft

### Audit Committee

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Friday, March 15, 2019

8:00 AM

Water Board Building 5th Floor

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#### 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:** Brian Baker

**Support:** Gary Brown

**Action:** Approved

The motion carried unanimously.

#### 4. Approval of Minutes

##### A. [2019-123](#) Approval of Minutes of February 15, 2019

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [February 15, 2019 Audit Committee Meeting Minutes.pdf](#)

Chairman Daddow requested a Motion to approve the February 15, 2019 Audit Committee Meeting Minutes.

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Approved

The motion carried by a unanimous vote.

#### 5. Public Comment

Jeff McKeen, General Manager of the Southeastern Oakland County Water Authority thanked the Board of Directors and GLWA staff for getting the Charges approved on Wednesday, March 13, 2019.

#### 6. Old Business

- A. [2019-127](#) Update: GLWA and DWSD Shared Services True-Up Status for FY 2017 and Summary of Shared Services Billings and Payments

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Shared Services Update 3.15.2019.pdf](#)

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

## 7. New Business

- A. [2019-128](#) Annual Update with the Financial Advisor

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [PFM Refunding and Market Update 3.15.19 v2.pdf](#)

[PFM Market Update Presentation March 2019.pdf](#)

[PFM Special Report on Continuing Disclosure- 15c2-12 Amendments.pdf](#)

**Motion By:** Brian Baker

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

- B. [2019-129](#) FY 2019 Q2 Construction Work-in-Progress Report

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Quarterly CWIP Rpt Cover Memo.pdf](#)

[Quarterly CWIP Rpt\\_FY 2019 Q2.pdf](#)

**Motion By:** Brian Baker

**Support By:** Gary Brown

**Action:** Received and Filed

The motion carried by a unanimous vote.

C. [2019-130](#) Drinking Water Revolving Fund Project Plan Submittals for the 14 Mile Transmission Main Loop Project

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Audit Committee Communication 2020 DWRF Project.pdf](#)  
[14 Mile Transmission Main Loop- Public Hearing Notice.pdf](#)  
[Draft Resolution - 14 Mile Transmission Main Loop Project.pdf](#)

**Motion By:** Brian Baker

**Support By:** Gary Brown

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

**Agenda of March 27, 2019**

The motion carried by a unanimous vote.

## 8. Reports

A. [2019-131](#) Monthly Financial Report for December 2018

**Sponsors:** Nicolette Bateson

**Indexes:** Finance

**Attachments:** [Monthly Financial Report for December 2018 for 3.15.2019.pdf](#)

**Motion By:** Gary Brown

**Support By:** Brian Baker

**Action:** Received and Filed

The motion carried by a unanimous vote.

B. CFO Update (verbal)

Nicolette Bateson, Chief Financial Officer/Treasurer, stated that following the Board's action on Wednesday, March 13, 2019 on rates and charges, letters will be mailed to GLWA's member partners on Monday, March 18, 2019 with the final charges, in advance of the March 21, 2019 One Water Partnership Meeting.

## 9. Look Ahead

The next Audit Committee Meeting has been rescheduled from April 26, 2019 to Wednesday, April 24, 2019 at 11:30 a.m.

## 10. Information

None

**11. Other Matters**

None

**12. Adjournment**

Chairman Daddow requested a Motion to Adjourn.

Motion By: Robert Daddow

Support By: Gary Brown

Action: Approved

The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 9:52 a.m.



## Financial Services Audit Committee Communication

**Date:** April 24, 2019

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

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

**Re:** Resolution Regarding Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds an Amount Not to Exceed \$12,000,000 (Ordinance 2019-01)

**Background:** On March 8, 2017, the Great Lakes Water Authority ("GLWA") Board of Directors approved the "Resolution of the Great Lakes Water Authority Authorizing Publication of Notice of Intent to Issue Water Supply System Revenue Bonds in a principal amount not to exceed \$25,000,000" (the "Notice of Intent"). This is the second series of water bonds from that Notice of Intent and will be in an amount not to exceed \$12,000,000. The first series of water bonds was issued on June 13, 2017, on behalf of the Detroit Water and Sewerage Department (DWSD) for its water main replacement project for \$8,675,000 sold through the Drinking Water Revolving Fund (DWRF).

The approval of the Series Ordinance presented today is the next formal step required by the GLWA Board of Directors in the bond issuance process. The Series Ordinance authorizes the issuance of the Bonds by GLWA, sets forth the guidelines for the DWRF Bonds, designates the Bonds as 2019 SRF-1 Junior Lien Bonds, and authorizes the Chief Executive Officer or the Chief Financial Officer to execute the final terms of the Bonds, paying issuance costs and signing of the Purchase Contract and Sale Order, within the parameters set forth in the Series Ordinance.

**Analysis:** The bonds authorized by this ordinance will be sold through the state of Michigan's DWRF program and will be used to finance improvements to GLWA's Lake Huron Water Treatment Plant. The project will provide construction of a new redundant wash water retention basin and a new sludge pumping station with the existing clarifiers being abandoned or demolished. Additionally, provisions for decanting clear water from Lagoon 5 and Lagoon 6 to Lagoon 8 so Lagoon 8 can serve as temporary overflow storage during basin cleanout are included within the scope of this project.

The DWRF bonds will be sold to the Michigan Finance Authority in separate series. The current program interest rate is 2.00% and is typically payable over a 20 year term. Based on the project amount of \$12.0 million, GLWA could save an estimated \$1.6 million in interest costs and avoided issuance costs, based on a similar open market revenue bond with a 30-year term and 4.50% interest rate, over the life of the 30-year bond issue. This will afford savings to both GLWA and its members.

**Budget Impact:** The debt service on the proposed projects is anticipated to commence in FY 2020 and has been included in the FY 2020 financial plan.

**Proposed Action:** The GLWA Audit Committee recommends that the Great Lakes Water Authority Board approve the resolution for the Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds an Amount Not to Exceed \$12,000,000 as presented, at its Regular Meeting on April 24, 2019.

**Great Lakes Water Authority**  
**Resolution 2019-**  
**Approval of Series Ordinance Authorizing Issuance and Sale of Water Supply System**  
**Revenue Bonds in an Amount not to Exceed \$12,000,000**  
**Ordinance 2019-01**

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

**Whereas** There has been presented to the Board of Directors of the Great Lakes Water Authority (the “Authority”) an ordinance entitled “Series Ordinance Authorizing the Issuance and Sale of Water Supply System Revenue Bonds in an Amount not to Exceed \$12,000,000” (the “2019 SRF-1 Series Ordinance”), which ordinance is a Series Ordinance as defined and described in Master Bond Ordinance No. 2015-01 adopted by the Board of Directors on October 7, 2015, as amended on December 9, 2015, January 27, 2016 and August 10, 2016.

**Whereas** The Articles of Incorporation of the Authority provide that at least 5 of the 6 members of the Authority Board must vote to approve the 2019 SRF-1 Series Ordinance.

**Now, Therefore Be It:**

**Resolved** That the 2019 SRF-1 Series Ordinance, in the form presented to this meeting, is approved and adopted, and the Chairperson and the Secretary are authorized to authenticate the 2019 SRF-1 Series Ordinance in the form approved; **And Be it Further**

**Resolved** That an affirmative vote of at least 5 members of the Authority Board is necessary for the passage of this Resolution.

Adopted by the Great Lakes Water Authority Board on: April 24, 2019



GREAT LAKES WATER AUTHORITY  
ORDINANCE NO. 2019-01

**SERIES ORDINANCE AUTHORIZING ISSUANCE AND SALE OF  
WATER SUPPLY SYSTEM REVENUE BONDS IN  
AN AMOUNT NOT TO EXCEED \$12,000,000**

WHEREAS, pursuant to Resolution No. 2015-10-02 adopted by the Board of Directors of the Great Lakes Water Authority (the “Authority”) on October 7, 2015, the Authority Board approved and adopted Master Bond Ordinance No. 2015-01 (as subsequently amended through the date hereof, the “Ordinance”), which authorizes the issuance by the Authority of Water Supply System Revenue Bonds; and

WHEREAS, the Ordinance authorizes the issuance of such Water Supply System Revenue Bonds in one or more Series pursuant to a Series Ordinance authorizing the issuance and sale of such Series; and

WHEREAS, the Authority Board has determined that it is necessary to authorize at this time one or more Series of SRF Junior Lien Bonds (the “2019 SRF-1 Junior Lien Bonds”) to provide moneys to pay the costs of the hereinafter described repairs, extensions, enlargements and improvements to the Regional Water System identified in the Capital Improvement Program (the “2019 SRF-1 Project”).

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE GREAT LAKES WATER AUTHORITY AS FOLLOWS:

Section 1. Authority for this Series Ordinance. This Series Ordinance (the “2019 SRF-1 Series Ordinance”) is adopted pursuant to Section 1102(1) of the Ordinance.

Section 2. Definitions. Except as otherwise provided in this 2019 SRF-1 Series Ordinance, all terms which are defined in Section 101 of the Ordinance shall have the same meanings, respectively, in this 2019 SRF-1 Series Ordinance as such terms are given in the Ordinance. In addition, the following terms shall have the following meanings unless the context shall clearly indicate some other meaning:

(a) “2019 SRF-1 Junior Lien Bonds” means the Bonds authorized by Section 5 of this 2019 SRF-1 Series Ordinance.

(b) “2019 SRF-1 Project” means improvements to the Regional Water System, including but not limited to improvements to the Raw Sludge Clarifiers and Raw Sludge Pumping Systems at the Lake Huron Water Treatment Plant (LHWTP) consisting of the construction of a new redundant washwater retention basin and a new sludge pumping station, and improvements to provide for decanting clear water from Lagoon 5 and Lagoon 6 to Lagoon 8 at the LHWTP so that Lagoon 8 can serve as temporary overflow storage during basin cleanout, to maintain treatment of flows at the LHWTP without system failure.

(c) “Authorized Denomination” means any denomination as determined by an Authorized Officer in the Sale Order.

(d) “Authorized Officer” means either the Chief Executive Officer or the Chief Financial Officer.

(e) “Construction Fund, Series 2019 SRF-1” means a subaccount of the Construction Fund established in accordance with Section 11 of this 2019 SRF-1 Series Ordinance relating to the construction of the 2019 SRF-1 Project to be paid with the proceeds of the 2019 SRF-1 Junior Lien Bonds.

(f) “Interest Payment Date” means except as otherwise set forth in the Sale Order each April 1 and October 1.

(g) “Maturity Date” means such dates of maturity of the 2019 SRF-1 Junior Lien Bonds as determined in the Sale Order.

(h) “MFA” means the Michigan Finance Authority.

(i) “Person” means any natural person, association, corporation, trust, partnership, joint venture, joint-stock company, municipal corporation, public body or other entity, however organized.

(j) “Project Costs” means the costs of acquiring, constructing, equipping, installing and financing the 2019 SRF-1 Project, including Issuance Costs relating to the 2019 SRF-1 Junior Lien Bonds.

(k) “Purchase Contract” means the Purchase Contract between the MFA and the Authority with respect to the purchase by the MFA and the sale by the Authority of a Series of the 2019 SRF-1 Junior Lien Bonds.

(l) “Regular Record Date” means except as otherwise set forth in the Sale Order the fifteenth day of the calendar month immediately preceding an Interest Payment Date.

(m) “Sale Order” means any one or more Sale Orders of an Authorized Officer authorizing acts consistent with the Ordinance and this 2019 SRF-1 Series Ordinance necessary and appropriate to complete the sale, execution and delivery of the 2019 SRF-1 Junior Lien Bonds and to complete the other transactions contemplated herein.

(n) “Supplemental Agreement” means the Supplemental Agreement among the Authority, the MFA and the State of Michigan acting through the Department of Environmental Quality, with respect to a Series of the 2019 SRF-1 Junior Lien Bonds.

(o) “Taxable 2019 SRF-1 Junior Lien Bonds” means any 2019 SRF-1 Junior Lien Bonds other than Tax-Exempt 2019 SRF-1 Junior Lien Bonds.

(p) “Tax-Exempt 2019 SRF-1 Junior Lien Bonds” means any 2019 SRF-1 Junior Lien Bonds that are Tax-Exempt Bonds.

Section 3. Approval of 2019 SRF-1 Project. It is hereby determined to be necessary for the public health, benefit and welfare of the area served by the Regional Water System to acquire, construct and undertake the 2019 SRF-1 Project, and the 2019 SRF-1 Project is hereby approved and accepted.

Section 4. Estimated Cost and Period of Usefulness of 2019 SRF-1 Project. The Project Costs are estimated by the Authority Board to not exceed \$12,000,000 and the Project Costs are hereby approved and confirmed. The period of usefulness of the 2019 SRF-1 Project is estimated to be not less than 40 years.

Section 5. Authorization of 2019 SRF-1 Junior Lien Bonds.

(a) Authorization of Borrowing.

- (1) The Authority may borrow an aggregate amount not in excess of \$12,000,000, as is finally determined in the Sale Order, and issue the 2019 SRF-1 Junior Lien Bonds at one or more times and in one or more Series, all to evidence such borrowing pursuant to Act 233, Act 94 and the Ordinance, as 2019 SRF-1 Junior Lien Bonds, all as finally determined in the Sale Order.
- (2) The amount of the 2019 SRF-1 Junior Lien Bonds authorized in (1) above shall include the amount of the net original issue premium, if any.

(b) Purpose of 2019 SRF-1 Junior Lien Bonds. The 2019 SRF-1 Junior Lien Bonds shall be issued as Additional Bonds for the purpose of paying and/or reimbursing Project Costs.

(c) Priority of Lien. The 2019 SRF-1 Junior Lien Bonds shall be issued as SRF-1 Junior Lien Bonds.

(d) Insufficient Proceeds. To the extent that proceeds of SRF-1 Junior Lien Bonds are insufficient to pay Project Costs, the insufficiency shall be paid from the proceeds of future Additional Bonds, if any, and/or moneys of the Regional Water System on hand and legally available therefor, as determined by the Authority Board.

(e) Separate Series. The 2019 SRF-1 Junior Lien Bonds are issuable at one or more times and as one or more separate Series of Bonds in such amounts as determined in the Sale Order.

(f) Taxable and Tax-Exempt 2019 SRF-1 Junior Lien Bonds. The 2019 SRF-1 Junior Lien Bonds may be issued as Taxable 2019 SRF-1 Junior Lien Bonds or Tax-Exempt 2019 SRF-1 Junior Lien Bonds, or as separate Series of both, as set forth in the Sale Order.

(g) Source of Payment and Security. The 2019 SRF-1 Junior Lien Bonds shall be payable and secured as provided in Section 8.

(h) Applicability of Ordinance. Except as otherwise provided in this 2019 SRF-1 Series Ordinance or in the Sale Order, all of the provisions of the Ordinance shall apply to the

2019 SRF-1 Junior Lien Bonds as if set forth in full in this 2019 SRF-1 Series Ordinance, the purpose of this 2019 SRF-1 Series Ordinance being to supplement the Ordinance to authorize the issuance of 2019 SRF-1 Junior Lien Bonds for the purposes set forth herein.

Section 6. 2019 SRF-1 Junior Lien Bond Details.

(a) Designation.

- (1) The 2019 SRF-1 Junior Lien Bonds shall bear the designations Water Supply System Revenue Bonds, Series 2019-SRF-1 and shall include such other designations, including, without limitation, designations for multiple Series or subseries, as determined by an Authorized Officer as shall be set forth in the Sale Order and not inconsistent with the Ordinance or this 2019 SRF-1 Series Ordinance.
- (2) If the 2019 SRF-1 Junior Lien Bonds are not issued in 2019, an Authorized Officer is authorized in her discretion to re-designate the year and Series designation of the 2019 SRF-1 Junior Lien Bonds and the various funds and accounts established hereunder to correspond with the year of issuance of the 2019 SRF-1 Junior Lien Bonds. Furthermore, an Authorized Officer is authorized to establish designations within the various funds and accounts established hereunder if necessary in order to differentiate such funds and accounts from other similarly named funds and accounts related to other Bonds.

(b) Numbering. The 2019 SRF-1 Junior Lien Bonds shall be numbered in such manner as shall be determined in the Sale Order.

(c) Principal. The 2019 SRF-1 Junior Lien Bonds shall be issued in the form of Serial Bonds or Term Bonds, or any combination of Serial Bonds and Term Bonds, in any Authorized Denomination, and the principal thereof shall mature on October 1, or such other date as set forth in the Sale Order, in such years and amounts, and shall be or not be subject to redemption prior to maturity, all as shall be determined in the Sale Order subject to the following limitations:

- (1) No 2019 SRF-1 Junior Lien Bonds shall mature later than 40 years after the date of issuance thereof.
- (2) The 2019 SRF-1 Junior Lien Bonds shall only be issued with annual principal and interest installments permitted by the Ordinance, including Section 207 thereof.

(d) Interest. 2019 SRF-1 Junior Lien Bonds or portions thereof shall bear interest at a rate or rates as set forth in the Sale Order not in excess of the maximum rate permitted by law. Interest on 2019 SRF-1 Junior Lien Bonds shall be payable on each Interest Payment Date.

(e) Payment of Principal and Interest. The principal of, premium, if any, and interest on the 2019 SRF-1 Junior Lien Bonds shall be payable in lawful money of the United States. Except as otherwise provided in the Sale Order, so long as the 2019 SRF-1 Junior Lien Bonds are

owned by the MFA, the 2019 SRF-1 Junior Lien Bonds are payable as to principal, redemption premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Authority by the MFA (the MFA's Depository"), and the Authority agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on the 2019 SRF-1 Junior Lien Bonds in immediately available funds by 12:00 noon at least five Business Days prior to the date on which any such payment is due, whether by maturity, redemption or otherwise. If the 2019 SRF-1 Junior Lien Bonds are not registered in the name of the MFA, the principal of and premium, if any, on the 2019 SRF-1 Junior Lien Bonds are payable upon the surrender thereof at the corporate trust office of the Trustee and the interest is payable by check or draft drawn on the Trustee and mailed to the registered owners as of the immediately preceding Regular Record Date at their address shown on the registration books of the Authority maintained by the Trustee.

(f) Dating. The 2019 SRF-1 Junior Lien Bonds shall be dated such date as determined in the Sale Order.

(g) Reserve Requirement. There shall be no Reserve Requirement with respect to the 2019 SRF-1 Junior Lien Bonds.

(h) Exchange. The registered owner of any 2019 SRF-1 Junior Lien Bond may exchange such 2019 SRF-1 Junior Lien Bond for a new 2019 SRF-1 Junior Lien Bond or Bonds of the same interest rate, maturity and Priority of Lien in an equal aggregate principal amount in one or more of the Authorized Denominations by surrendering such 2019 SRF-1 Junior Lien Bond to be exchanged at the designated office of the Trustee together with an assignment duly executed by the registered owner thereof or his attorney or legal representative in such form as shall be satisfactory to the Trustee. As provided in Section 206 of the Ordinance, the Trustee shall be responsible for the registration, transfer and exchange of 2019 SRF-1 Junior Lien Bonds and shall indicate its acceptance of such duties by a document filed with an Authorized Officer concurrently with the delivery of the 2019 SRF-1 Junior Lien Bonds.

(i) Execution and Delivery of 2019 SRF-1 Junior Lien Bonds. The 2019 SRF-1 Junior Lien Bonds shall be executed in the name of the Authority by manual or facsimile signature of the Chief Executive Officer of the Authority and countersigned by the manual or facsimile signature of the Secretary of the Authority Board, and shall have the Authority's seal or facsimile thereof affixed or printed thereon. The Chief Financial Officer is authorized to deliver the 2019 SRF-1 Junior Lien Bonds to the MFA upon receiving the purchase price therefor in lawful money of the United States.

(j) Form of 2019 SRF-1 Junior Lien Bonds. The 2019 SRF-1 Junior Lien Bonds shall be in substantially the following form, subject to such changes, additions or deletions as determined by the Chief Executive Officer within the parameters of this 2019 SRF-1 Series Ordinance:

R-\_\_

**UNITED STATES OF AMERICA  
STATE OF MICHIGAN  
COUNTIES OF MACOMB, OAKLAND AND WAYNE  
GREAT LAKES WATER AUTHORITY  
WATER SUPPLY SYSTEM REVENUE BOND,  
SERIES 2019-SRF-\_\_**

REGISTERED OWNER: Michigan Finance Authority

PRINCIPAL AMOUNT: \$ \_\_\_\_\_

INTEREST RATE: \_\_\_\_\_%

ORIGINAL ISSUE DATE:

The Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan (the “Issuer”), upon authorization from the Board of Directors of the Issuer (the “Board”), has issued this Bond. The Issuer, for value received, promises to pay, in lawful money of the United States of America, but only from the Pledged Assets (as defined below), to the Registered Owner named above, or registered assigns, the Principal Amount stated above, or so much thereof as shall have been advanced to the Issuer and not prepaid or reduced pursuant to a Purchase Contract between the Issuer and the Michigan Finance Authority (the “MFA”), a Supplemental Agreement by and among the Issuer, the MFA and State of Michigan acting through the Department of Environmental Quality, and the Order of Approval issued by the Department of Environmental Quality. The Principal Amount shall be payable on the dates and in the principal installments set forth in Schedule A attached hereto.

In the event less than the Principal Amount of this Bond is disbursed by the MFA, any portion of the Principal Amount is prepaid as provided herein, or any serial principal payment becomes due before the Issuer has received proceeds from corresponding purchased principal installments of at least a like amount, then the MFA may prepare a new serial principal installment repayment schedule which shall be presented to the Issuer and be effective upon receipt as provided in the Purchase Contract.

Interest on this Bond shall accrue from the Original Issue Date set forth above at the Interest Rate set forth above, only on that portion of installments of the Principal Amount which have been disbursed by the MFA, shall be payable on \_\_\_\_\_, 201\_ and semiannually on each April 1 and October 1 thereafter (each an “Interest Payment Date”).

If the MFA is not the registered owner of this Bond, principal of this Bond is payable upon presentation and surrender at the designated office of U.S. Bank National Association, as Trustee under the Ordinance (as defined below) or such other trustee as the Issuer may hereafter designate by notice mailed to the registered owner not less than 60 days prior to any Interest Payment Date (the “Trustee”).

Interest on this Bond is payable to the registered owner of record as of the close of business on the 15th day of the month immediately preceding any Interest Payment Date as shown on the registration books kept by the Trustee by check or draft mailed by the Trustee to the registered owner at the registered address. Interest on this Bond shall be computed on the basis of a 360-day year comprised of twelve 30-day months. During the time funds are being drawn down by the Issuer under this Bond, the MFA will periodically provide the Issuer with a statement showing the amount of principal that has been advanced and the date of each advance, which statement shall constitute prima facie evidence of the reported information; provided, that no failure on the part of the MFA to provide such a statement or to reflect a disbursement or the correct amount of a disbursement shall relieve the Issuer of its obligation to repay the outstanding principal amount actually advanced [(subject to any principal forgiveness as provided for herein)], all accrued interest thereon, and any other amount payable with respect thereto in accordance with the terms of this Bond.

In the event of a default in the payment of principal or interest hereon when due, whether at maturity, by redemption or otherwise, the amount of such default shall bear interest (the "additional interest") at a rate equal to the rate of interest that is two percent above the MFA's cost of providing funds (as determined by the MFA) to make payment on the bonds of the MFA issued to provide funds to purchase this Bond but in no event in excess of the maximum rate of interest permitted by law. The additional interest shall continue to accrue until the MFA has been fully reimbursed for all costs incurred by the MFA (as determined by the MFA) as a consequence of the Issuer's default. Such additional interest shall be payable on the interest payment date following demand of the MFA. In the event that (for reasons other than the default in the payment of any municipal obligation purchased by the MFA) the investment of amounts in the reserve account established by the MFA for the bonds of the MFA issued to provide funds to purchase this bond fails to provide sufficient available funds (together with any other funds that may be made available for such purpose) to pay the interest on outstanding bonds of the MFA issued to fund such account, the Issuer shall and hereby agrees to pay on demand only the Issuer's pro rata share (as determined by the MFA) of such deficiency as additional interest on this bond.

Notwithstanding any other provision of this Bond, so long as the MFA is the owner of this Bond, (a) this Bond is payable as to principal, premium, if any, and interest at The Bank of New York Mellon Trust Company, N.A., or at such other place as shall be designated in writing to the Issuer by the MFA (the "MFA's Depository"); (b) the Issuer agrees that it will deposit with the MFA's Depository payments of the principal of, premium, if any, and interest on this Bond in immediately available funds by 12:00 noon at least five business days prior to the date on which any such payment is due whether by maturity, redemption or otherwise; in the event that the MFA's Depository has not received the Issuer's deposit by 12:00 noon on the scheduled day, the Issuer shall immediately pay to the MFA as invoiced by the MFA an amount to recover the MFA's administrative costs and lost investment earnings attributable to that late payment; and (c) written notice of any redemption of this Bond shall be given by the Issuer and received by the MFA's Depository at least 40 days prior to the date on which redemption is to be made.

This Bond is one of a series of bonds designated "Water Supply System Revenue Bonds, Series 2019-SRF-\_\_" and is issued pursuant to the provisions of (i) Act 233, Public Acts of Michigan, 1955, as amended ("Act 233"), and Act 94, Public Acts of Michigan, 1933, as amended ("Act 94"), (ii) Master Bond Ordinance No. 2015-01 adopted by the Board on October 7, 2015, as

amended (the “Bond Ordinance”), (iii) the Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds in an Amount not to Exceed \$12,000,000, adopted by the Board on \_\_\_\_\_, 2019 (the “Series Ordinance”), and (iv) a Sale Order of the Chief Executive Officer of the Issuer dated \_\_\_\_\_, 2019 (the “Sale Order,” and, collectively with the Bond Ordinance and the Series Ordinance, the “Ordinance”). This Bond is issued for the purposes set forth in the Series Ordinance and the Sale Order.

For the prompt payment of the principal of and interest on this Bond, and other bonds issued by the Issuer pursuant to the Bond Ordinance, the Issuer has irrevocably pledged the Pledged Assets (as defined in the Bond Ordinance), which includes the revenues of the Water System (as defined in the Bond Ordinance), after provision is made for reasonable and necessary expenses of operation, maintenance and administration of the Water System (the “Net Revenues”), and a statutory lien on the Net Revenues and Pledged Assets is hereby recognized and acknowledged. Such lien is a third lien, subject to obligations heretofore and hereafter issued or incurred under the Bond Ordinance secured by a first or second lien on the Pledged Assets. This Bond is of equal standing on a parity with all other obligations heretofore and hereafter issued or incurred under the Bond Ordinance and secured by a third lien on the Pledged Assets.

For a complete statement of the revenues from which and the conditions under which this Bond is payable, a statement of the conditions under which Additional Bonds (as defined in the Bond Ordinance) of senior or equal standing and Additional Bonds of junior standing may hereafter be issued and the general covenants and provisions pursuant to which this Bond is issued, reference is made to the Bond Ordinance.

This Bond is subject to redemption prior to maturity at the option of the Issuer and with the prior written consent of and upon such terms as may be required by the MFA. That portion of this Bond called for redemption shall not bear interest after the date fixed for redemption, provided funds are on hand with the Trustee to redeem the same.

**THIS BOND IS ISSUED UNDER ACT 233 AND ACT 94. IT IS A SELF-LIQUIDATING BOND AND IS NOT A GENERAL OBLIGATION OF THE ISSUER AND DOES NOT CONSTITUTE AN INDEBTEDNESS OF THE ISSUER WITHIN ANY CONSTITUTIONAL OR STATUTORY LIMITATION, BUT IS PAYABLE, BOTH AS TO PRINCIPAL AND INTEREST SOLELY FROM THE PLEDGED ASSETS OF THE WATER SYSTEM. THE PAYMENT OF THE PRINCIPAL OF AND INTEREST ON THIS BOND ARE SECURED BY A STATUTORY LIEN ON THE PLEDGED ASSETS AS DESCRIBED HEREIN.**

The Issuer has covenanted and agreed, and hereby covenants and agrees, to fix and maintain, or cause to be fixed and maintained, at all times while any bonds payable from the Pledged Assets of the Water System shall be outstanding, such rates for service furnished by the Water System as shall be sufficient to provide for payment of the interest upon and the principal of this Bond and all other Bonds (as defined in the Bond Ordinance) assumed or issued and to be issued under the Bond Ordinance as and when the same shall become due and payable, to create and maintain a bond redemption fund therefor, including a bond reserve for Bonds other than this Bond, to provide for the payment of expenses of administration and operation and such expenses for maintenance of the Water System as are necessary to preserve the same in good repair and



working order, and to provide for such other expenditures and funds for the Water System, all as are required by the Bond Ordinance.

This Bond is transferable only upon the books of the Issuer kept for that purpose at the office of the Trustee by the registered owner hereof in person, or by his attorney duly authorized in writing, upon the surrender of this Bond together with a written instrument of transfer satisfactory to the Trustee duly executed by the registered owner or his attorney duly authorized in writing, and thereupon a new registered bond or bonds of the same type, in the same aggregate principal amount and of the same maturity shall be issued to the transferee in exchange therefor as provided in the Ordinance and upon the payment of the charges, if any, therein prescribed.

It is hereby certified and recited that all acts, conditions and things required by law precedent to and in the issuance of this Bond have been done and performed by regular and due time and form as required by law.

This Bond is not valid or obligatory for any purpose until the Trustee's Certificate of Authentication hereon has been executed by the Trustee.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the Great Lakes Water Authority, Counties of Macomb, Oakland and Wayne, State of Michigan, has caused this Bond to be signed in its name by the facsimile signatures of its Chief Executive Officer and its Secretary of the Board, and a facsimile of its corporate seal to be printed, impressed or otherwise reproduced hereon, all as of the Original Issue Date.

GREAT LAKES WATER AUTHORITY

By: \_\_\_\_\_  
Chief Executive Officer

Countersigned:

By: \_\_\_\_\_  
Secretary, Board of Directors

[Seal]

**CERTIFICATE OF AUTHENTICATION**

This Bond is authenticated as the bond designated by the Issuer as “Water Supply System Revenue Bond, Series 2019-SRF-\_\_\_”.

U.S. Bank National Association,  
Trustee

By:\_\_\_\_\_

Date of Authentication: \_\_\_\_\_, 2019

### ASSIGNMENT

For value received, the undersigned sells, assigns and transfers unto \_\_\_\_\_ this Bond and all rights hereunder and hereby irrevocably appoints \_\_\_\_\_ attorney to transfer this Bond on the books kept for registration thereof with full power of substitution in the premises.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Signature

**NOTICE:** The signature to this assignment must correspond with the name as it appears on the face of this Bond in every particular.

Schedule A

The principal amounts and maturity dates applicable to the Bond to which this Schedule A is attached are as follows:

Date

Amount

Based on the schedule provided above unless revised as provided in this paragraph, repayment of the Principal Amount shall be made according to such schedule until the full Principal Amount disbursed to the Issuer is repaid; provided, however, that the Issuer shall have no obligation to repay any serial principal installment for which the Issuer did not receive a disbursement of Principal Amount by the date such serial principal installment is due. In the event the Order of Approval issued by the Department of Environmental Quality (the "Order") approves a principal amount of assistance less than the amount of this Bond, the MFA shall only disburse principal up to the amount stated in the Order. In the event (1) that the payment schedule described above provides for payment of a total principal amount greater than the amount of assistance approved by the Order, (2) that less than the principal amount of assistance approved by the Order is disbursed to the Issuer by the MFA or (3) of prepayment [or principal forgiveness] of the Bond, the MFA shall prepare a new payment schedule that shall be effective upon receipt by the Issuer.

END OF BOND FORM

Section 7. Concerning the Securities Depository.

(a) As used herein:

“Beneficial Owner” means any Person who indirectly owns 2019 SRF-1 Junior Lien Bonds pursuant to the indirect ownership system maintained by a securities depository (the “Securities Depository”) and its Participants, commonly known as the “Book-Entry Only System.”

“Participant” means any Person whose ownership of 2019 SRF-1 Junior Lien Bonds is shown on books of the Securities Depository.

(b) The 2019 SRF-1 Junior Lien Bonds will initially be registered in the name of the MFA, or such other purchasers as designated in the Sale Order. In the event the 2019 SRF-1 Junior Lien Bonds are later to be registered in the name of a Securities Depository or its nominee, neither the Authority nor the Trustee shall have any responsibility or obligation to any Participant or to any Beneficial Owner with respect to any matter, including the following:

- (1) the accuracy of the records of the Securities Depository, its nominee or any Participant with respect to any ownership interest in 2019 SRF-1 Junior Lien Bonds,
- (2) the delivery to any Participant, Beneficial Owner or any other Person other than the Securities Depository of any notice with respect to: any 2019 SRF-1 Junior Lien Bonds, including any notice of redemption, or
- (3) the payment to any Participant, Beneficial Owner or any other Person, other than the Securities Depository of any amount with respect to the principal (and premium, if any) of or interest on any 2019 SRF-1 Junior Lien Bonds.

(c) The Trustee shall pay all principal (and premium, if any) of and interest on the 2019 SRF-1 Junior Lien Bonds only to or upon the order of the MFA, or the Securities Depository, as applicable, and all such payments shall be valid and effective fully to satisfy and discharge the Authority’s obligations with respect to the principal (and premium, if any) of, and interest on such 2019 SRF-1 Junior Lien Bonds to the extent of the sum or sums so paid.

(d) If the 2019 SRF-1 Junior Lien Bonds become registered in the name of the Securities Depository and (1) the Authority receives a written notice from the Securities Depository to the effect the Securities Depository is unable or unwilling to discharge its responsibilities or (2) the Authority determines that it is in the best interests of the Beneficial Owners of 2019 SRF-1 Junior Lien Bonds that they be able to obtain 2019 SRF-1 Junior Lien Bonds in certificated form, then, in either event, the Authority shall notify the Trustee and, in the case of clause, (2), the Securities Depository.

(e) Upon discontinuance of the use of the Book-Entry Only System maintained by the Securities Depository, if any, pursuant to subsection (d), above and upon receipt of notice from the Securities Depository containing sufficient information, the Authority shall execute and the Trustee shall authenticate and deliver 2019 SRF-1 Junior Lien Bonds in certificated form to

Beneficial Owners in exchange for the beneficial interests of such Beneficial Owners in corresponding principal amounts and in any Authorized Denominations.

(f) Notwithstanding any other provision of this 2019 SRF-1 Series Ordinance to the contrary, so long as any 2019 SRF-1 Junior Lien Bond is registered in the name of the Securities Depository or its nominee:

- (1) all payments with respect to the principal, premium, if any, and interest on such 2019 SRF-1 Junior Lien Bond and all notices of redemption, tender and otherwise with respect to such 2019 SRF-1 Junior Lien Bond shall be made and given, respectively, to the Securities Depository as provided in the letter of representations from the Authority to the Securities Depository with respect to such 2019 SRF-1 Junior Lien Bonds or any master letter of representations from the Authority to the Securities Depository;
- (2) if less than all of the 2019 SRF-1 Junior Lien Bonds of the same type of any maturity are to be redeemed, then the particular 2019 SRF-1 Junior Lien Bonds or portions of 2019 SRF-1 Junior Lien Bonds of such type and maturity to be redeemed shall be selected by the Securities Depository in any such manner as the Securities Depository may determine;
- (3) all payments with respect to principal of the 2019 SRF-1 Junior Lien Bonds and premium, if any and interest on the 2019 SRF-1 Junior Lien Bonds shall be made in such manner as shall be prescribed by the Securities Depository; and
- (4) if a 2019 SRF-1 Junior Lien Bond is redeemed or tendered in part, then all amounts payable in respect of such redemption or tender shall be paid without presentation and surrender of such 2019 SRF-1 Junior Lien Bond pursuant to the procedures of the Securities Depository.

**Section 8. Payment of 2019 SRF-1 Junior Lien Bonds; Confirmation of Statutory Lien.**

(a) The 2019 SRF-1 Junior Lien Bonds and the interest thereon shall be payable solely from the Pledged Assets.

(b) To secure payment of the 2019 SRF-1 Junior Lien Bonds, the statutory lien upon the whole of the Pledged Assets established by Act 94 and the pledge created in Section 501 of the Ordinance is hereby confirmed in favor of the 2019 SRF-1 Junior Lien Bonds as follows: Such lien in favor of the 2019 SRF-1 Junior Lien Bonds shall be a statutory third lien on the Pledged Assets of equal standing and Priority of Lien with all issued, to be issued and outstanding SRF-1 Junior Lien Bonds.

**Section 9. Funds and Accounts; Flow of Funds.** Except as otherwise provided in this 2019 SRF-1 Series Ordinance, all of the provisions relative to funds and accounts, their maintenance, the flow of funds and other details relative thereto, shall remain as specifically set forth in the Ordinance.

Section 10. Disposition of Proceeds.

(a) Disposition of Accrued Interest and Capitalized Interest. From the proceeds of the sale of the 2019 SRF-1 Junior Lien Bonds there shall be immediately deposited in the SRF-1 Junior Lien Debt Service Account, an amount equal to any accrued interest received on the delivery of the 2019 SRF-1 Junior Lien Bonds and any capitalized interest on the 2019 SRF-1 Junior Lien Bonds, and the Authority may take credit for the amount so deposited against the amount required to be deposited in the SRF-1 Junior Lien Debt Service Account for payment of the next maturing interest payment on the 2019 SRF-1 Junior Lien Bonds.

(b) Construction Fund. The balance of the proceeds of the 2019 SRF-1 Junior Lien Bonds shall be deposited in the Construction Fund, Series 2019 SRF-1 and used to pay Project Costs as provided in Section 11.

Section 11. Construction Fund.

(a) A subaccount of the Authority Regional Construction Account of the Construction Fund established by the Ordinance shall be established for the 2019 SRF-1 Junior Lien Bonds and designated the "Construction Fund, Series 2019 SRF-1," and shall be established and maintained as a separate depository account with a Custodian as designated by the Chief Financial Officer.

(b) Moneys in the Construction Fund, Series 2019 SRF-1 shall be applied solely to payment of Project Costs (or to the reimbursement of Project Costs paid by the Authority from other funds prior to the issuance of the 2019 SRF-1 Junior Lien Bonds).

- (1) Payments or reimbursement for Project Costs for construction, either on account or otherwise, shall not be made unless the registered engineer in charge of such work shall file with an Authorized Officer a signed statement to the effect that the work has been completed in accordance with the plans and specifications therefor, that it was done pursuant to and in accordance with the contract therefor, that such work is satisfactory and that such work has not been previously paid for.
- (2) Payment or reimbursement for Project Costs consisting of Issuance Costs and engineering, legal and financial costs shall be made upon submission of appropriate documentation to an Authorized Officer.

Section 12. Tax Covenant.

(a) The Authority hereby covenants and represents with the registered owners of the Tax-Exempt 2019 SRF-1 Junior Lien Bonds, that so long as any of the Tax-Exempt 2019 SRF-1 Junior Lien Bonds remain outstanding and unpaid as to either principal or interest, the Authority shall, to the extent permitted by law, take all actions within its control to maintain, and will refrain from taking any action which would impair, the exclusion of the interest on the Tax-Exempt 2019 SRF-1 Junior Lien Bonds from gross income for federal income tax purposes under the Code.

(b) The actions referred to in subsection (a), above include, but are not limited to actions relating to any required rebate of arbitrage earnings and the expenditure and investment of



proceeds of Tax-Exempt 2019 SRF-1 Junior Lien Bonds and moneys deemed to be proceeds of Tax-Exempt 2019 SRF-1 Junior Lien Bonds, and to prevent Tax-Exempt 2019 SRF-1 Junior Lien Bonds from being or becoming “private activity bonds” as that term is used in the Code.

**Section 13. Sale of 2019 SRF-1 Junior Lien Bonds; Purchase Contract; Expiration of Referendum Period.**

(a) The 2019 SRF-1 Junior Lien Bonds shall be sold by negotiated sale to the MFA pursuant to a Purchase Contract in customary form with such changes thereto as an Authorized Officer shall determine are in the best interests of the Authority, within the parameters established by this 2019 SRF-1 Series Ordinance. Such determination shall be conclusively established by the Authorized Officer’s execution of the Purchase Contract to the MFA.

(b) The Authority Board hereby determines that the sale of the 2019 SRF-1 Junior Lien Bonds by negotiated sale as described in subsection (a) is in the best interests of the Authority and will allow the 2019 SRF-1 Junior Lien Bonds to receive a subsidized interest rate through participation in the MFA’s Drinking Water Revolving Fund Program.

(c) An Authorized Officer is authorized to accept, on behalf of the Authority, an offer from the MFA to purchase the 2019 SRF-1 Junior Lien Bonds subject to the following limitations:

- (1) The interest rate with respect to the 2019 SRF-1 Junior Lien Bonds shall not exceed 2.50%.
- (2) The aggregate purchaser’s discount at which the 2019 SRF-1 Junior Lien Bonds shall be sold to the MFA shall not exceed 2.00%.

(d) An Authorized Officer shall confirm in the Sale Order that there was no petition meeting the requirements of Section 33 of Act 94 that was filed with the Secretary of the Authority Board within 45 days of the date of publication of the notice of intent to issue bonds with respect to the 2019 SRF-1 Junior Lien Bonds as required by Section 33 of Act 94.

**Section 14. Delegation of Authority to and Authorization of Actions of Authorized Officers.**

(a) An Authorized Officer shall make all determinations herein provided to be made in the Sale Order and shall make all such determinations in accordance with the best interests of the Authority within the parameters of this 2019 SRF-1 Series Ordinance.

(b) In addition to determinations authorized elsewhere in this 2019 SRF-1 Series Ordinance, an Authorized Officer shall determine the aggregate principal amount of 2019 SRF-1 Junior Lien Bonds to be issued, but not in excess of the aggregate principal amount authorized by this 2019 SRF-1 Series Ordinance, on the basis of her evaluation of the maximum amount of 2019 SRF-1 Junior Lien Bonds which can be sold, given anticipated interest rates and the revenue coverage requirements with respect to the 2019 SRF-1 Junior Lien Bonds and for any other reasons the Authorized Officer deems appropriate.

- (1) Such determination shall also include the redemption provisions for the 2019 SRF-1 Junior Lien Bonds.
- (2) An Authorized Officer shall also determine and establish, in accordance with this 2019 SRF-1 Series Ordinance, the maturities of the 2019 SRF-1 Junior Lien Bonds, whether such maturities shall be serial or term maturities and the Mandatory Redemption Requirements for any term maturities.

(c) An Authorized Officer is authorized, if necessary, to file applications and to pay the related fees, if any, to the Michigan Department of Treasury at her discretion under Act 34 for one or more orders of approval to issue all or a portion of the 2019 SRF-1 Junior Lien Bonds, and such waivers or other Treasury approvals as necessary to implement the sale, delivery and security for the 2019 SRF-1 Junior Lien Bonds as authorized herein, and as required by the Michigan Department of Treasury or Act 34.

(d) An Authorized Officer shall determine in the Sale Order that the requirements set forth in Section 207 of the Ordinance with respect to the issuance of the 2019 SRF-1 Junior Lien Bonds as Additional Bonds have been satisfied.

(e) An Authorized Officer is hereby authorized and directed to do and perform any and all other acts and things with respect to the 2019 SRF-1 Junior Lien Bonds which are necessary or appropriate to carry into effect, consistent with the Ordinance and this 2019 SRF-1 Series Ordinance, the authorizations therein and herein contained including without limitation the securing of ratings by bond rating agencies, and the incurring of reasonable fees costs and expenses incidental to the foregoing, for and on behalf of the Authority.

Section 15. Advancement of Project Costs. At the direction of an Authorized Officer, the Authority may advance certain Project Costs from the Authority's funds prior to the issuance of the 2019 SRF-1 Junior Lien Bonds to the extent that such costs are expenditures appropriate for reimbursement under applicable law, including the Code in the case of Tax-Exempt 2019 SRF-1 Junior Lien Bonds.

Section 16. Ratification. All determinations and decisions of an Authorized Officer heretofore taken with respect to the issuance and sale of the 2019 SRF-1 Junior Lien Bonds as permitted or required by the Ordinance or law are hereby ratified, confirmed and approved.

Section 17. Additional Authorization. The Chief Executive Officer, the Chief Financial Officer, the Chief Administrative and Compliance Officer and the General Counsel of the Authority, any such officials acting in an interim or acting capacity to such officers, their deputies and staff, or any of them, are hereby authorized to execute and deliver such certificates, Supplemental Agreements, other agreements, documents, instruments, opinions and other papers as may be deemed necessary or appropriate to complete the sale, execution and delivery of the 2019 SRF-1 Junior Lien Bonds and otherwise give effect to the transactions contemplated by this 2019 SRF-1 Series Ordinance, as determined by such officials executing and delivering the foregoing items.

Section 18. 2019 SRF-1 Series Ordinance a Contract. The provisions of this 2019 SRF-1 Series Ordinance shall constitute a contract between the Authority and each registered owner of an outstanding 2019 SRF-1 Junior Lien Bond.

Section 19. Professional Services.

(a) Dickinson Wright PLLC is hereby appointed as Bond Counsel for the 2019 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by Dickinson Wright PLLC in unrelated matters of other parties and potential parties to the issuance of the 2019 SRF-1 Junior Lien Bonds.

(b) PFM Financial Advisors LLC is hereby appointed as Financial Advisor for the 2019 SRF-1 Junior Lien Bonds, notwithstanding the periodic representation by PFM Financial Advisors LLC in unrelated matters of other parties and potential parties to the issuance of the 2019 SRF-1 Junior Lien Bonds.

(c) The fees and expenses of Dickinson Wright PLLC and PFM Financial Advisors LLC shall be payable as an Issuance Cost from the proceeds of the 2019 SRF-1 Junior Lien Bonds or other available funds.

(d) An Authorized Officer is authorized to engage financial and other consultants as she deems necessary or appropriate in connection with the sale, issuance and delivery of the 2019 SRF-1 Junior Lien Bonds and to pay the fees and expenses thereof from the proceeds of the 2019 SRF-1 Junior Lien Bonds or other available funds.

Section 20. Severability; Headings; and Conflict. If any section, paragraph, clause or provision of this 2019 SRF-1 Series Ordinance shall be held invalid, the invalidity of such section, paragraph, clause or provision shall not affect any of the other provisions of this 2019 SRF-1 Series Ordinance. The section and paragraph headings in this 2019 SRF-1 Series Ordinance are furnished for convenience of reference only and shall not be considered to be part of this 2019 SRF-1 Series Ordinance.

Section 21. Publication and Recordation. This 2019 SRF-1 Series Ordinance shall be published in full in the Detroit Legal News, a newspaper of general circulation within the geographic boundaries of the Authority qualified under State law to publish legal notices, promptly after its adoption, and shall be maintained in the official records of the Authority and such recording authenticated by the signatures of the Chairperson and Secretary of the Authority Board.

Section 22. Repeal. All ordinances, resolutions, indentures or orders, or parts thereof, in conflict with the provisions of this 2019 SRF-1 Series Ordinance are, to the extent of such conflict, repealed.

Section 23. Effective Date. This 2019 SRF-1 Series Ordinance shall be effective upon adoption.

Adopted and signed on the 24<sup>th</sup> day of April, 2019.

GREAT LAKES WATER AUTHORITY

Signed \_\_\_\_\_  
Chairperson

Signed \_\_\_\_\_  
Secretary

BLOOMFIELD 63818-17 2329785v1



## Financial Services Audit Committee Communication

**Date:** April 24, 2019

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

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

**Re:** Authorizing Publication of Notice of Intent to Issue Water Supply System Revenue Bonds

**Background:** The publication of the Notice of Intent to Issue Water Supply System Revenue Bonds is required pursuant to Section 33 of Public Act 94 of 1933 to begin the 45 day referendum period. "If within 45 days after the publication of the notice a petition, signed by not less than 10% or 15,000 of the registered electors, whichever is less, residing within the limits of the borrower, is filed with the clerk, or other recording officer, of the borrower, requesting a referendum upon the question of the issuance of the bonds, then the bonds shall not be issued until approved by the vote of a majority of the electors of the borrower qualified to vote and voting on the bonds at a general or special election." If the 45 day referendum period expires without a petition requesting a referendum, then the Authority may authorize and issue such bonds.

Included with this memo is a copy of the resolution authorizing the publication of Notice of Intent to issue water revenue bonds. As can be seen from the draft resolution, the not to exceed amount is \$160 million. It is anticipated that this resolution will be presented to the full Great Lakes Water Authority (GLWA) Board of Directors on May 8, 2019.

**Analysis:** The \$160 million not to exceed amount in the notice is anticipated to cover the approved Drinking Water Revolving Fund (DWRf) bonds which will be closing in 2019 and 2020 for both GLWA and the Detroit Water and Sewerage Department (DWSD). The projects include:

GLWA Water Conveyance System – Waterworks Park to Northeast Transmission Main Project- (CIP# 122003): The primary purpose of the project is to better align the GLWA water production capacity with long-term system water demands, while improving reliability, water quality protection and reducing future operational and maintenance costs as well as capital improvement costs. The estimated cost of this project is \$133,700,000 which has been approved by the Michigan Department of Environmental Quality (MDEQ) for funding through its DWRf program. This project is currently scheduled to be funded in two financial segments; the first segment is for \$18.0 million in the state of Michigan's FY 2019 and the second segment is for \$115.7 million in the state of Michigan's FY 2020.

DWSD Water Main Replacement Project: This project is comprised of replacing aging water mains in three areas located in the west, east and north sides of the City of Detroit. The project consists of the excavation of the existing water mains, installation of new pipes, replacement of lead service

lines between the water main and the water meter, pressure testing, backfill and road restoration. The impact of the project will be improved safety, improved customer satisfaction and reliable service delivery of potable water to customers. The estimated cost of this project is \$15.9 million, which has been approved by the MDEQ for funding through its DWRf program. This project is currently scheduled to be funded in the state of Michigan's FY 2019.

GLWA is the loan applicant on the DWRf loan issued on behalf of DWSD, and DWSD will be the DWRf loan recipient as determined by MDEQ. All project costs financed by GLWA, on behalf of DWSD, through the DWRf program and resulting principal and interest payments on the bonds will be directly allocable to the DWSD local system. Debt service is anticipated to begin in FY 2020 for this project and is included as part of the FY 2020 financial plan.

The DWRf bonds will be sold to the Michigan Finance Authority in separate series. The current program interest rate is 2.00% and is typically payable over a 20 year term. Since the water main improvements are within the City of Detroit, that loan qualifies for "disadvantaged community status" and will be payable over a 30 year term.

**Budget Impact:** Debt service is anticipated to begin in FY 2020 for the first segment of the GLWA DWRf Water Conveyance System Project and the DWSD DWRf Water Main Replacement Project and have been included as part of the FY 2020 financial plan. Debt service on the second segment of the GLWA Water Conveyance System DWRf project is anticipated to begin in FY 2021 and will be included as part of the FY 2021 financial plan.

**Proposed Action:** The GLWA Audit Committee recommends the approval of the Resolution Authorizing Publication of Notice of Intent to Issue Water Supply System Revenue Bonds to the GLWA Board of Directors at its meeting on May 8, 2019.

**Great Lakes Water Authority**  
**Resolution 2019- -**  
**RE: Authorizing Publication of Notice of Intent**  
**to Issue Water Supply System Revenue Bonds**

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

**Whereas** The Great Lakes Water Authority (the “Authority”) is authorized to issue revenue bonds pursuant to the provisions of Act 94, Public Acts of Michigan, 1933, as amended (“Act 94”) for the purpose of paying all or part of the costs of purchasing, acquiring, constructing, improving, enlarging, extending and repairing the Water System as defined in the Regional Water Supply System Lease, dated June 12, 2015, between the City of Detroit and the Authority; and

**Whereas** The Authority intends to issue one or more series of revenue bonds for the purposes hereinafter set forth; and

**Whereas** Section 33 of Act 94 requires the publication of a notice of intent to issue bonds at least 45 days prior to the issuance of such bonds.

**Now, Therefore Be It:**

**Resolved** That the Chief Financial Officer is hereby instructed to cause the publication of a notice of intent to issue bonds with respect to the hereinafter-described bonds once in the *Detroit Free Press* or the *Detroit News*, so as to be prominently displayed therein, and it is hereby found that each such newspaper has general circulation in the territory of the Authority; **And Be it Further**

**Resolved** That the notice of intent to issue bonds shall be in substantially the following form with such necessary or desirable changes as may be approved by the Chief Financial Officer, her approval to be conclusively evidenced by the publication of the notice of intent to issue bonds:

NOTICE OF INTENT TO ISSUE WATER SUPPLY SYSTEM  
REVENUE BONDS BY THE GREAT LAKES WATER AUTHORITY

TO THE ELECTORS OF THE CHARTER COUNTY OF MACOMB, THE COUNTY OF OAKLAND AND THE CHARTER COUNTY OF WAYNE:

NOTICE IS HEREBY GIVEN, that the Great Lakes Water Authority (the "Authority"), a municipal authority organized and existing under the provisions of Act No. 233, Public Acts of Michigan, 1955, as amended, intends to issue its water supply system revenue bonds in one or more series in the aggregate principal amount of not to exceed \$160,000,000 for the purpose of paying all or part of the cost of acquiring and constructing facilities, replacements, extensions, improvements and repairs to the City of Detroit's water supply system (the "Water System"), which Water System is described and defined in the Regional Water Supply System Lease dated June 12, 2015, between the City of Detroit (the "City") and the Authority (the "Lease"). As set forth in the Lease, the Water System consists of (i) the Regional Water System, which is that portion of the Water System that provides water service to wholesale customers thereof and to individual customers within and outside the City ("Retail Water Customers") that receive water service directly from the hereinafter described Local Water System up to the point of connection to the Local Water System and (ii) the Local Water System, which is that portion of the Water System that provides service directly to Retail Water Customers. Pursuant to the Lease, the City has leased the Regional Water System to the Authority for a period of forty (40) years and the Authority is authorized to issue revenue bonds under Act No. 94, Public Acts of Michigan, 1933, as amended ("Act 94") for the foregoing purposes.

The bonds of each series will mature in not to exceed forty (40) years after the original issuance date of the respective series of bonds, and will bear interest at rates to be determined upon the sale thereof but in no event to exceed such rates as may be permitted by law.

SOURCE OF PAYMENT OF REVENUE BONDS

The bonds will be issued under and pursuant to the provisions of Act 94 and a resolution or ordinance of the Board of Directors of the Authority and will be payable from the net revenues of the Water System and any improvements, enlargements and extensions thereto, and a statutory lien on said revenues will be established by said resolution or ordinance. The Authority will covenant and agree to fix and maintain, or cause to be fixed and maintained, at all times while any of the bonds shall be outstanding such rates and charges for service furnished by the Water System as shall be sufficient to provide for payment of the necessary expenses of operation, maintenance and administration of the Water System and of the principal of and interest on the bonds when due, and to provide for such other expenditures, accounts and funds for the Water System as are required by the resolution or ordinance authorizing the issuance of bonds.



## RIGHT TO PETITION FOR REFERENDUM

This notice is given, by order of the Board of Directors of the Authority, to and for the benefit of the electors of the Charter County of Macomb, the County of Oakland and the Charter County of Wayne (collectively, the “Authority District”) in order to inform them of their right to petition for a referendum upon the question of the issuance of the aforesaid bonds. The bonds will be issued, without submitting such a question to a vote of the electors, unless within 45 days after the date of publication of this notice, a petition requesting a referendum upon such question, signed by not less than 15,000 of the registered electors residing in the Authority District shall have been filed with the Secretary of the Authority. The address of the Secretary of the Authority is 735 Randolph, Detroit, Michigan 48226. In the event that such a petition is filed, the bonds will not be issued unless and until the issuance thereof shall have been approved by the vote of a majority of the electors of the Authority District qualified to vote and voting thereon at a general or special election.

## FURTHER INFORMATION

Further information relative to the issuance of said bonds, the Lease and the subject matter of this notice may be secured at the office of the Chief Financial Officer of the Great Lakes Water Authority, 735 Randolph, Room 1608, Detroit, Michigan 48226.

This notice is given pursuant to the provisions of Section 33 of Act 94.

Nicolette N. Bateson  
Chief Financial Officer  
Great Lakes Water Authority

### **And Be it Further**

**Resolved** That it is hereby determined that the foregoing form of notice of intent to issue bonds and the manner of publication so directed are adequate notice to the electors of the constituent public corporations of the Authority and are well calculated to inform them of the intention of the Authority to issue the revenue bonds, the source of payment therefor, and the right of referendum on the revenue bonds; **And Be it Further**

**Resolved** That all resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution be and the same hereby are rescinded.

Adopted by the Great Lakes Water Authority Board on: \_\_\_\_\_



## Financial Services Audit Committee Communication

**Date:** April 24, 2019

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

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

**Re:** Drinking Water Revolving Fund Project Plan Submittal for the Detroit Water and Sewerage Department Water Main Replacement – FY 2020 Drinking Water Revolving Fund Project Plan

**Background:** The Detroit Water & Sewerage Department (DWSD) has identified four (4) water system projects in its proposed FY 2020 to 2024 Capital Improvement Plan (CIP) for submittal to the Michigan Department of Environmental Quality (MDEQ) for the Drinking Water Revolving Fund (DWRF) financing program for funding in the state's 2020 fiscal year. The deadline for submitting all DWRF project plans to MDEQ is May 1, 2019, but prior to submitting the project plans, a public hearing must be held for the affected area.

The project consists of the excavation of existing water mains, installation of new pipes, replacement of lead service lines between the water main and the water meter, pressure testing, backfill, and right-of-way. The impact of the project will be improved customer satisfaction and safe and reliable service delivery of potable water to customers. The estimated cost of this project is \$57,300,000.

The FY 2020 DWRF Project Plan and public hearing notice for DWSD Local Watermain Project has been posted on the DWSD website and can be found at: [detroitmi.gov/dwsd](http://detroitmi.gov/dwsd). This project plan was presented at the DWSD public hearing on April 3, 2019.

**Analysis:** Pursuant to Section 7.2(b) of the Regional Water Supply System Lease between the City of Detroit and GLWA, the Authority shall cooperate fully with the City in the implementation of the Detroit Capital Improvement, including financing through the Authority. Therefore, GLWA will submit the local project plan as it will be the DWRF loan applicant. Per notification, from MDEQ, GLWA does not need to hold a separate public hearing on the local project, however, the GLWA Board of Directors will need to act on the included resolution at its regularly scheduled meeting on April 24, 2019. The resolution must be approved and signed to ensure that the finalized Project Plan is assembled, printed, and submitted to the MDEQ by the deadline of May 1, 2019.

GLWA concurs with the DWSF Water Main Project adoption, and as the DWRF applicant, is seeking low interest loan assistance through the DWRF program.

GLWA concurs with the DWSD Water Main Project adoption, and as the DWRF applicant, is seeking low interest loan assistance through the DWRF program. Although the MDEQ interest rate for FY 2020 will not be determined until October 2019, the current year's interest rate of 2.0% is less than the present conventional bond rate. Based on the estimated project amount, DWSD could save an estimated \$28.2 million in interest costs and avoided issuance costs, based on a similar market revenue bond with a 30-year and 4.50% interest rate. This will afford saving to DWSD and its customers.

**Budget Impact:** GLWA will be the loan applicant on the DWRF loans issued on behalf of DWSD, and DWSD will be the DWRF loan recipient as determined by MDEQ. All project costs financed by GLWA, on behalf of DWSD, through the DWRF program bonds and resulting principal and interest payments on the bonds will be directly allocable to the DWSD local system. Debt service is anticipated to begin in FY 2021 for this project and will be included as part of the FY 2021 financial plan.

**Proposed Action:** The Audit Committee recommends that the Great Lakes Water Authority Board approves the Resolution to Adopt the Detroit Water and Sewerage Department Water Main Replacement – FY 2020 Drinking Water Revolving Fund Project Plan.

Great Lakes Water Authority  
Resolution

RE: Resolution to Adopt the Detroit Water and Sewerage Department (DWSD) Water Main Replacement Final Project Plan  
FY 2020 Drinking Water Revolving Fund (DWRP) Project Plan

- Whereas: The City of Detroit through its Detroit Water and Sewerage Department (DWSD), and the Great Lakes Water Authority (GLWA), both jointly recognize the need to make improvements to portions of the existing water distribution system that are owned and operated by the City of Detroit and that are physically located within the city limits; and
- Whereas: Pursuant to Section 7.2(b) of the Regional Water Supply System Lease between the City of Detroit and GLWA, the Authority shall cooperate fully with the City in the implementation of the Detroit Capital Improvement, including financing through the Authority; and
- Whereas: The DWSD prepared a Drinking Water Revolving Fund (DWRP) Project Plan, which recommends water main replacement and associated appurtenances, including removal of certain lead service lines, in various locations of the City of Detroit; and
- Whereas: The Project Plan was presented by DWSD at a Public Hearing held on April 3, 2019 at 1:00 p.m. in the DWSD Board of Water Commissioners (BOWC) hearing room, and all public comments were considered and addressed;
- Whereas: The DWSD formally adopted said Project Plan and agreed to implement the identified selected water main and lead service line replacements as described in said document, as evidenced by the DWSD resolution in Attachment 1;
- Whereas: It is the desire of the GLWA Board of Directors to secure low interest loan assistance through the DWRP program; and

Now Therefore Be It:

- Resolved The GLWA Board hereby accepts and approves the DWSD Water Main Replacement DWRP Project Plan as approved by the DWSD BOWC at its April 3, 2019 meeting; and Be It Further
- Resolved The GLWA concurs with the DWRP Project Plan adoption and agrees to serve as the DWRP loan applicant on behalf of the City of Detroit, the loan recipient, for all activities required by DWRP financing, and in accordance with local and state intergovernmental agreements; and Be It Further
- Resolved The GLWA Resolution identifying Designated Representative adopted on April 26, 2017 established the GLWA authorized representatives for all DWRP program

activities, and no updates to these designations are necessary at this time and Be It Further

Resolved That the Chief Executive Officer (CEO) is authorized to transmit the final FY 2020 DWRP Project Plan for the Water Main Replacement project to the Michigan Department of Environmental Quality on behalf of the GLWA Board of Directors and take all appropriate steps to secure approval of a low interest loan in accordance with the State of Michigan's DWRP procedures so that the project can proceed expeditiously to construction.



**PUBLIC HEARING • APRIL 3, 2019**

# **NOTICE**

## **PUBLIC HEARING FOR WATER MAIN REPLACEMENT FY20 DRINKING WATER REVOLVING FUND (DWRF) PROJECT**

The Detroit Water and Sewerage Department (DWSD) announces a Public Hearing regarding its Project Plan for the proposed Water Main Replacement in the city of Detroit. DWSD will be seeking low-interest Drinking Water Revolving Fund (DWRF) loan assistance for FY2020. The project is comprised of replacing aging water mains in multiple areas located within the city of Detroit. Construction will include excavation of existing water mains, installation of new pipes, replacement of lead service lines between the water main and the water meter, pressure testing, backfill, and right-of-way. The impact of the project will be improved customer satisfaction and safe, reliable service delivery of potable water to customers. The temporary impact of construction activities will be minimized through mitigation measures specified in the contract documents. Adverse impacts on historical, archaeological, geographic, or cultural areas are not expected. This project is necessary to ensure that DWSD will consistently and reliably provide high quality potable water to residents. The Project Plan consists of four (4) different projects that are in critical need of water main replacement or rehabilitation. The total cost of these four (4) projects is currently estimated at \$57,300,000, which is being sought through the DWRF program. The Water Main Replacement project is eligible for participating under the State of Michigan low-interest DWRF loan program.

The Public Hearing will present a description of the recommended project, estimated costs, as well as the cost per household impact for customers. The typical residential customer bill in the city of Detroit is expected to increase by approximately 2.48% assuming that low-interest loans can be obtained through the DWRF loan program. The purpose of the hearing is not only to inform, but to seek and gather input from people that will be affected. Comments and viewpoints from the public are encouraged.

THE MEETING WILL BE HELD ON:

**WEDNESDAY, APRIL 3, 2019  
DETROIT WATER AND SEWERAGE DEPARTMENT  
WATER BOARD BUILDING  
735 RANDOLPH, 5<sup>TH</sup> FLOOR, BOARD ROOM  
DETROIT, MICHIGAN 48226  
1:00 P.M.**

Information on the Project Plan will be available at the following locations:

City Website: [detroitmi.gov/dwsd](http://detroitmi.gov/dwsd)  
OR  
Detroit Water and Sewerage Department  
Water Board Building  
735 Randolph, First Floor  
Detroit, Michigan 48226

If you have questions or want to submit written statements for the Public Hearing Record, call or write:

(313) 964-9269  
Monica Daniels  
Detroit Water and Sewerage Department  
735 Randolph, 7<sup>th</sup> Floor  
Detroit, MI 48226

Written comments will be accepted at the above address if received prior to 1:00 p.m. EST, Wednesday, April 3, 2019.

# GLWA

*Great Lakes Water Authority*



## **Monthly Financial Report Binder**

January 2019

**Presented to the  
Great Lakes Water Authority  
Audit Committee  
on April 24, 2019**

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## Revenue and Expense Budget to Actual<sup>1</sup> – Pro-rata Benchmark of 58.3%

Most categories are within 5% of the pro-rata benchmark.

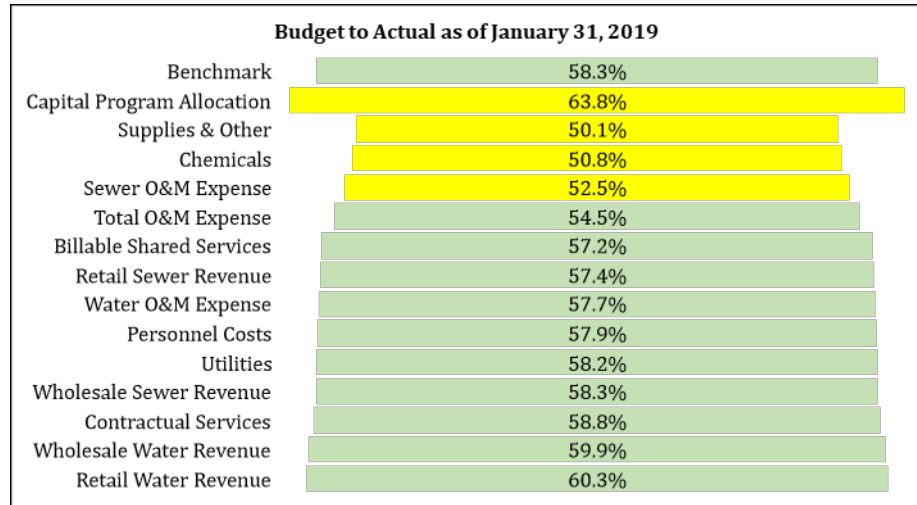
### *Capital Program*

*Allocation:* The launch of a new software program in early FY 2019 has significantly improved capital project time reporting.

*Supplies & Other:* Due to timing of one-time or annual purchases in this category, expenses will not occur evenly throughout the fiscal year.

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

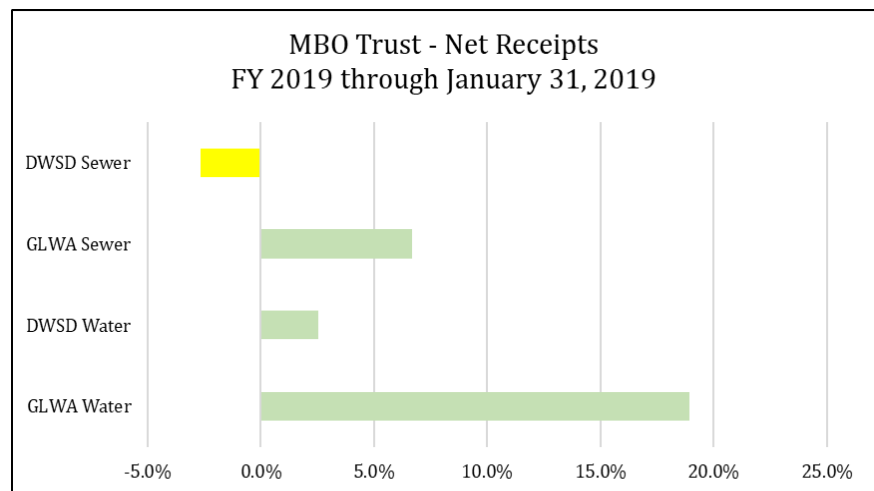
*Sewer Operations & Maintenance (O&M) Expense:* The positive variances in Supplies & Other and Chemicals, noted above, also positively impact the overall Sewer O&M Expense.



## Master Bond Ordinance (MBO) Trust Net Receipts

Overall net cash flow (receipts) is positive. This means that all legal commitments of the MBO Trust and the lease payment are fully funded to date. The net positive variance contributes to an improving financial position.

One area under review is a DWSD net sewer receipts budgetary shortfall (\$5.8 million through January 31, 2019 for FY 2019).



**Capital Spending Ratio** The water system incurred over \$37.3 million of construction costs to date which is 97% of the FY 2019 prorated, budgeted spend. The Sewer system spent \$47.9 million which is 78%.

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.

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

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

## Revenue Requirement Budget Basis Analysis

GLWA's annual revenue requirement represents the basis for calculating Member Partner charges. The analysis is presented in a manner that largely aligns with 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 budget basis to the financial reporting basis is the treatment of debt service, legacy pension obligations, and lease related activities. The Revenue Requirement Basis is foundational to GLWA's daily operations, financial plan, and of most interest to key stakeholders.

**Table 1A – Water Revenue Requirement Budget** and **Table 1B – Sewer Revenue Requirement Budget** presents a year-over-year budget to actual performance report. The revenue requirement budget is accounted for in the operations and maintenance fund for each system. Since this report is for January 2019, the pro-rata benchmark is 58.3% (7 of 12 months of the fiscal year).

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

1. **Revenues:** For *both* systems, FY 2019 revenues are at or above target and are consistent with the prior year (FY 2018) at the same time. Detailed schedules related to revenues are provided in the *Wholesale Billings, Collections, and Receivables* section of this financial report binder.
2. **Investment Earnings:** For *both* systems are at or above target for FY 2019. Detailed analysis of investment earnings activity to date can be found in the *Cash & Investment Income* section of this financial report binder.
3. **Other Revenues:** These one-time and unusual items that do not fit an established revenue category. Both the *water* and *sewer* systems actual amount will vary from budget due to the nature of the items recorded in this category. For example, in FY 2018 the variance reported for the *sewer* system was due, in large part, to fire remediation insurance proceeds received.

4. **Operations & Maintenance Expense:** Actual expenses<sup>1</sup> for *both* systems are less than the pro-rata benchmark; the *water* system is slightly under the pro-rata benchmark for FY 2019 at 57.7%, while the *sewer* system O&M expense is at 52.5%.
5. **Debt Service:** *Both* systems are slightly lower than the pro-rata benchmark; the *water* system is at 58.1%, while the *sewer* system is at 57.4%. The activity is based on the payment schedules that have been adjusted for the State Revolving Fund loans that are still being drawn down. In October 2018, the GLWA had a successful bond sale which will provide a positive budget variance for *both* systems. The budget amendment for this transaction was recorded in January 2019.
6. **Improvement & Extension (I&E) Fund Transfer Pending:** The contribution to the I&E Fund is for improvements, enlargements, extensions or betterment of the Water System. Transfers to the I&E Fund from net revenues typically occur later in the year or after year end close when net revenues are verified. The amount of the transfer is positively impacted by net revenues. To the extent that there are budgetary shortfalls, for the local or regional system, the amount of funds available for transfer to the I&E fund would be negatively impacted.  
Through January 31, 2019, the DWSD *sewer* system shortfall is approximately \$5.8 million. No adjustment has been reflected in this analysis in anticipation of a cashflow projection from DWSD demonstrating that this shortfall will be cured by June 30, 2019.
7. **Other Revenue Requirements:** 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.
8. **Overall:** Total revenue requirements for *both* systems are in line with the benchmark.

- continued -

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

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

	FY 2018 BOARD ADOPTED BUDGET	FY 2018 THRU 1/31/2018	Percent Year-to- Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 THRU 1/31/2019	Percent Year-to- Date
<b>Water System</b>							
<b>Revenues</b>							
Wholesale Customer Charges	\$ 310,019,800	\$192,008,500	61.9%	\$307,382,500	\$307,382,500	\$ 186,154,800	60.6%
Retail Services Agreement	15,130,600	8,826,200	58.3%	20,181,400	20,181,400	11,856,900	58.8%
Investment Earnings	2,968,900	2,086,700	70.3%	3,802,300	9,425,400	5,501,700	58.4%
Other Revenues	-	12,200	0.0%	34,300	-	25,200	0.0%
<b>Total Revenues</b>	<b>\$ 328,119,300</b>	<b>\$202,933,600</b>	<b>61.8%</b>	<b>\$331,400,500</b>	<b>\$336,989,300</b>	<b>\$ 203,538,600</b>	<b>60.4%</b>
<b>Revenue Requirements</b>							
Operations & Maintenance Expense	\$ 121,562,600	\$ 59,418,900	48.9%	\$121,562,600	\$121,562,600	\$ 70,124,200	57.7%
O&M Legacy Pension	6,048,000	3,528,000	58.3%	6,048,000	6,048,000	3,528,000	58.3%
Debt Service	135,464,400	77,654,943	57.3%	134,214,600	131,241,800	76,217,526	58.1%
Accelerated Legacy Pension	6,268,300	3,656,508	58.3%	6,268,300	6,268,300	3,656,508	58.3%
Extraordinary Repair & Replacement							
Deposit	645,700	376,658	58.3%	-	-	-	0.0%
Lease Payment	22,500,000	13,125,000	58.3%	22,500,000	22,500,000	13,125,000	58.3%
Operating Reserve Deposit	1,097,900	640,442	58.3%	-	-	-	0.0%
Water Residential Assistance Program	1,711,200	998,200	58.3%	1,673,400	1,673,400	976,150	58.3%
Improvement & Extension Fund							
Transfer Pending	32,821,200	19,145,700	58.3%	39,133,600	47,695,200	27,822,200	58.3%
<b>Total Revenue Requirements</b>	<b>\$ 328,119,300</b>	<b>\$178,544,351</b>	<b>54.4%</b>	<b>\$331,400,500</b>	<b>\$336,989,300</b>	<b>\$ 195,449,584</b>	<b>58.0%</b>
<b>Net Variance</b>		<b>\$ 24,389,249</b>				<b>\$ 8,089,016</b>	
Revenue Variance		\$ 11,530,675				\$ 6,961,508	
Revenue Requirement Variance		12,858,574				1,127,507	
Overall Variance		<u>\$ 24,389,249</u>				<u>\$ 8,089,016</u>	

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

	FY 2018 BOARD ADOPTED BUDGET	FY 2018 THRU 1/31/2018	Percent Year-to- Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 THRU 1/31/2019	Percent Year-to- Date
<b>Sewer System</b>							
<b>Revenues</b>							
Wholesale Customer Charges	\$ 267,033,800	\$158,335,100	59.3%	\$271,296,300	\$271,296,300	\$ 160,389,600	59.1%
Retail Services Agreement	178,969,200	104,398,700	58.3%	181,159,300	181,159,300	106,754,400	58.9%
Industrial Waste Control Charges	14,457,700	8,367,500	57.9%	15,005,800	15,000,800	5,356,200	35.7%
Pollutant Surcharges	5,099,000	3,593,600	70.5%	-	-	3,399,200	0.0%
Investment Earnings	2,751,000	2,190,100	79.6%	4,085,700	6,878,800	5,067,700	73.7%
Other Revenues	-	3,645,300	0.0%	480,200	-	298,600	0.0%
<b>Total Revenues</b>	<b>\$ 468,310,700</b>	<b>\$280,530,300</b>	<b>59.9%</b>	<b>\$472,027,300</b>	<b>\$474,335,200</b>	<b>\$ 281,265,700</b>	<b>59.3%</b>
<b>Revenue Requirements</b>							
Operations & Maintenance Expense	\$ 191,079,400	88,122,900	46.1%	\$191,079,400	\$191,079,400	\$ 100,275,400	52.5%
O&M Legacy Pension	10,824,000	6,314,000	58.3%	10,824,000	10,824,000	6,314,000	58.3%
Debt Service	207,615,500	117,647,081	56.7%	214,600,700	208,389,300	119,706,205	57.4%
Accelerated Legacy Pension	11,620,700	6,778,742	58.3%	11,620,700	11,620,700	6,778,742	58.3%
Extraordinary Repair & Replacement							
Deposit	813,600	474,600	58.3%	-	-	-	0.0%
Lease Payment	27,500,000	16,041,667	58.3%	27,500,000	27,500,000	16,041,667	58.3%
Operating Reserve Deposit	1,733,000	1,010,917	58.3%	-	-	-	0.0%
Water Residential Assistance Program	2,391,800	1,395,217	58.3%	2,374,100	2,374,100	1,384,892	58.3%
Improvement & Extension Fund							
Transfer Pending	14,732,700	8,594,075	58.3%	14,028,400	22,547,700	13,152,825	58.3%
<b>Total Revenue Requirements</b>	<b>\$ 468,310,700</b>	<b>\$246,379,198</b>	<b>52.6%</b>	<b>\$472,027,300</b>	<b>\$474,335,200</b>	<b>\$ 263,653,730</b>	<b>55.6%</b>
<b>Net Variance</b>		<b>\$ 34,151,102</b>				<b>\$ 17,611,970</b>	
Revenue Variance		\$ 7,349,058				\$ 4,570,167	
Revenue Requirement Variance		26,802,044				13,041,803	
Overall Variance		<u>\$ 34,151,102</u>				<u>\$ 17,611,970</u>	

## Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of January 31, 2019, is 58.3% (seven months). When comparing FY 2019 to FY 2018 in **Table 2 – Operations & Maintenance Budget – Major Budget Categories**, it appears spending has increased. This is true in some instances; however, the greater impact is that the Financial Reporting & Accounting Team has implemented a full accrual basis for interim financial statements during the latter half of FY 2018. This variance anomaly 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 Operations & Maintenance Budget Categories	FY 2018 AMENDED BUDGET	FY 2018 ACTIVITY THRU 1/31/2018	Percent Year-to-Date	FY 2019 BOARD ADOPTED BUDGET	FY 2019 AMENDED BUDGET	FY 2019 ACTIVITY THRU 1/31/2019	Percent Year-to-Date
Water	\$ 73,510,500	\$ 34,417,100	46.8%	\$ 66,596,200	\$ 66,596,200	\$ 43,058,700	64.7%
Sewer	124,106,400	55,921,400	45.1%	118,318,900	118,318,900	63,166,600	53.4%
Centralized	82,628,700	43,422,300	52.6%	99,044,500	99,044,500	50,826,100	51.3%
Administrative	32,304,900	15,716,700	48.7%	28,682,400	28,682,400	14,771,800	51.5%
Employee Benefits	-	(1,935,700)	0.0%	-	-	(1,423,600)	0.0%
<b>Total O&amp;M Budget</b>	<b>\$312,550,500</b>	<b>\$ 147,541,800</b>	<b>47.2%</b>	<b>\$312,642,000</b>	<b>\$312,642,000</b>	<b>\$170,399,600</b>	<b>54.5%</b>

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

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

**Total:** In total, the O&M expenses are at 54.5% which is reasonably close to the pro-rata benchmark of 58.3%. This positive variance equates to a dollar amount of \$12.0 million. The expense category commentary is provided below for items highlighted on Table 3.

**Personnel Costs:** The overall category is slightly lower than the benchmark; coming in at 57.9% through January 2019.

**Utilities:** The overall category is on target at 58.2% through January 2019. 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 50.8% through January 2019. This variance is not unexpected as usage varies throughout the year. Staff is working on enhancements to future monthly financial and operational reports to correlate spending with operational metrics.

**Supplies & Other:** This category is lower than the benchmark; coming in at 50.1% through January 2019. An internal review is underway to better understand the causes for this variance. Given that the nature of the items in this category are subject to one-time expenses that do not occur evenly throughout the year, this variance is not a concern at this time.

**Contractual Services:** The overall category is on target at 58.8% through January 2019.

**Capital Program Allocation:** This category is higher than the benchmark; coming in at 63.8% through January 2019. In July 2018, GLWA launched a time keeping software (including an app), BigTime, to make it easier for team members to report their time spent on direct capital delivery.

**Shared Services:** This category is slightly lower than the benchmark; coming in at 57.2% through January 2019. The shared services reimbursement is comprised of both labor (tracked via BigTime) and expenses, such as annual fees for software licensing. Staff from both GLWA and DWSD have been working together to evaluate and refine the budget for the shared services agreements. In December 2018, adjustments were made to both the billings and accounting accruals to bring them in line with the amended shared services budget.



**Table 3 – Operations & Maintenance Expense Variance Analysis**

Expense Categories	FY 2018 AMENDED BUDGET	FY 2018 ACTIVITY THRU 1/31/2018	Percent Year-to- Date at 1/31/2018	FY 2018 ACTIVITY THRU 6/30/2018	Percent Year-to- Date at 6/30/2018	FY 2019 AMENDED BUDGET	FY 2019 PRORATED AMENDED BUDGET (7 MONTHS)	FY 2019 ACTIVITY THRU 1/31/2019	Percent Year-to- Date	FY 2019 PRORATED BUDGET LESS FY 2019 ACTIVITY
<b>Entity-wide</b>										
2.1 Salaries & Wages	\$ 57,113,800	\$ 31,006,300	54.3%	\$ 55,174,400	56.2%	\$ 63,100,800	\$ 36,808,800	\$ 35,099,500	55.6%	\$ 1,709,300
2.2 Workforce Development	661,500	328,300	49.6%	604,900	54.3%	723,300	421,925	434,900	60.1%	(12,975)
2.3 Overtime	6,516,600	3,864,400	59.3%	6,161,600	62.7%	7,196,500	4,197,958	4,503,500	62.6%	(305,542)
2.4 Employee Benefits	20,998,900	13,192,400	62.8%	20,432,200	64.6%	22,281,600	12,997,600	14,488,400	65.0%	(1,490,800)
2.5 Transition Services	13,865,100	4,763,900	34.4%	13,152,800	36.2%	6,442,400	3,758,067	4,696,700	72.9%	(938,633)
2.6 Personnel Transition Adjustment	(1,557,200)	-	0.0%	-	0.0%	-	-	-	0.0%	-
8.0 Employee Benefits Fund	-	(1,935,700)	0.0%	-	0.0%	-	-	(1,423,600)	0.0%	1,423,600
<b>Personnel Costs</b>	<u>97,598,700</u>	<u>51,219,600</u>	<u>52.5%</u>	<u>95,525,900</u>	<u>53.6%</u>	<u>99,744,600</u>	<u>58,184,350</u>	<u>57,799,400</u>	<u>57.9%</u>	<u>384,950</u>
3.1 Electric	42,324,400	18,902,000	44.7%	40,873,800	46.2%	39,800,700	23,217,075	24,672,700	62.0%	(1,455,625)
3.2 Gas	7,029,500	1,922,600	27.4%	6,611,500	29.1%	6,619,600	3,861,433	3,490,400	52.7%	371,033
3.3 Sewage Service	2,030,500	864,200	42.6%	1,715,600	50.4%	2,588,100	1,509,725	1,312,000	50.7%	197,725
3.4 Water Service	4,587,600	2,512,300	54.8%	4,493,100	55.9%	5,716,700	3,334,742	2,355,800	41.2%	978,942
<b>Utilities</b>	<u>55,972,000</u>	<u>24,201,100</u>	<u>43.2%</u>	<u>53,694,000</u>	<u>45.1%</u>	<u>54,725,100</u>	<u>31,922,975</u>	<u>31,830,900</u>	<u>58.2%</u>	<u>92,075</u>
4.1 Chemicals	13,340,600	7,797,500	58.4%	12,877,700	60.6%	14,694,600	8,571,850	7,467,100	50.8%	1,104,750
4.2 Supplies & Other	41,770,900	16,335,000	39.1%	29,846,200	54.7%	34,287,200	20,000,867	17,171,600	50.1%	2,829,267
4.3 Contractual Services	113,680,100	53,116,200	46.7%	104,980,900	50.6%	107,491,000	62,703,083	63,227,700	58.8%	(524,617)
5.1 Capital Program Allocation	(2,012,900)	(761,000)	37.8%	(1,683,300)	45.2%	(2,806,400)	(1,637,008)	(1,791,200)	63.8%	154,192
5.2 Shared Services	(10,109,500)	(4,366,600)	43.2%	(9,908,100)	44.1%	(9,271,500)	(5,408,375)	(5,305,900)	57.2%	(102,475)
7.0 Unallocated Reserve	2,310,600	-	0.0%	-	0.0%	13,777,400	8,036,817	-	0.0%	8,036,817
<b>Total Expenses</b>	<u>\$312,550,500</u>	<u>\$147,541,800</u>	<u>47.2%</u>	<u>\$285,333,300</u>	<u>51.7%</u>	<u>\$312,642,000</u>	<u>\$182,374,559</u>	<u>\$170,399,600</u>	<u>54.5%</u>	<u>\$ 11,974,959</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

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

## Statement of Net Position – All Funds Combined

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

**Table 1 – Statement of Net Position - All Funds Combined**  
**As of January 31, 2019**  
**\$(000)**

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2018
<b>Assets</b>				
Cash (a)	\$ 160,022	\$ 195,385	\$ 355,407	\$ 671,753
Investments (a)	376,955	295,026	671,981	343,235
Accounts Receivable	113,502	98,314	211,816	191,359
Due from Other Funds (b)	10,739	-	10,739	32,255
Other Assets (c)	607,412	456,025	1,063,437	985,888
Cash Held FBO DWSD Advance (d)	-	24,312	24,312	18,468
Capital Assets, net of depreciation	1,710,389	2,510,146	4,220,536	4,402,212
Construction Work in Process	179,210	194,214	373,424	288,052
<b>Total Assets</b>	<b>3,158,230</b>	<b>3,773,423</b>	<b>6,931,653</b>	<b>6,933,222</b>
<b>Deferred Inflow (e)</b>	<b>89,230</b>	<b>172,474</b>	<b>261,704</b>	<b>332,992</b>
<b>Liabilities</b>				
Liabilities – Short-Term (f)	127,463	141,784	269,248	270,446
Due to Other Funds (b)	-	10,739	10,739	32,255
Other Liabilities (g)	2,860	6,288	9,148	8,638
Cash Held FBO DWSD (d)	10,195	-	10,195	8,902
Liabilities – Long-Term (h)	3,103,283	3,842,443	6,945,725	6,998,296
<b>Total Liabilities</b>	<b>3,243,801</b>	<b>4,001,255</b>	<b>7,245,055</b>	<b>7,318,537</b>
<b>Deferred Outflow (e)</b>	<b>66,506</b>	<b>57,370</b>	<b>123,877</b>	<b>126,432</b>
<b>Net Assets (Deficit) (i)</b>	<b>\$ (62,847)</b>	<b>\$ (112,729)</b>	<b>\$ (175,576)</b>	<b>\$ (178,755)</b>

*Totals may be off due to rounding*



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

An ongoing challenge is the Net Position Deficit. The underlying causes took years to build (largely heavy use of debt to finance capital asset investment versus a strategic blend of debt, state revolving funds, and cash). The effect is reflected in GLWA's high debt interest expense. The GLWA is regularly updating the FY 2030 forecast which helps to provide a pathway to a positive Net Position in the future.

### **Footnotes to Statement of Net Position**

- a. *Cash and Investments* include restricted amounts and are reported at book value. Investments at June 30, 2018 are reported at market value.
- b. *Due from Other Funds* and *Due to Other Funds* is shown at the gross level for sub-fund activity.
- c. *Other Assets* primarily consists of the contractual obligation receivable from DWSD related to reimbursement of bonded indebtedness for local system improvements.
- d. *Cash Held FBO Advance (for benefit of) DWSD* and *Cash Held FBO DWSD* represents the net difference between DWSD retail cash received from customers and net financial commitments as outlined in the Master Bond Ordinance.
- e. *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 General Retirement System pension liabilities.
- i. *Net Position Deficit* is defined by accounting standards as the residual of all other elements presented in a statement of financial position. It is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. A net deficit occurs when the liabilities and deferred inflows exceed assets and deferred outflows. GLWA's net deficit is largely driven by an increase in depreciation expense as a result of the increase in the acquisition valuation approach for recording capital asset values in the opening Statement of Net Position on January 2016. Efforts are underway to evaluate the net operating effect of this matter over the long term.

## Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined

This statement, shown in Table 2, is presented in summary format. The accrual basis of revenues and operations and maintenance expense vary from the revenue requirement basis presented in the *Budget to Actual Analysis* and the *Wholesale Billings, Receivables & Collections* sections of the January 2019 Financial Report Binder. Prior year ending balances are provided in the June 30, 2018 column as a reference for comparative purposes. Explanatory notes follow this statement.

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

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business- type Activities	Comparative June 30, 2018
<b>Revenue</b>						
Wholesale customer charges	\$ 190,473	94.1%	\$ 160,390	58.1%	\$ 350,862	\$ 592,096
Local system charges	11,857	5.9%	106,754	38.7%	118,611	194,100
Industrial waste charges	-	0.0%	5,356	1.9%	5,356	14,335
Other revenue	25	0.0%	299	0.1%	324	4,455
Pollutant surcharges	-	0.0%	3,399	1.2%	3,399	6,908
Bad Debt Recovery	-	0.0%	-	0.0%	-	-
<b>Total Revenues</b>	<b>\$ 202,355</b>	<b>100.0%</b>	<b>\$ 276,198</b>	<b>100.0%</b>	<b>\$ 478,553</b>	<b>\$ 811,895</b>
<b>Operating Expenses</b>						
Operations and Maintenance Expenses	70,124	34.7%	100,276	36.3%	170,399	284,910
Depreciation	84,406	41.7%	102,840	37.2%	187,245	331,242
<b>Total Operating Expenses</b>	<b>154,530</b>	<b>76.4%</b>	<b>203,115</b>	<b>73.5%</b>	<b>357,645</b>	<b>616,152</b>
Operating Income	47,825	23.6%	73,083	26.5%	120,908	195,743
<b>Total Nonoperating (Revenue)/Expense</b>						
	50,237	24.8%	67,492	24.4%	117,729	271,662
<b>Increase/(decrease) in Net Position</b>	<b>(2,412)</b>	<b>-1.2%</b>	<b>5,591</b>	<b>2.0%</b>	<b>3,179</b>	<b>(75,920)</b>
Net Position Deficit, beginning of year	(60,435)		(118,319)		(178,755)	(102,835)
<b>Net Position Deficit, end of year</b>	<b>\$ (62,847)</b>		<b>\$ (112,729)</b>		<b>\$ (175,576)</b>	<b>\$ (178,755)</b>

*Totals may be off due to rounding*

## Water Fund

- ✓ The decrease in Water Fund Net Position is \$2.4 million.
- ✓ Wholesale water customer charges of \$190.4 million account for 94.1% of Water System revenues.
- ✓ Operating expenses of \$154.5 million represent 76.4% of total operating revenue. Depreciation is the largest operating expense at \$84.4 million or 54.6% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$47.8 million or 23.6% of operating revenue. This represents an increase of \$4.4 million over December year-to-date.
- ✓ The largest category within nonoperating activities is interest expense of \$66.4 million (this equates to the bonded debt interest less the offset from DWSD contractual obligation income).

## Sewage Disposal Fund

- ✓ The increase in Sewer Net Position was \$5.6 million.
- ✓ Wholesale customer charges of \$160.3 million account for 58.1% 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 \$106.7 million account for 38.7% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of \$203.1 million represent 73.5% of total operating revenue. Depreciation is the largest operating expense at \$102.8 million or 50.6% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals \$73.1 million or 26.5% of operating revenue. This represents an increase of \$11.8 million over December year-to-date.
- ✓ The largest category within nonoperating activities is interest expense of \$84.1 million (this equates to the bonded debt interest less the offset from DWSD contractual obligation income).

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

This Supplemental Schedule of Operations & Maintenance Expenses (O&M) schedule is shown below in Table 3. This accrual basis of operations and maintenance expense may vary from the revenue requirement basis presented in the *Budget to Actual Analysis* section of the January 2019 Financial Report Binder. Explanatory notes follow this schedule.

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

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business- type Activities	Percent of Total
<b>Expenditure</b>						
Personnel						
Salaries & Wages	14,262	20.3%	25,968	25.9%	40,231	23.6%
Overtime	2,480	3.5%	2,023	2.0%	4,503	2.6%
Benefits	7,486	10.7%	5,578	5.6%	13,064	7.7%
Total Personnel	<b>\$ 24,228</b>	<b>34.6%</b>	<b>\$ 33,570</b>	<b>33.5%</b>	<b>\$ 57,799</b>	<b>33.9%</b>
Utilities						
Electric	16,441	23.4%	8,232	8.2%	24,673	14.5%
Gas	385	0.5%	3,106	3.1%	3,491	2.0%
Sewage	467	0.7%	845	0.8%	1,312	0.8%
Water	1	0.0%	2,355	2.3%	2,356	1.4%
Total Utilities	<b>\$ 17,294</b>	<b>24.7%</b>	<b>\$ 14,537</b>	<b>14.5%</b>	<b>\$ 31,831</b>	<b>18.7%</b>
Chemicals	2,902	4.1%	4,565	4.6%	7,467	4.4%
Supplies and other	5,755	8.2%	11,417	11.4%	17,172	10.1%
Contractual services	26,122	37.3%	37,106	37.0%	63,227	37.1%
Capital program allocation	(1,123)	-1.6%	(668)	-0.7%	(1,791)	-1.1%
Shared services allocation	(5,054)	-7.2%	(251)	-0.3%	(5,305)	-3.1%
<b>Operations and Maintenance</b>						
<b>Expenses</b>	<b>\$ 70,124</b>	<b>100.0%</b>	<b>\$ 100,276</b>	<b>100.0%</b>	<b>\$ 170,399</b>	<b>100.0%</b>

Totals may be off due to rounding

- ✓ Core expenses for water and sewage disposal systems are utilities (18.7% of total O&M expenses) and chemicals (4.4%).

- ✓ 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 (37.1%) includes:
  - Water System costs of sludge removal and disposal services at the Northeast, Southwest and Springwells Water Treatment Plants (approximately \$8.1 million);
  - Sewage Disposal System costs for the operation and maintenance of the biosolids dryer facility (approximately \$7.5 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 Seven Months ended January 31, 2019**  
**\$(000)**

	Water	Sewage Disposal	Total Business- type Activities	Comparative June 30, 2018
<b>Nonoperating (Revenue)/Expense</b>				
Interest income contractual obligation	\$ (13,329)	\$ (8,760)	\$ (22,089)	\$ (38,857)
Investment earnings	(7,502)	(6,438)	(13,941)	(11,396)
Other nonoperating revenue (expense)	(334)	6,023	5,689	(430)
Interest expense				
Bonded debt	66,774	79,824	146,598	255,868
Lease obligation	10,331	12,627	22,958	39,702
Other obligations	2,639	359	2,998	4,825
Total interest expense	79,744	92,810	172,554	300,395
Other nonoperating expense	438	932	1,370	1,684
Amortization, issuance costs, debt	(4,846)	(6,310)	(11,157)	(8,684)
Amortization, raw water rights	2,081	-	2,081	2,081
(Gain) loss on disposal of capital assets	-	-	-	(2,463)
Loss on impairment of capital assets	-	-	-	654
Water Residential Assistance Program	-	-	-	3,756
Legacy pension expense (income)	(6,014)	(10,764)	(16,778)	24,922
<b>Total Nonoperating (Revenue)/Expense</b>	<b>\$ 50,237</b>	<b>\$ 67,492</b>	<b>\$ 117,729</b>	<b>\$ 271,662</b>

Totals may be off due to rounding

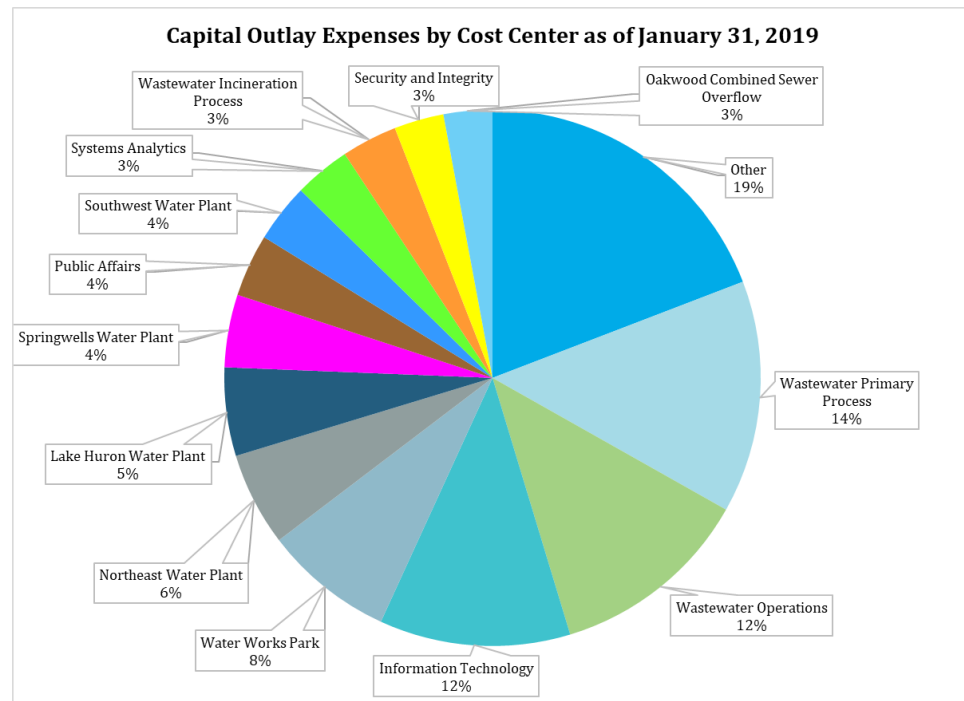
- ✓ Interest income on contractual obligation relates to the portion of the total GLWA debt obligation attributable to DWSD. This interest income offsets the total debt interest expense paid by GLWA on behalf of both entities monthly.
- ✓ Investment earnings in this report are reflected on a cost basis and may therefore not agree with the Cash and Investment Income section of this Financial Report Binder and the Quarterly Debt Report which present balances at market value.
- ✓ Interest expense, the largest category of nonoperating expenses, is made up of three components:
  - Bonded debt;
  - Lease obligation for the regional assets from the City of Detroit; and
  - Other obligations such as an obligation payable to the City of Detroit for an allocation BC Notes related to assumed DWSD liabilities; acquisition of raw water rights related to KWA Pipeline.

- ✓ Legacy Pension expense for FY 2019 is currently being calculated as income due to changes in actuarial assumptions and rates from the June 30, 2018 City of Detroit General Retirement System Component II audited financial statement.
- ✓ Sewer Other Non-operating expense includes the 2018 Memorandum of Understanding (MOU) Item 8 a from June 27, 2018 for a final bad debt lookback adjustment for DWSD of \$6.5 million.

## Financial Activity Charts

### Chart 1 – Capital Outlay – Water and Sewer System Combined

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



Through January 31, 2019, the capital outlay spend is \$8.8 million which includes the following.

**Water Operations:** filter upgrade at Water Works Park (\$124k) and ozone orbispheres (\$90k)

**Wastewater Operations:** grit crane (\$563k), chiller replacement at Water Resource Recovery Facility (\$632k), booster pump and expansion tank for scum building (\$196k), screw conveyor (\$113k) and a water blasting machine (\$77k)

**Information Technology:** software (\$424k) and low voltage wiring (\$305k)

**Security:** Infrastructure improvements (\$265k)

**System Analytics:** flow meters (\$193k) and transmitters (\$103k)

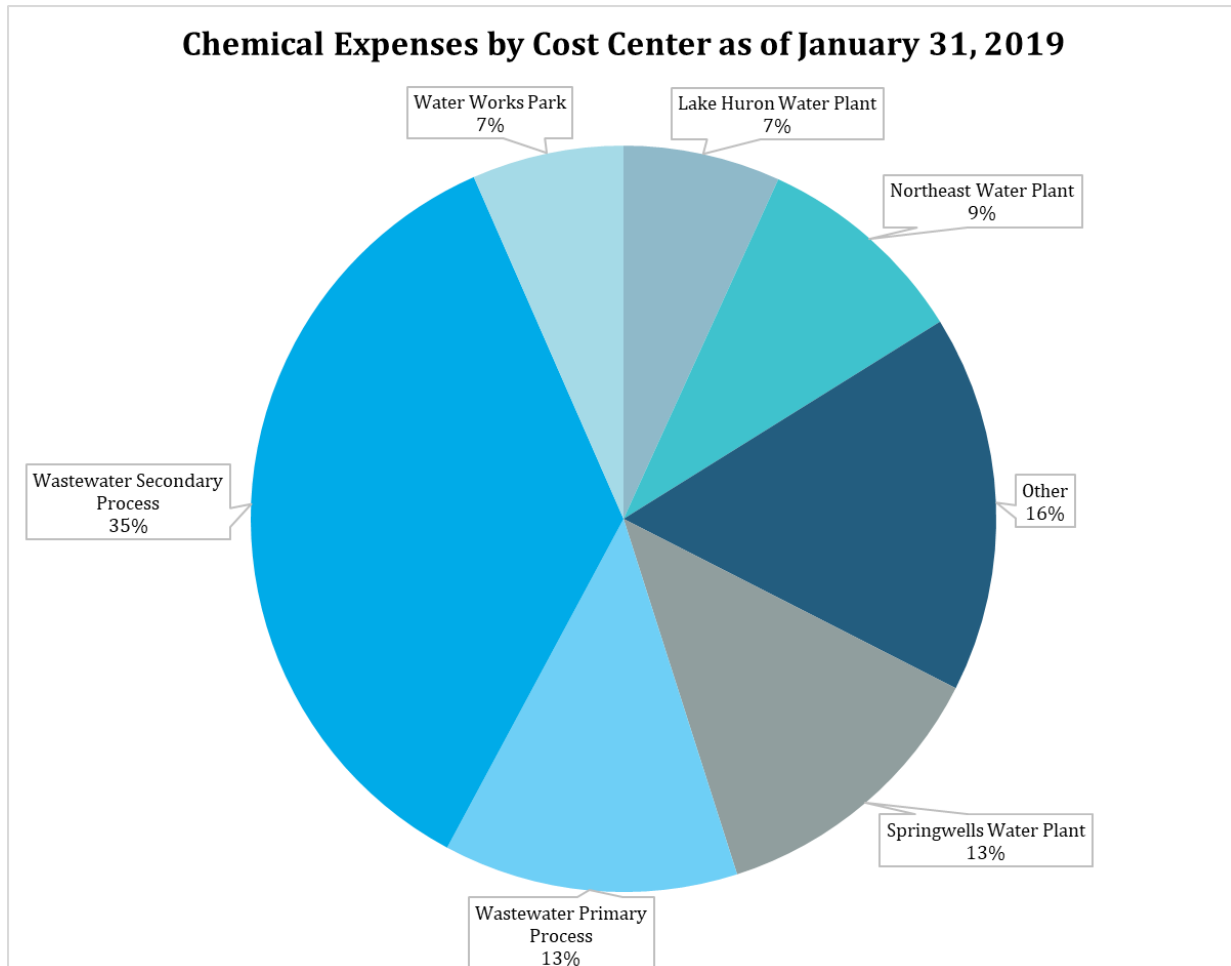
**CSO Facilities:** chopper pump (\$81k) and chemical pump (\$178k)

**Centralized & Administrative Facilities:** underground storage tanks, dispenser and management system (\$2.2M) and Public Affairs & 13 Floor renovation, furniture, and Equipment (\$334k)



### Chart 2 – Chemical Spend

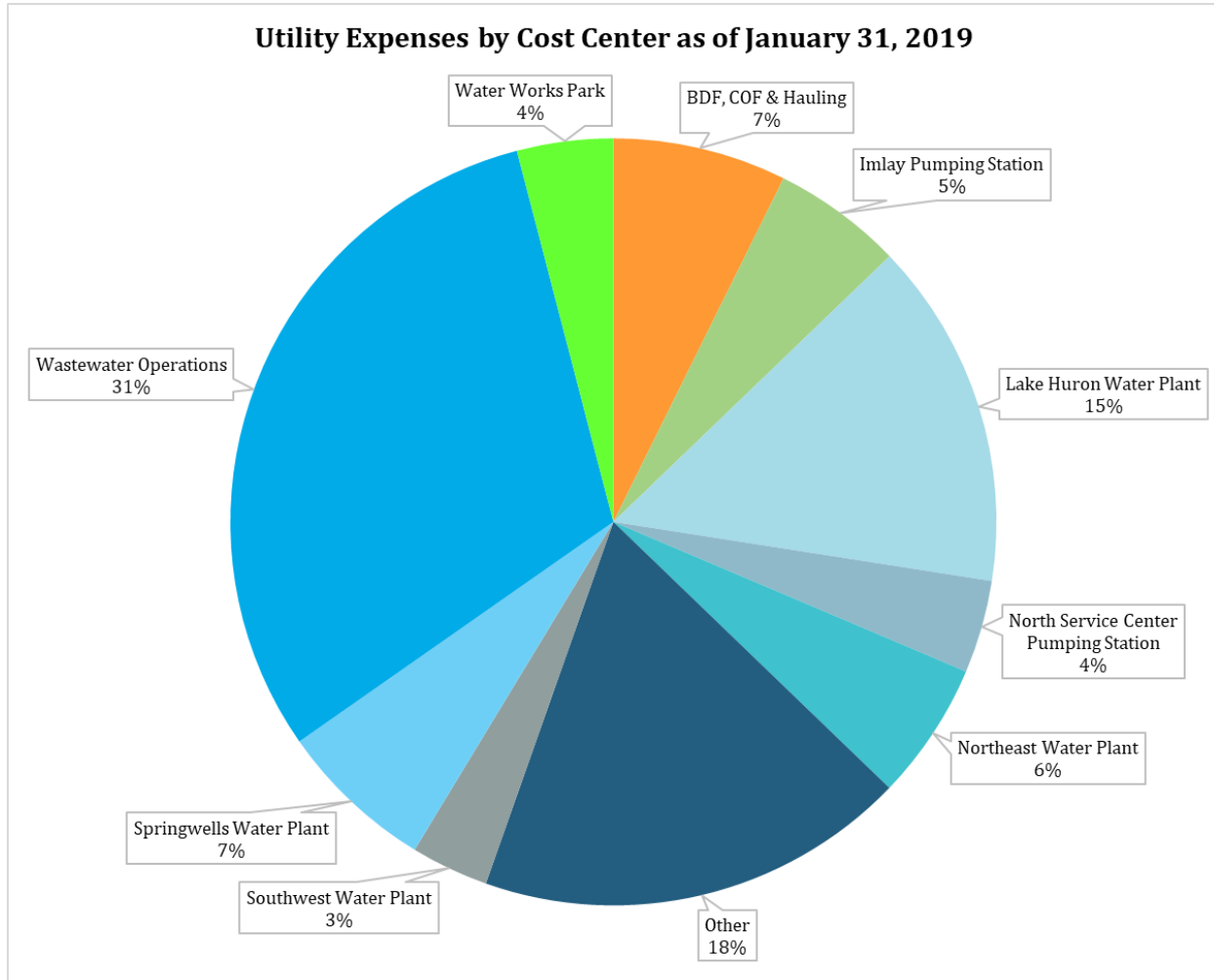
Chemical spend is \$7.4 million through January 31, 2019. The allocation is shown in the chart below.



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

### Chart 3 – Utility Spend

Utility spend is \$31.8 million through January 31, 2019. The allocation is shown in the chart below.

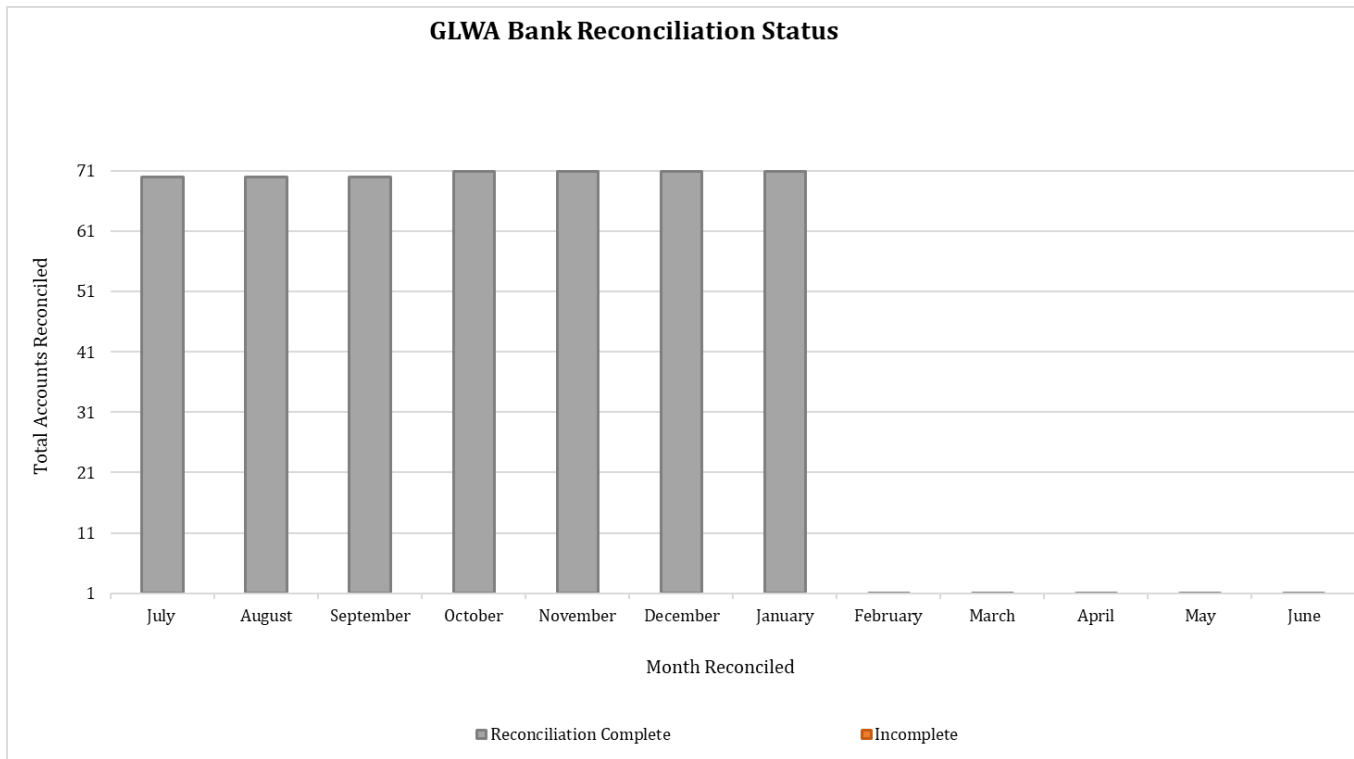


**Note:** "Other" includes additional Combined Sewer Overflow (CSO) facilities and pumping stations.

## Financial Operations Key Performance Indicator

This key performance indicator shown in Chart 1 below provides a measure of the progress made in the month-end close process which includes bank reconciliations with a completed status at month end.

**Chart 1 – Bank Reconciliation Completion Status**



The monthly Budget to Financial Statements Crosswalk includes the following.

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

**Purpose for Crosswalk:** The Great Lakes Water Authority establishes a “Revenue Requirements” budget for the purposes of establishing customer service charges. The financial report is prepared in accordance with Generally Accepted Accounting Policies for enterprise funds of a local government. Because the budget and the financial statements are prepared using different basis of accounting, the crosswalk reconciles the “Net Revenue Requirement Basis” from the Budget to Actual Analysis (Table 1A and Table 2A) to the “Increase/(Decrease) in Net Position” in Table 2 of the Basic Financial Statements in the monthly Financial Report.

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

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

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

**Budget:** In Table 1A and Table 2A of the Budget to Actual Analysis the ‘Revenues’ section is the accrual basis revenues that are available to meet the ‘Revenue Requirements’. The “Revenue Requirements’ section budget column indicates the annual cash transfers to be made.

**Financial Reporting:** The Authority’s financial statements are prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The

Authority maintains its records on the accrual basis of accounting to conform to GAAP. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) are recorded when incurred.

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

**Table 1 – Crosswalk Budget Basis to Financial Reporting Basis**

	Water	Sewer	Total
<b>Net Revenue Requirement Budget Variance (a)</b>	\$ 8,089,016	\$ 17,611,970	\$ 25,700,986
<b>Budgetary categories adjustments to financial reporting basis</b>			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (d)	6,673,800	11,943,981	18,617,781
Prior year pension contribution accounted for in current year (e)	6,014,441	10,763,940	16,778,381
Administrative prepaid adjustment (f)	-	-	-
Debt service (g)	22,772,359	48,642,096	71,414,455
Accelerated pension B&C notes obligation portion (h)	351,140	789,840	1,140,980
Lease payment (i)	2,793,735	3,414,563	6,208,298
WRAP (j)	976,150	1,384,887	2,361,037
Improvement & Extension Fund (k)	27,822,200	13,152,825	40,975,025
<b>Nonbudgeted financial reporting categories adjustments</b>			
Depreciation (l)	(84,405,839)	(102,839,568)	(187,245,407)
Amortization (l)	2,765,628	6,310,498	9,076,126
Other nonoperating income (l)	334,214	(6,022,599)	(5,688,385)
Other nonoperating expense (l)	(438,108)	(932,062)	(1,370,170)
Raw water rights (m)	1,838,744	-	1,838,744
Investment earnings construction fund (n)	2,000,520	1,370,629	3,371,149
<b>Net Position Increase/(Decrease) per Financial Statements (b)</b>	<b>\$ (2,412,000)</b>	<b>\$ 5,591,000</b>	<b>\$ 3,179,000</b>

**Table 2- Explanatory Notes for Crosswalk**

- (a) Source: Budget to Actual Table 1A and Table 2A in Monthly Financial Binder
- (b) Source: Basic Financial Statements Table 2 in Monthly Financial Binder
- (c) Not used
- (d) Current year pension payments are an expense for budget purposes but not for financial reporting purposes.
- (e) Prior year pension payments are accounted for in the current year financial statements.
- (f) The administrative fee is part of the O&M Legacy Pension shown as an expense for budget purposes. For financial reporting purposes part of the administrative fee is considered prepaid based on the prior year General Retirement System audit information and therefore not an expense for the current year financial reporting. The prepaid portion is adjusted in June each year.

- (g) Debt service is budgeted (principal and interest payments) are shown as an expense for budget purposes. Most of the adjustment relates to principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense variances on state revolving fund debt due to the timing of payment draws. The cash set aside basis for interest expense generally is the same as the accrual basis for financial reporting.
- (h) The accelerated pension payment includes the obligation payable for the B&C notes is budgeted on a cash basis. The pension portion is included in item (d) above. The adjustment relates to the B&C note obligation payments. The principal and interest cash basis payments are treated as an expense for budget purposes. The principal portion is not an expense for financial reporting purposes. For financial reporting purposes interest is expensed on an accrual basis which is different from the cash basis.
- (i) The lease payment is included as an expense for budget and includes both principal and interest payments. Most of the adjustment relates to the principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense which is recorded on an accrual basis for financial reporting which is different from the cash basis.
- (j) WRAP is shown as an expense for budget purposes. For financial reporting purposes the expense is not recognized until the funds have been transferred to the WRAP administrator.
- (k) Budgeted Improvement & Extension Fund deposits are shown as an expense for budget purposes but not for financial reporting purposes.
- (l) Certain nonoperating income and expenses are reported in financial statements only.
- (m) The water service contract with Flint includes a license for raw water rights which has been recorded as an asset and liability by the Authority. The contract provides a credit to Flint as Flint satisfies its monthly bond payment obligation to KWA. This KWA credit is treated as a noncash payment of principal and interest on the liability recorded for the raw water rights. For budget, wholesale customer charges are net of the anticipated KWA credits to Flint as that is the cash that will be received and available to meet the budgeted revenue requirements.  
For financial reporting basis the Flint wholesale charges are recorded at the total amount billed. When the KWA credit is issued, the receivable from Flint is reduced and the principal and interest payments on the liability for the raw water rights are recorded as a noncash transaction. Most of the adjustment shown relates to the principal reduction made for the credits applied which are not an expense for financial reporting basis.
- (n) Investment earnings from the construction fund are not shown as revenue in the budget and are shown as revenue in the financial statements. Construction fund investment earnings are excluded from the definition of revenue for budget purposes as they are used for construction costs and are not used to meet the revenue requirements in the budget.

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

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

## **Construction Work in Progress**

Great Lakes Water Authority (GLWA) capital improvement projects generally span two or more years due to size and complexity. Therefore, the GLWA Board of Directors adopts a biennial budget that establishes allowable amounts for construction spending during that period to support a five-year capital improvement plan (CIP). The CIP is a five-year, rolling plan which is updated annually, reviewed, and formally adopted by the GLWA Board of Directors.

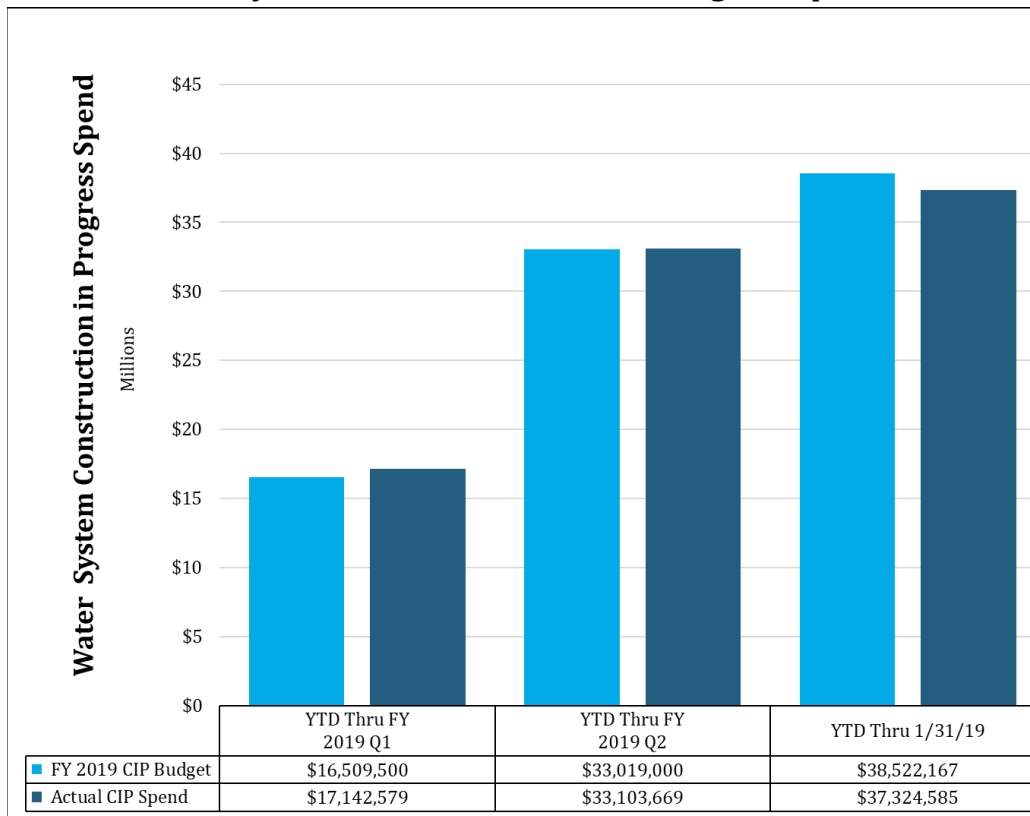
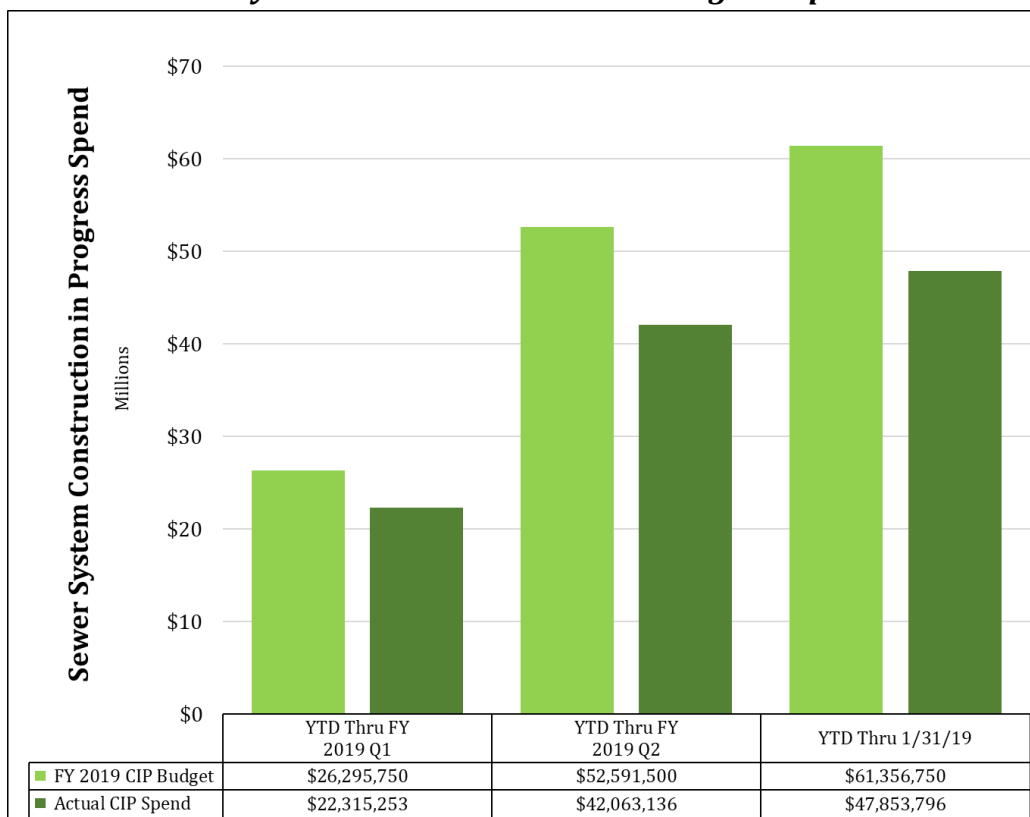
This report presents quarterly and monthly CWIP spending trends against a prorated budget amount. The prorated budget amount is calculated by dividing the total fiscal year 2019 board-approved CIP plan by twelve equal months. It should be noted that these interim reports are prepared on a modified cash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

### **Chart 1 – Water System Construction in Work in Progress Spend**

As of January 2019, the Water system incurred over \$37.3 million of construction costs to date. This is 97% of the total fiscal year 2019 prorated, budgeted spend and continues a trend of on-target spend.

### **Chart 2 – Sewer System Construction in Work in Progress Spend**

As of January 2019, the Sewer system incurred over \$47.9 million of construction costs to date. This is 78% of the total fiscal year 2019 prorated, budgeted spend and a slight decrease over the prior period.

**Chart 1 – Water System Construction Work in Progress Spend**

**Chart 2 – Sewer System Construction Work in Progress Spend**




This report includes the following.

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

## **MBO Transfers to Accounts Held by GLWA**

**GLWA Transfers:** The Treasury 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 (O&M), Pension, and Water Residential Assistance Program (WRAP) are one-twelfth of the annual, budgeted amount. Budget stabilization should not require additional funding due to new, baseline funding levels established as part of the April 2018 Memorandum of Understanding but is included to reflect historical activity. Treasury completes annual Extraordinary Repair & Replacement (ER&R) transfers as directed based on budget and year-end fund status.

**Table 1 – GLWA FY 2019 Water MBO Transfers** reflects the required transfers for FY 2019 completed through January 2, 2019. The December O&M transfer amount is less than the previous months due to correction to bring fiscal year to date transfers to the approved FY 2019 year to date budget. The January transfer amount reflects one-twelfth of the approved annual budget. For FY 2019, through January 2, 2019, MBO transfers for Water totaling \$81.0 million have been transferred to accounts held by GLWA.

**Table 2 – GLWA FY 2019 Sewer MBO Transfers** reflects the required transfers for FY 2019 completed through January 2, 2019. The December O&M transfer amount is less than the previous months due to correction to bring fiscal year to date transfers to the approved FY 2019 year to date budget. The January transfer amount reflects one-twelfth of the approved annual budget. For FY 2019, through January 2, 2019, MBO transfers for Water totaling \$128.0 million have been transferred to accounts held by GLWA.

**Table 3 – GLWA MBO Transfer History** The total transfers for FY 2016, FY 2017, and FY 2018 are included below to reflect historical activity.

**Table 1 – GLWA FY 2019 Water MBO Transfers**

WATER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization <i>(For Benefit of DWSD)</i>	Extraordinary Repair & Replacement <i>(ER&amp;R)</i>	Total Water
<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
December 2018	8,813,927	504,000	891,308	171,683	-	-	10,380,918
January 2019	10,130,217	504,000	891,308	171,683	-	-	11,697,208
<b>Total FY 2019</b>	<b>\$70,911,519</b>	<b>\$3,528,000</b>	<b>\$6,239,156</b>	<b>\$1,201,781</b>	<b>\$0</b>	<b>\$0</b>	<b>\$81,880,456</b>

**Table 2 – GLWA FY 2019 Sewer MBO Transfers**

SEWER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization <i>(For Benefit of DWSD)</i>	Extraordinary Repair & Replacement <i>(ER&amp;R)</i>	Total Water
<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
December 2018	15,072,198	902,000	1,223,958	238,483	-	-	17,436,639
January 2019	15,923,283	902,000	1,223,958	238,483	-	-	18,287,724
<b>Total FY 2019</b>	<b>\$111,462,981</b>	<b>\$6,314,000</b>	<b>\$8,567,706</b>	<b>\$1,669,381</b>	<b>\$0</b>	<b>\$0</b>	<b>\$128,014,068</b>

**Table 3 – GLWA MBO Transfer History**

GLWA MBO Transfer History							
WATER							
	Operations & <u>Maintenance</u>	Pension <u>Sub Account</u>	Pension <u>Obligation</u>	<u>WRAP</u>	Budget Stabilization <i>(For Benefit of DWSD)</i>	Extraordinary Repair & Replacement <i>(ER&amp;R)</i>	Total Water
Total FY 2016	\$71,052,000	\$6,037,100	\$10,297,200	\$1,983,300	\$2,326,900	\$606,000	\$92,302,500
Total FY 2017	111,879,600	6,037,200	10,297,200	2,077,200	360,000	-	130,651,200
Total FY 2018	121,562,604	6,048,000	10,695,696	2,159,400	-	-	140,465,700
SEWER							
Total FY 2016	\$100,865,600	\$10,838,400	\$14,025,800	\$2,523,400	\$5,591,700	\$779,600	\$134,624,500
Total FY 2017	175,858,800	10,838,400	14,026,800	2,654,400	2,654,400	-	206,032,800
Total FY 2018	191,079,396	10,824,000	14,687,496	2,760,804	-	-	219,351,696

## **MBO Required and Lease Payment Transfers to DWSD**

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

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

***Table 4 – DWSD FY 2019 Water MBO Transfers*** reflects the required transfers for FY 2019 completed through January 2, 2019. 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. For FY 2019, through January 2, 2019, MBO transfers for Water totaling \$34.0 million have been transferred to accounts held by DWSD.

***Table 5 – DWSD FY 2019 Sewer MBO Transfers*** reflects the required transfers for FY 2019 completed through January 2, 2019. 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. For FY 2019, through January 2, 2019, MBO transfers for Water totaling \$54.6 million have been transferred to accounts held by DWSD.

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

**Table 4 – DWSD FY 2019 Water MBO Transfers**

<b>WATER</b>				
	<u>Operations &amp; Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&amp;E Fund)</u>	<u>Total Water</u>
<b>FY 2019 to Date</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
December 2018	2,957,025	356,000	1,545,900	4,858,925
January 2019	2,957,025	356,000	1,545,900	4,858,925
<b>Total FY 2019</b>	<b>\$ 20,699,175</b>	<b>\$ 2,492,000</b>	<b>\$ 10,821,300</b>	<b>\$ 34,012,475</b>

**Table 5 – DWSD FY 2019 Sewer MBO Transfers**

<b>SEWER</b>				
	<u>Operations &amp; Maintenance</u>	<u>Pension</u>	<u>Lease Payment (I&amp;E Fund)</u>	<u>Total Sewer</u>
<b>FY 2019 to Date</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
December 2018	5,676,792	238,000	1,886,333	7,801,125
January 2019	5,676,792	238,000	1,886,333	7,801,125
<b>Total FY 2019</b>	<b>\$ 39,737,544</b>	<b>\$ 1,666,000</b>	<b>\$ 13,204,331</b>	<b>\$ 54,607,875</b>

**Table 6 – DWSD MBO and Lease Payment Transfer History**

Transfers to DWSD				
WATER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Water
<b>FY 2016</b>				
MBO/Lease Requirement	\$ 26,185,600	\$ 4,262,700	\$ 22,500,000	\$ 52,948,300
Offset to Debt Service	-	-	(2,326,900)	(2,326,900)
Net MBO Transfer	26,185,600	4,262,700	20,173,100	50,621,400
<b>FY 2017</b>				
MBO/Lease Requirement	33,596,400	4,262,400	22,500,000	60,358,800
Offset to Debt Service	-	-	-	-
Net MBO Transfer	33,596,400	4,262,400	22,500,000	60,358,800
<b>FY 2018</b>				
MBO/Lease Requirement	35,059,704	4,272,000	22,500,000	61,831,704
Offset to Debt Service	-	-	(1,875,000)	(1,875,000)
Net MBO Transfer	35,059,704	4,272,000	20,625,000	59,956,704
<b>FY 2019 (7 months)</b>				
MBO/Lease Requirement	20,699,175	2,492,000	13,125,000	36,316,175
Offset to Debt Service	-	-	(2,303,700)	(2,303,700)
Net MBO Transfer	20,699,175	2,492,000	10,821,300	34,012,475
<b>Life-to-Date</b>				
MBO/Lease Requirement	115,540,879	15,289,100	80,625,000	211,454,979
Offset to Debt Service	-	-	(6,505,600)	(6,505,600)
<b>Total Water</b>	<b>\$ 115,540,879</b>	<b>\$ 15,289,100</b>	<b>\$ 74,119,400</b>	<b>\$ 204,949,379</b>
SEWER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Sewer
<b>FY 2016</b>				
MBO/Lease Requirement	\$ 19,774,300	\$ 2,861,800	\$ 27,500,000	\$ 50,136,100
Offset to Debt Service	-	-	(19,991,500)	(19,991,500)
Total MBO Transfer	19,774,300	2,861,800	7,508,500	30,144,600
<b>FY 2017</b>				
MBO/Lease Requirement	41,535,600	2,862,000	27,500,000	71,897,600
Offset to Debt Service	-	-	-	-
Total MBO Transfer	41,535,600	2,862,000	27,500,000	71,897,600
<b>FY 2018</b>				
MBO/Lease Requirement	60,517,992	2,856,000	27,500,000	90,873,992
Offset to Debt Service	-	-	(9,166,664)	(9,166,664)
Total MBO Transfer	60,517,992	2,856,000	18,333,336	81,707,328
<b>FY 2019 to Date (7 months)</b>				
MBO/Lease Requirement	45,414,336	1,904,000	16,041,667	63,360,003
Offset to Debt Service	-	-	(2,837,336)	(2,837,336)
Total MBO Transfer	45,414,336	1,904,000	13,204,331	60,522,667
<b>Life-to-Date</b>				
MBO Requirement	167,242,228	10,483,800	98,541,667	276,267,695
Offset to Debt Service	-	-	(31,995,500)	(31,995,500)
<b>Total Sewer</b>	<b>\$ 167,242,228</b>	<b>\$ 10,483,800</b>	<b>\$ 66,546,167</b>	<b>\$ 244,272,195</b>

This report includes the following:

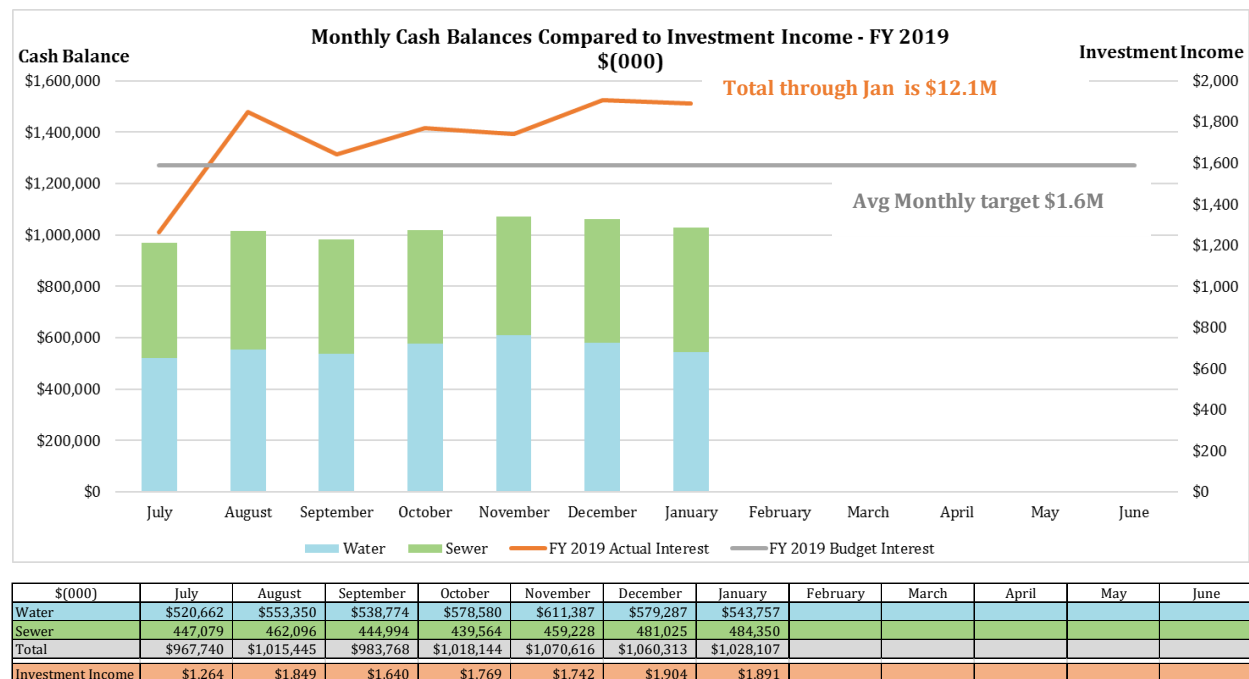
1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

## Monthly Cash Balances Compared to Investment Income

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

Cash and investment balances change each month based on Master Bond Ordinance (MBO) funding requirements, operational needs, capital spending pace, and mandatory debt payments. Investment income fluctuates monthly based on cash and investment balances as well as market conditions and investment strategy. The cumulative investment earnings through January 2019 of \$12.1 million is 63% of the FY 2019 budget. Based on these earnings to date, GLWA is on target to meet the projection of \$19.0 million for the fiscal year (Chart 1).

**Chart 1 – Monthly Cash Balances Compared to Investment Income – Through January 31, 2019.**



## Cash Balance Detail

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

***Funds Held Within Trust:***

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

***Funds Held Outside Trust:***

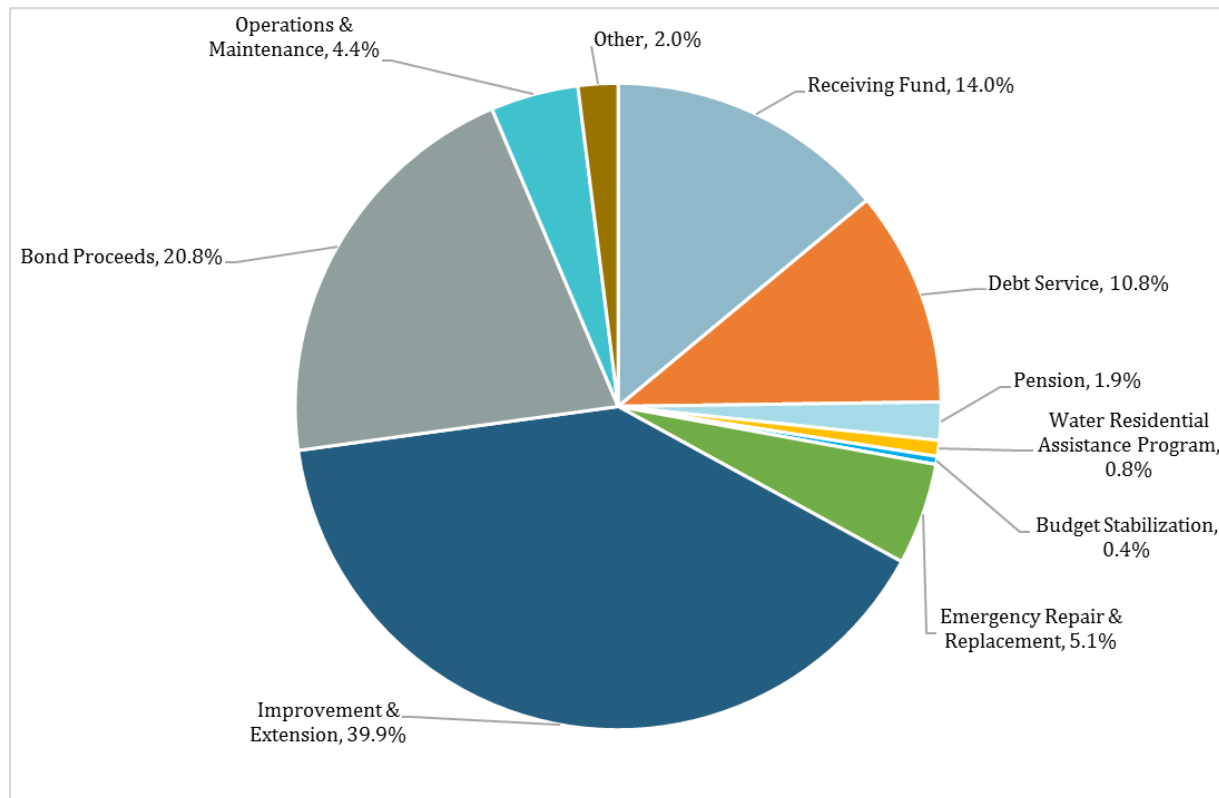
- Bond Proceeds – funds raised from debt issuance used for costs of repairs, construction, and improvements of the regional system
- Operations & Maintenance (O&M) – funds used to meet the operational and maintenance requirements of the regional system
- Other – retainage funds held on behalf of contractors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

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



### ***Chart 2 – Cash Balances - Water Funds as of January 31, 2019***

The chart below shows the allocation of the balance among the different categories defined in the section above. The total cash balance for Water Funds as of January 31, 2019 is \$543.8 million. The allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

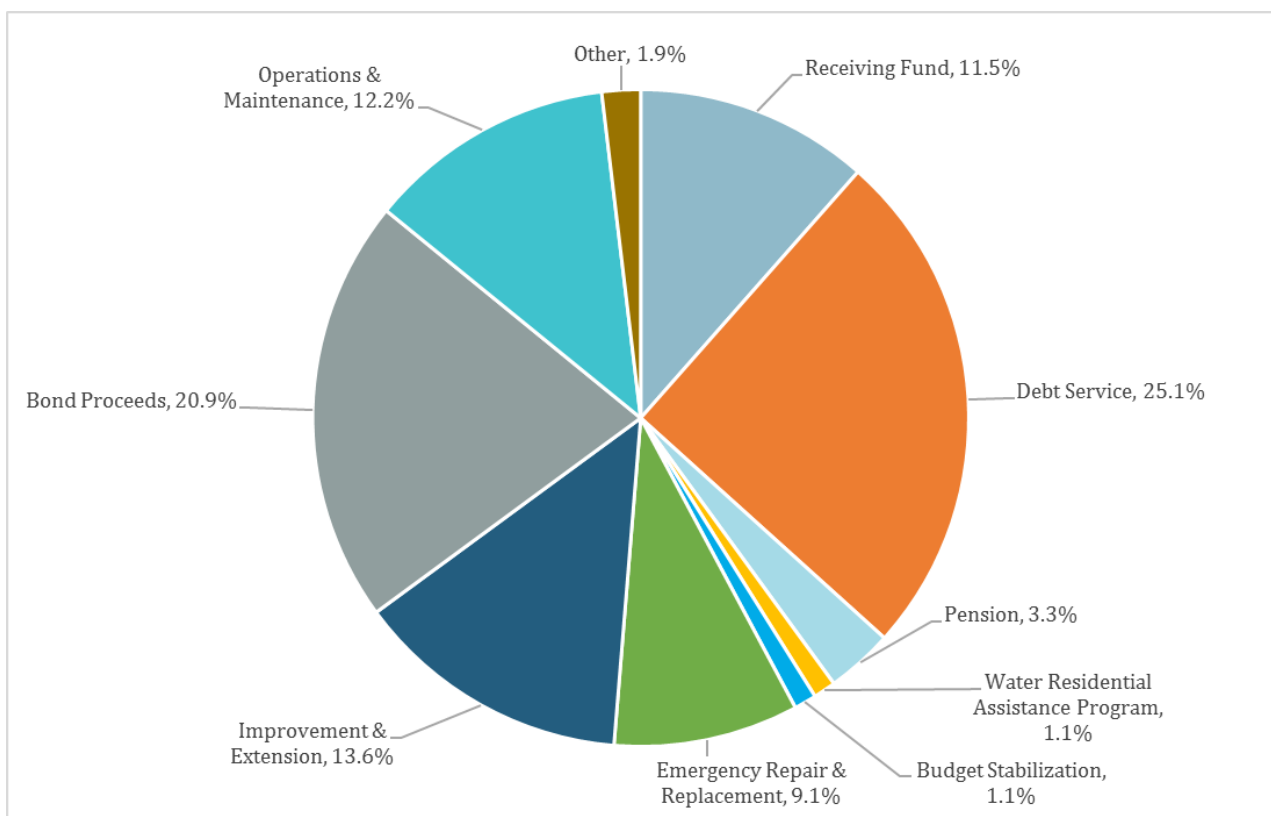


**Note:** Due to rounding totals may not equal 100%.



### ***Chart 3 – Cash Balances - Sewer Funds as of January 31, 2019***

The chart below shows the allocation of the balance among the different funds defined in the section above. The total cash balance for Sewer Funds as of January 31, 2019 is \$484.3 million. Like the Water Funds, the allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future. The pace for Sewer Funds I&E deposits has been less than budget to address a budget shortfall over multiple years by DWSD. Beginning in February 2019, DWSD began making payments which will replenish the I&E Fund.



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

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

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

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

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

### **DWSD Retail Water Billings and Collections**

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

**Table 1 - DWSD Retail Billings** shows the FY 2019 water usage and billed revenue which are provided by DWSD staff. As of January 31, 2019, the DWSD usage was at 99.93% of the budget and billed revenue was at 103.13% 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	202,686	7,659,930	37.79	(3,814)	(564,970)
January	226,600	7,978,800	35.21	227,697	8,250,078	36.23	1,097	271,278
February	216,400	7,980,200	36.88					
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>1,702,877</b>	<b>61,278,795</b>	<b>35.99</b>	<b>(1,123)</b>	<b>1,862,595</b>
Subtotals ytd	1,704,000	59,416,200	34.87	1,702,877	61,278,795	35.99	(1,123)	1,862,595
Achievement of Budget				99.93%	103.13%			

(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
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%
December	7,297,698	8,265,636	(967,938)	-11.71%
January	8,158,817	8,066,448	92,369	1.15%
<b>Rolling, 12-Month Total</b>	<b>99,094,580</b>	<b>99,315,253</b>		
<b>Rolling, 12-Month Average</b>	<b>8,257,882</b>	<b>8,276,271</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 January 31, 2019, the DWSD usage was at 103.21% of the budget and billed revenue was at 98.61% 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	193,791	23,787,394	11,391	(1,506,106)
January	198,600	24,852,800	201,171	24,269,509	2,571	(583,291)
February	191,600	25,329,400				
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>	<b>2,493,000</b>	<b>307,737,100</b>	<b>1,564,082</b>	<b>176,714,520</b>	<b>48,582</b>	<b>(2,493,080)</b>
<i>Subtotals ytd</i>	<i>1,515,500</i>	<i>179,207,600</i>	<i>1,564,082</i>	<i>176,714,520</i>	<i>48,582</i>	<i>(2,493,080)</i>
<i>Achievement of Budget/Goal</i>			<i>103.21%</i>	<i>98.61%</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
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%
December	19,612,154	19,522,952	89,203	0.46%
January	21,140,835	18,308,458	2,832,377	15.47%
<b>Rolling 12-Month Total</b>	<b>254,856,170</b>	<b>237,402,680</b>		
<b>Rolling, 12-Month Average</b>	<b>21,238,014</b>	<b>19,783,557</b>		

**Note:** June current year receipts includes \$5.06 million in annual tax lien collections.

## 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 January 31, 2019.

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

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Accounts Receivable Balance
Residential	284,308	\$ 320.28	\$ 12,453,143 13.7%	\$ 6,677,830 7.3%	\$ 18,996,068 20.9%	\$ 52,931,303 58.1%	\$ 91,058,344 100.0%
Commercial	27,562	1,158.88	7,521,869 23.5%	2,706,059 8.5%	7,297,919 22.8%	14,415,167 45.1%	31,941,014 100.0%
Industrial	4,659	3,049.47	4,353,260 30.6%	1,507,130 10.6%	2,594,867 18.3%	5,752,234 40.5%	14,207,492 100.0%
Tax Exempt Entities	6,841	1,256.38	1,409,143 16.4%	938,574 10.9%	1,770,888 20.6%	4,476,287 52.1%	8,594,891 100.0%
Government Entities	7,722	1,552.19	1,411,976 11.8%	1,164,264 9.7%	2,518,613 21.0%	6,891,164 57.5%	11,986,016 100.0%
Subtotal - Active Accounts	<b>331,092</b>	<b>\$ 476.57</b>	<b>\$ 27,149,391</b> 17.2%	<b>\$ 12,993,857</b> 8.2%	<b>\$ 33,178,354</b> 21.0%	<b>\$ 84,466,155</b> 53.5%	<b>\$ 157,787,757</b> 100.0%
Inactive Accounts	255,757	65.34	57,839 0.3%	147,849 0.9%	948,477 5.7%	15,556,981 93.1%	16,711,146 100.0%
<b>Total</b>	<b>586,849</b>	<b>\$ 297.35</b>	<b>\$ 27,207,230</b> 15.6%	<b>\$ 13,141,706</b> 7.5%	<b>\$ 34,126,831</b> 19.6%	<b>\$ 100,023,136</b> 57.3%	<b>\$ 174,498,903</b> 100.0%
% of Total A/R							
Water Fund	209,564	178.52	\$ 6,158,514	\$ 2,865,564	\$ 6,553,985	\$ 21,832,330	\$ 37,410,393
Sewer Fund	269,076	509.48	\$ 21,048,716	\$ 10,276,142	\$ 27,572,845	\$ 78,190,806	\$ 137,088,510
<b>Total</b>	<b>586,849</b>	<b>297.35</b>	<b>\$ 27,207,230</b>	<b>\$ 13,141,706</b>	<b>\$ 34,126,831</b>	<b>\$ 100,023,136</b>	<b>\$ 174,498,903</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	82
Emergency	1
Older Contracts	4
Total	<u>87</u>

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

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

**Table 1 - Wholesale Water Billings** shows the FY 2019 water billed usage and revenues. As of January 31, 2019, the billed usage was at 101.25% of budget and billed revenue at 102.96% of budget. Billings and usage from the City of Flint are included as they were assumed in the FY 2019 Budget.

Slight adjustments were made to both volume and revenues year-to-date on this report to reflect billing adjustments generated during the year not previously reflected here. These changes resulted in a small, positive increase in volume, revenue and performance in comparison to 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 collection patterns is primary attributable to timing of payments received from customers.

**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	32,754,760	18.19	168,136	2,407,260
August	1,518,130	29,405,800	19.37	1,490,896	29,776,242	19.97	(27,234)	370,442
September	1,354,440	27,424,800	20.25	1,380,514	28,039,719	20.31	26,074	614,919
October	1,091,580	24,826,000	22.74	1,027,086	24,866,975	24.21	(64,494)	40,975
November	912,260	23,273,500	25.51	938,511	24,145,548	25.73	26,251	872,048
December	1,002,110	23,912,600	23.86	997,281	24,545,455	24.61	(4,829)	632,855
January	1,019,240	24,133,400	23.68	1,001,885	24,622,107	24.58	(17,355)	488,707
February	885,170	23,021,600	26.01					
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>	14,041,240	308,767,900	21.99	8,636,428	188,750,807	21.86	106,548	5,427,207
<i>Subtotals ytd</i>	<i>8,529,880</i>	<i>183,323,600</i>	<i>21.49</i>	<i>8,636,428</i>	<i>188,750,807</i>	<i>21.86</i>	<i>106,548</i>	<i>5,427,207</i>
<i>Achievement of Budget</i>				<i>101.25%</i>	<i>102.96%</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
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%
December	27,720,646	22,125,972	5,594,674	25.29%
January	23,469,290	32,002,334	(8,533,044)	-26.66%
<b>Rolling 12-Month Total</b>	307,958,355	325,316,326		
<b>Rolling, 12-Month Average</b>	25,663,196	27,109,694		



## Wholesale Sewer Billings and Collections

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

### Service Arrangement Type

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

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

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

**Table 3 - Wholesale Sewer Billings** shows the FY 2019 sewer billed revenue. Consistent with expectations as a result of sewer rate simplification, billed revenue is at 100.00% of budget through January 31, 2019.

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

**Table 4 - Wholesale Sewer Collections** shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. 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 variability of payments received from Wayne County (Rouge Valley, NE Wayne and Wayne County #3). Wayne County typically pays within 45 days of billing. Given the payment amount of \$6.8 million, this produces noticeable swings in collection volumes by month.



**Table 3 – FY 2019 Wholesale Sewer Billings Report**

WHOLESALE SEWER CUSTOMERS						
Month (1)	FY 2019 - Budget/Goal		FY 2019 - Actual		FY 2019 - Variance	
	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue
	Mcf	\$	Mcf	\$	Mcf	\$
July	N/A	22,912,800	N/A	22,912,800	N/A	-
August	N/A	22,912,800	N/A	22,912,800	N/A	-
September	N/A	22,912,800	N/A	22,912,800	N/A	-
October	N/A	22,912,800	N/A	22,912,800	N/A	-
November	N/A	22,912,800	N/A	22,912,800	N/A	-
December	N/A	22,912,800	N/A	22,912,800	N/A	-
January	N/A	22,912,800	N/A	22,912,800	N/A	-
February	N/A	22,912,800	N/A		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		160,389,600		-
<i>Subtotals ytd</i>		160,389,600		160,389,600		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
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%
December	24,440,000	23,643,400	796,600	3.37%
January	26,874,927	22,057,972	4,816,955	21.84%
<b>Rolling 12-Month Total</b>	303,145,933	287,131,554		
<b>Rolling, 12-Month Average</b>	25,262,161	23,927,629		

## 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 January 31, 2019, Highland Park had a delinquent balance of \$40.1 million, including \$31.6 million for wastewater treatment services, \$1.7 million for industrial waste control services, and \$6.8 million for water supply services.

**Table 5 - City of Highland Park Billings and Collections** provides a life-to-date balance summary of the billing and collection history for Highland Park with detail provided for fiscal year 2019 through January 31, 2019. Please note the numbers below reflect the month the billing was sent and not the month the service was provided. A life-to-date summary is provided as an appendix to this monthly financial report.

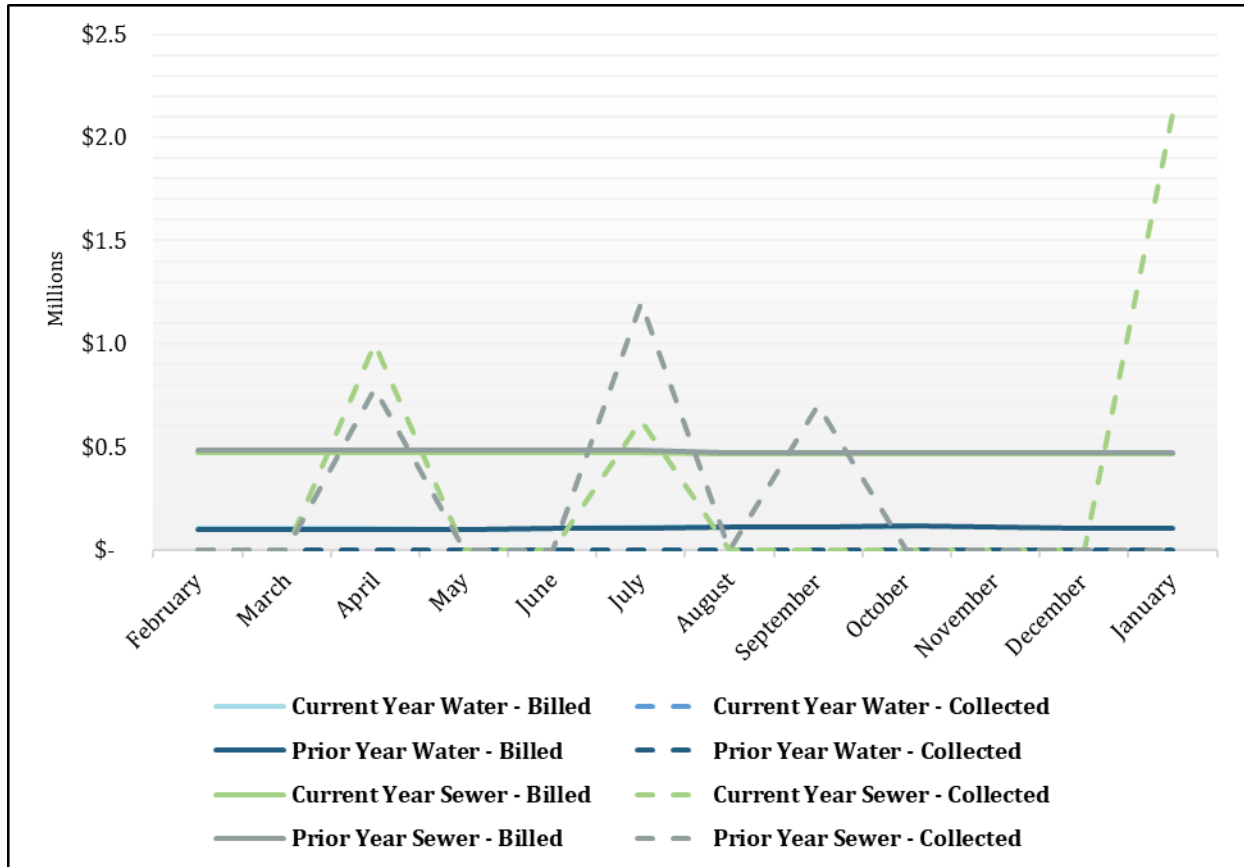
**Chart 1 - City of Highland Park Billings and Collections - Past Twelve Months** is provided to depict Highland Park's most current performance specific to Water and Sewer. Payments received-to-date are applied to Sewer at this time.

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

### City of Highland Park Billings and Payments

	Water	Sewer	IWC	Total
June 30, 2018 Balance	\$ 6,112,248	\$ 31,097,327	\$ 1,624,023	\$ 38,833,598
July 2018 Billing	\$ 109,568	\$ 470,200	\$ 6,754	586,521
July 2018 Payments	-	(629,017)	-	(629,017)
July 31, 2018 Balance	6,221,815	30,938,511	1,630,776	38,791,102
August 2018 Billing	108,651	467,900	4,233	580,784
August 2018 Payments	-	-	-	-
August 31, 2018 Balance	6,330,467	31,406,411	1,635,009	39,371,887
September 2018 Billing	109,780	467,900	4,261	581,941
September 2018 Payments	-	-	-	-
September 30, 2018 Balance	6,440,247	31,874,311	1,639,270	39,953,828
October 2018 Billing	109,298	467,900	4,281	581,479
October 2018 Payments	-	-	-	-
October 31, 2018 Balance	6,549,545	32,342,211	1,643,551	40,535,307
November 2018 Billing	104,007	467,900	3,963	575,869
November 2018 Payments	-	-	-	-
November 30, 2018 Balance	6,653,552	32,810,111	1,647,514	41,111,176
December 2018 Billing	101,944	467,900	3,961	573,805
December 2018 Payments	-	-	-	-
December 31, 2018 Balance	\$ 6,755,496	\$ 33,278,011	\$ 1,651,474	41,684,981
January 2019 Billing	98,430	467,900	3,961	570,290
January 2019 Payments	-	(2,116,727)	-	(2,116,727)
January 31, 2019 Balance	\$ 6,853,926	\$ 31,629,183	\$ 1,655,435	40,138,544

**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.) It should be noted that the wholesale water aging schedule reports delinquent payment status from the City of Dearborn as of January 31, 2019. During February 2019, the City of Dearborn returned to current status.

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

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

**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	\$ 39,356,755.24	\$ 30,825,687.16	\$ 1,027,908.16	\$ 1,062,912.89	\$ 6,440,247.03
Sewer	\$ 42,940,182.87	\$ 7,294,699.50	\$ 4,952,100.00	\$ 467,900.00	\$ 30,225,483.37
IWC	\$ 3,090,684.77	\$ 558,285.68	\$ 82,893.02	\$ -	\$ 2,449,506.07
Pollutant Surcharge	\$ 1,382,454.42	\$ 775,494.04	\$ 59,613.55	\$ 60,814.85	\$ 486,531.98
<b>Total</b>	<b>\$ 86,770,077.30</b>	<b>\$ 39,454,166.38</b>	<b>\$ 6,122,514.73</b>	<b>\$ 1,591,627.74</b>	<b>\$ 39,601,768.45</b>
	100.00%	45.47%	7.06%	1.83%	45.64%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 32,502,829.62	\$ 30,625,313.55	\$ 923,901.39	\$ 953,614.68	\$ -
Sewer	\$ 11,310,999.50	\$ 6,826,799.50	\$ 4,484,200.00	\$ -	\$ -
IWC	\$ 1,435,249.56	\$ 550,364.06	\$ 78,930.44	\$ -	\$ 805,955.06
Pollutant Surcharge	\$ 1,382,454.42	\$ 775,494.04	\$ 59,613.55	\$ 60,814.85	\$ 486,531.98
<b>Total</b>	<b>\$ 46,631,533.10</b>	<b>\$ 38,777,971.15</b>	<b>\$ 5,546,645.38</b>	<b>\$ 1,014,429.53</b>	<b>\$ 1,292,487.04</b>
	100.00%	83.16%	11.89%	2.18%	2.77%

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

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	\$ 32,502,829.62	\$ 30,625,313.55	\$ 923,901.39	\$ 953,614.68	\$ -
Sewer	\$ 11,310,999.50	\$ 6,826,799.50	\$ 4,484,200.00	\$ -	\$ -
IWC	\$ 519,844.44	\$ 477,620.54	\$ 42,558.68	\$ -	\$ (334.78)
Pollutant Surcharge	\$ 1,382,454.42	\$ 775,494.04	\$ 59,613.55	\$ 60,814.85	\$ 486,531.98
<b>Total</b>	<b>\$ 45,716,127.98</b>	<b>\$ 38,705,227.63</b>	<b>\$ 5,510,273.62</b>	<b>\$ 1,014,429.53</b>	<b>\$ 486,197.20</b>
	100.00%	84.66%	12.05%	2.22%	1.06%

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 seven months of activity to date.

Through January 31, 2019 the water fund cash receipts exceeded MBO disbursements by 21% with a ratio of 13% since January 1, 2016. Through January 31, 2019, the sewer fund cash receipts exceeded MBO disbursements by 8% and by a ratio of 4% since January 1, 2016.

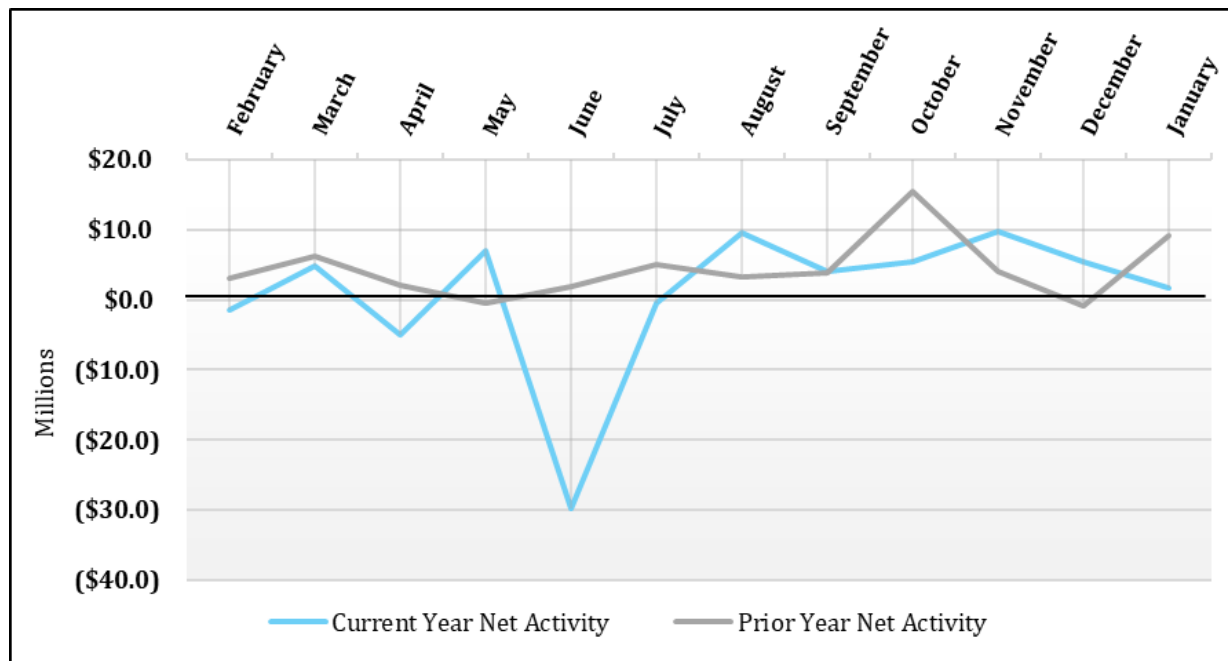
**Chart 1 – GLWA 12-Month Net Receipts – Water** outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

**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.

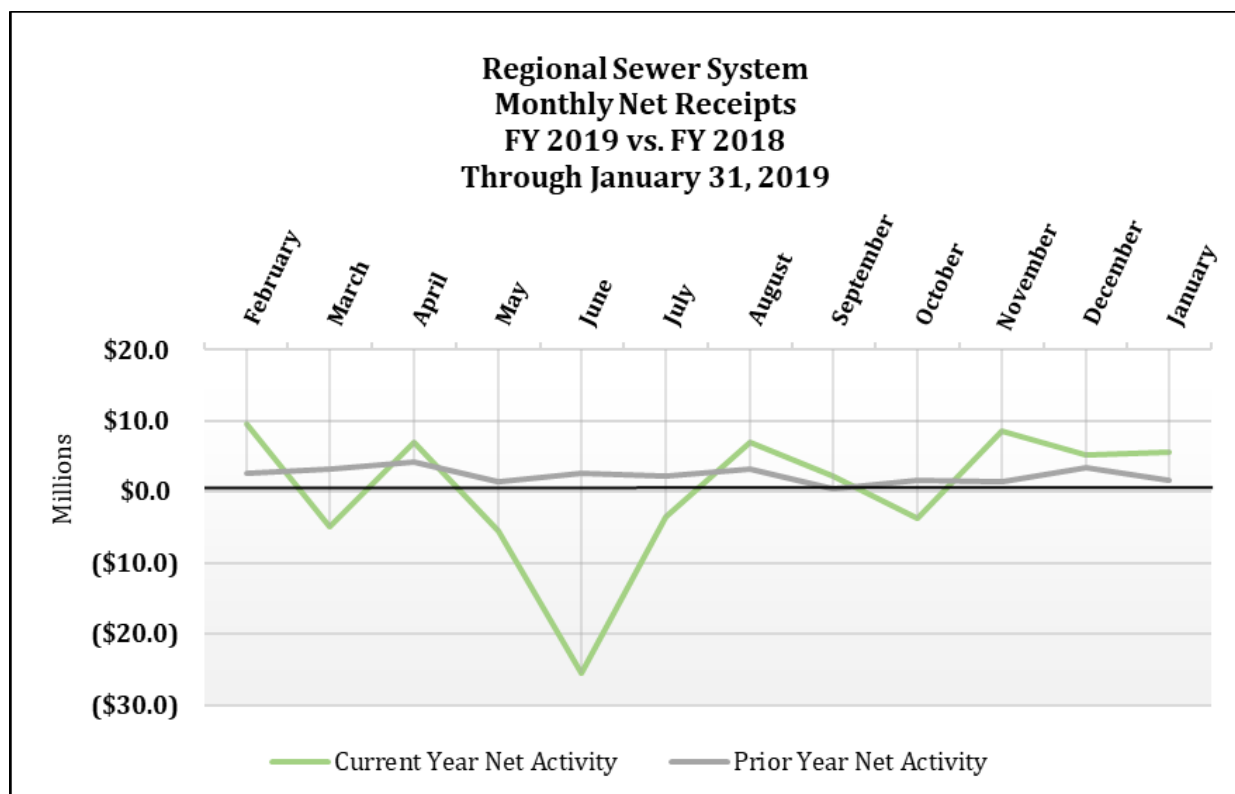
**Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements**

	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	203,183,679	1,042,728,720
2 MOU Adjustments	-	-	-	-	-
3 Adjusted Receipts	149,624,282	352,432,096	337,488,663	203,183,679	1,042,728,720
4 Disbursements	146,191,756	288,268,172	321,841,171	167,784,574	924,085,673
5 Net Receipts	\$ 3,432,526	64,163,924	15,647,492	35,399,105	118,643,047
6 <i>Ratio of Receipts to Disbursements</i>	102%	122%	105%	121%	113%
<b>Sewer</b>					
7 Receipts	\$ 232,310,973	469,205,156	474,946,332	282,204,573	1,458,667,034
8 MOU Adjustments	-	-	-	-	-
9 Adjusted Receipts	232,310,973	469,205,156	474,946,332	282,204,573	1,458,667,034
10 Disbursements	219,471,583	440,859,613	480,278,006	260,680,658	1,401,289,860
11 Net Receipts	\$ 12,839,390	28,345,543	(5,331,674)	21,523,915	57,377,174
12 <i>Ratio of Receipts to Disbursements</i>	106%	106%	99%	108%	104%
<b>Combined</b>					
13 Receipts	\$ 381,935,255	821,637,252	812,434,995	485,388,252	2,501,395,754
14 MOU Adjustments	-	-	-	-	-
15 Adjusted Receipts	381,935,255	821,637,252	812,434,995	485,388,252	2,501,395,754
16 Disbursements	365,663,339	729,127,785	802,119,177	428,465,232	2,325,375,533
17 Net Receipts	\$ 16,271,916	92,509,467	10,315,818	56,923,020	176,020,221
18 <i>Ratio of Receipts to Disbursements</i>	104%	113%	101%	113%	108%

*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 seven months of activity to date.

Through January 31, 2019 the local water fund cash receipts exceeded MBO disbursements by 2% with a historical ratio of cash receipts exceeding MBO disbursements at 4% since January 1, 2016.

Through January 31, 2019, the local sewer fund cash receipts fell short of MBO disbursements by -4% with a historic shortfall of -7% since January 1, 2016. FY 2019 activity to date reflects a \$6.5 million sewer lookback adjustment completed in December 2018. This was due from GLWA to DWSD as part of the April 2018 MOU.

The Reconciliation Committee also monitors this balance as part of its quarterly meetings and formal repayment terms for recommendation to the GLWA Board of Directors are currently under discussion.

**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**

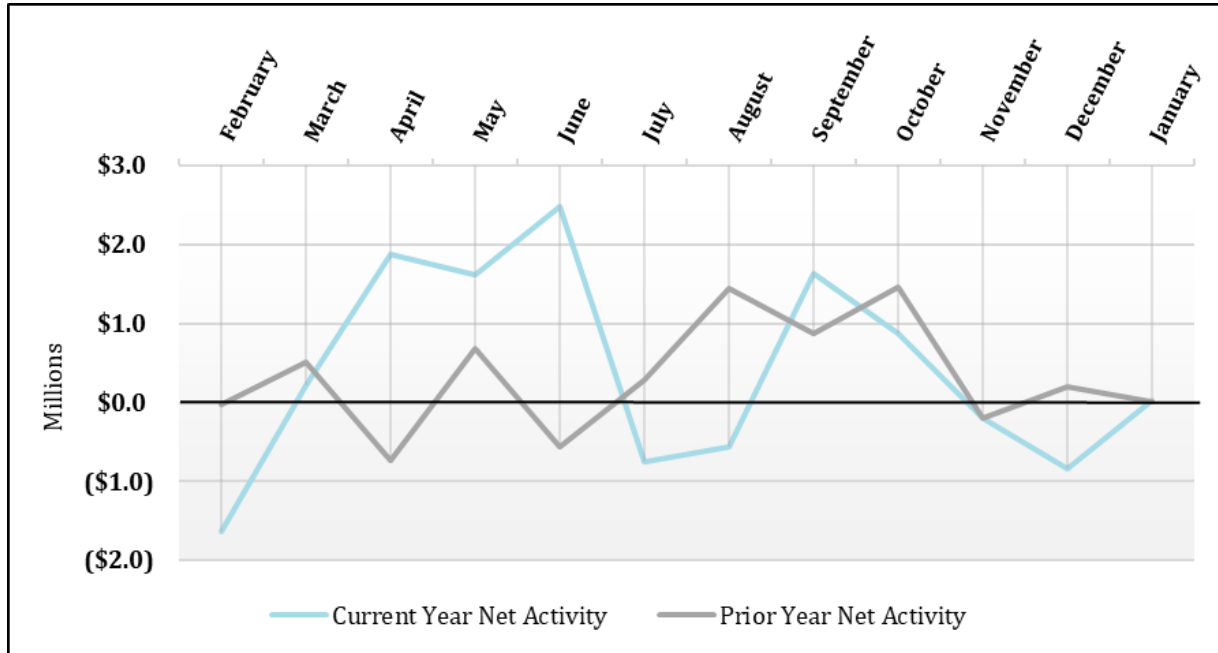
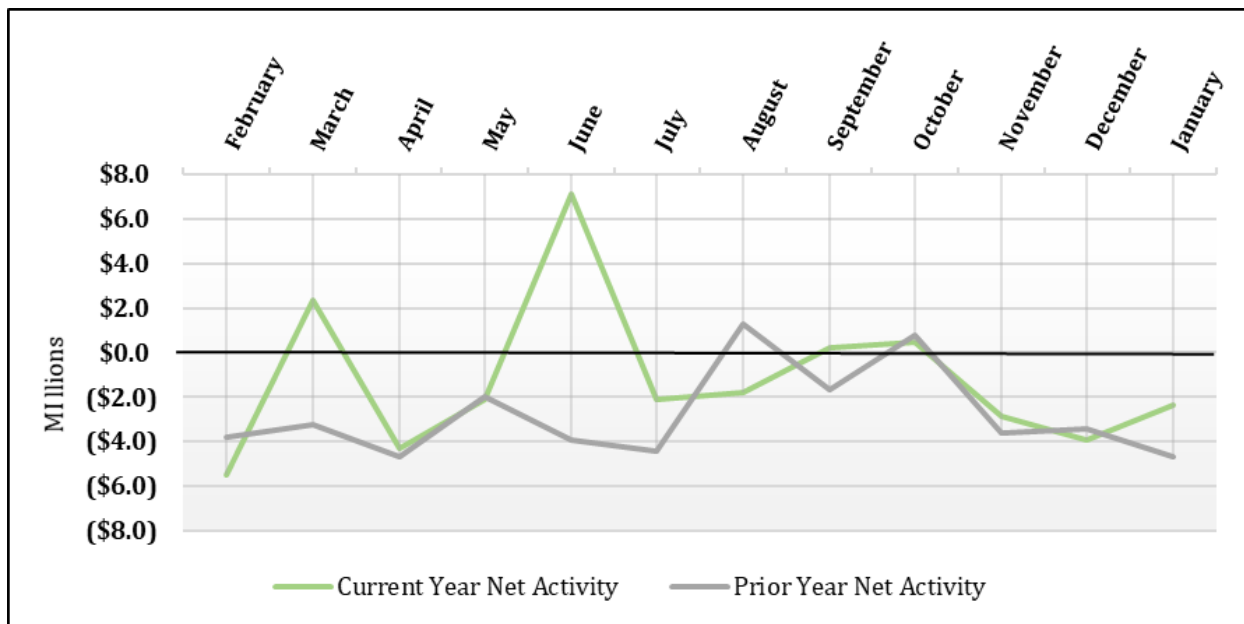
	FY 2016	FY 2017	FY 2018	FY 2019-to-Date	Life-to-Date Total
<b>Water</b>					
1 Receipts	\$ 26,201,881	96,451,105	101,716,017	58,280,950	282,649,953
2 MOU Adjustments	18,446,100	-	-	-	18,446,100
3 Adjusted Receipts	44,647,981	96,451,105	101,716,017	58,280,950	301,096,053
4 Disbursements	47,809,552	93,066,144	93,049,457	56,988,575	290,913,728
5 Net Receipts	\$ (3,161,571)	3,384,961	8,666,560	1,292,375	10,182,325
6 Ratio of Receipts to Disbursements	93%	104%	109%	102%	104%
<b>Sewer</b>					
7 Receipts	\$ 65,256,734	233,723,367	247,975,470	152,417,265	699,372,836
8 MOU Adjustments	55,755,100	-	-	6,527,200	62,282,300
9 Adjusted Receipts	121,011,834	233,723,367	247,975,470	158,944,465	761,655,136
10 Disbursements	122,297,300	261,963,973	266,217,825	164,788,461	815,267,559
11 Net Receipts	\$ (1,285,466)	(28,240,606)	(18,242,355)	(5,843,996)	(53,612,423)
12 Ratio of Receipts to Disbursements	99%	89%	93%	96%	93%
<b>Combined</b>					
13 Receipts	\$ 91,458,615	330,174,472	349,691,487	210,698,215	982,022,789
14 MOU Adjustments	74,201,200	-	-	6,527,200	80,728,400
15 Adjusted Receipts	165,659,815	330,174,472	349,691,487	217,225,415	1,062,751,189
16 Disbursements	170,106,852	355,030,117	359,267,282	221,777,036	1,106,181,287
17 Net Receipts	\$ (4,447,037)	(24,855,645)	(9,575,795)	(4,551,621)	(43,430,098)
18 Ratio of Receipts to Disbursements	97%	93%	97%	98%	96%

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

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

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

**Note 2:** During the preparation of this report DWSD made payments totaling approximately \$7 million in principal towards this loan receivable balance. This payment activity will be reflected in the February 2019 TRD report.

**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 seven months of activity to date.

Through January 31, 2019 the combined water system cash receipts exceeded MBO disbursements by 16% with a ratio of 11% since January 1, 2016. Through January 31, 2019, the combined sewer system cash receipts exceeded MBO disbursements by 4% 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	\$ 261,464,629	1,325,378,673
2 MOU Adjustments	\$ 18,446,100	\$ -	\$ -	\$ -	18,446,100
3 Adjusted Receipts	194,272,263	448,883,201	439,204,680	261,464,629	1,343,824,773
4 Disbursements	194,001,308	381,334,316	414,890,628	224,773,149	1,214,999,401
5 Net Receipts	\$ 270,955	67,548,885	24,314,052	36,691,480	128,825,372
6 <i>Ratio of Receipts to Disbursements</i>	100%	118%	106%	116%	111%
<b>Sewer</b>					
7 Receipts	\$ 297,567,707	\$ 702,928,523	\$ 722,921,802	\$ 434,621,838	2,158,039,870
8 MOU Adjustments	\$ 55,755,100	\$ -	\$ -	\$ 6,527,200	62,282,300
9 Adjusted Receipts	353,322,807	702,928,523	722,921,802	441,149,038	2,220,322,170
10 Disbursements	341,768,883	702,823,586	746,495,831	425,469,119	2,216,557,419
11 Net Receipts	\$ 11,553,924	\$ 104,937	\$ (23,574,029)	\$ 15,679,919	3,764,751
12 <i>Ratio of Receipts to Disbursements</i>	103%	100%	97%	104%	100%
<b>Combined</b>					
13 Receipts	\$ 473,393,870	\$ 1,151,811,724	\$ 1,162,126,482	\$ 696,086,467	3,483,418,543
14 MOU Adjustments	\$ 74,201,200	\$ -	\$ -	\$ 6,527,200	80,728,400
15 Adjusted Receipts	547,595,070	1,151,811,724	1,162,126,482	702,613,667	3,564,146,943
16 Disbursements	535,770,191	1,084,157,902	1,161,386,459	650,242,268	3,431,556,820
17 Net Receipts	\$ 11,824,879	\$ 67,653,822	\$ 740,023	\$ 52,371,399	132,590,123
18 <i>Ratio of Receipts to Disbursements</i>	102%	106%	100%	108%	104%

## APPENDIX

# GLWA Aged Accounts Receivable- WATER ACCOUNTS

1/4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$177,690.44	\$177,690.44	\$0.00	\$0.00	\$0.00
ASH TOWNSHIP	\$65,586.70	\$65,586.70	\$0.00	\$0.00	\$0.00
BELLEVILLE	\$25,738.27	\$25,738.27	\$0.00	\$0.00	\$0.00
BERLIN TOWNSHIP	\$58,275.30	\$58,275.30	\$0.00	\$0.00	\$0.00
BROWNSTOWN TOWNSHIP	\$281,898.76	\$281,898.76	\$0.00	\$0.00	\$0.00
BRUCE TOWNSHIP	\$ (1,810.09)	\$ (1,810.09)	\$0.00	\$0.00	\$0.00
BURTCHVILLE TOWNSHIP	\$22,182.54	\$22,182.54	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$761,666.63	\$761,666.63	\$0.00	\$0.00	\$0.00
CENTER LINE	\$36,825.97	\$36,825.97	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$330,551.14	\$330,551.14	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$640,441.25	\$640,441.25	\$0.00	\$0.00	\$0.00
COMMERCE TOWNSHIP	\$276,232.75	\$276,232.75	\$0.00	\$0.00	\$0.00
DEARBORN	\$3,737,738.21	\$1,862,807.84	\$921,315.69	\$953,614.68	\$0.00
DEARBORN HEIGHTS	\$286,077.59	\$286,077.59	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$123,517.74	\$123,517.74	\$0.00	\$0.00	\$0.00
ECORSE	\$128,394.51	\$128,394.51	\$0.00	\$0.00	\$0.00
FARMINGTON	\$78,553.00	\$78,553.00	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$683,668.59	\$683,668.59	\$0.00	\$0.00	\$0.00
FERNDAL	\$83,092.42	\$83,092.42	\$0.00	\$0.00	\$0.00
FLAT ROCK	\$96,665.15	\$96,665.15	\$0.00	\$0.00	\$0.00
FLINT	\$333,270.51	\$333,270.51	\$0.00	\$0.00	\$0.00
FRASER	\$93,492.54	\$93,492.54	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$133,454.99	\$133,454.99	\$0.00	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- WATER ACCOUNTS

2/4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GIBRALTAR	\$26,777.04	\$26,777.04	\$0.00	\$0.00	\$0.00
GREENWOOD TOWNSHIP	\$ (27,755.78)	\$ (27,755.78)	\$0.00	\$0.00	\$0.00
GROSSE ILE TOWNSHIP	\$102,053.50	\$102,053.50	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$101,584.83	\$101,584.83	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$46,293.38	\$46,293.38	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$125,070.01	\$125,070.01	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$58,230.10	\$58,230.10	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$67,450.93	\$67,450.93	\$0.00	\$0.00	\$0.00
HARRISON TWP	\$118,370.04	\$118,370.04	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$58,332.90	\$58,332.90	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$6,853,925.62	\$200,373.61	\$104,006.77	\$109,298.21	\$6,440,247.03
HURON TOWNSHIP	\$118,071.22	\$118,071.22	\$0.00	\$0.00	\$0.00
IMLAY CITY	\$82,014.91	\$82,014.91	\$0.00	\$0.00	\$0.00
IMLAY TOWNSHIP	\$1,039.97	\$1,039.97	\$0.00	\$0.00	\$0.00
INKSTER	\$104,098.42	\$104,098.42	\$0.00	\$0.00	\$0.00
KEEGO HARBOR	\$24,212.13	\$24,212.13	\$0.00	\$0.00	\$0.00
LAPEER	\$116,263.78	\$116,263.78	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$53,258.10	\$53,258.10	\$0.00	\$0.00	\$0.00
LINCOLN PARK	\$204,634.09	\$204,634.09	\$0.00	\$0.00	\$0.00
LIVONIA	\$2,154,703.66	\$2,154,703.66	\$0.00	\$0.00	\$0.00
MACOMB TWP	\$813,386.48	\$813,386.48	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$156,853.53	\$156,853.53	\$0.00	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- WATER ACCOUNTS

3/4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	\$5,331.60	\$5,331.60	\$0.00	\$0.00	\$0.00
MELVINDALE	\$56,095.04	\$56,095.04	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$30,192.15	\$30,192.15	\$0.00	\$0.00	\$0.00
NOCWA	\$3,612,179.37	\$3,612,179.37	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$122,422.60	\$122,422.60	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$417,740.02	\$417,740.02	\$0.00	\$0.00	\$0.00
NOVI	\$682,933.86	\$682,933.86	\$0.00	\$0.00	\$0.00
OAK PARK	\$111,953.34	\$111,953.34	\$0.00	\$0.00	\$0.00
OAKLAND CO DR COM	\$5,018.01	\$5,018.01	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$84,445.78	\$84,445.78	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$329,084.22	\$329,084.22	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$247,716.46	\$247,716.46	\$0.00	\$0.00	\$0.00
RIVER ROUGE	\$46,326.14	\$46,326.14	\$0.00	\$0.00	\$0.00
RIVERVIEW	\$73,175.52	\$73,175.52	\$0.00	\$0.00	\$0.00
ROCKWOOD	\$24,940.52	\$24,940.52	\$0.00	\$0.00	\$0.00
ROMEO	\$20,662.77	\$20,662.77	\$0.00	\$0.00	\$0.00
ROMULUS	\$323,827.04	\$323,827.04	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$217,395.89	\$217,395.89	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$18,045.55	\$18,045.55	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$1,019,210.45	\$1,019,210.45	\$0.00	\$0.00	\$0.00
SOCWA	\$3,557,208.06	\$3,557,208.06	\$0.00	\$0.00	\$0.00
SOUTH ROCKWOOD	\$8,581.33	\$8,581.33	\$0.00	\$0.00	\$0.00
SOUTHGATE	\$182,172.56	\$182,172.56	\$0.00	\$0.00	\$0.00

Appendix A-3



# GLWA Aged Accounts Receivable- WATER ACCOUNTS

4 / 4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR SHORES	\$236,480.22	\$236,480.22	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$1,134,374.82	\$1,134,374.82	\$0.00	\$0.00	\$0.00
SUMPTER TOWNSHIP	\$55,104.57	\$55,104.57	\$0.00	\$0.00	\$0.00
SYLVAN LAKE	\$21,169.16	\$21,169.16	\$0.00	\$0.00	\$0.00
TAYLOR	\$353,692.04	\$353,692.04	\$0.00	\$0.00	\$0.00
TRENTON	\$178,601.70	\$178,601.70	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$1,060,695.62	\$1,060,695.62	\$0.00	\$0.00	\$0.00
UTICA	\$45,912.43	\$45,912.43	\$0.00	\$0.00	\$0.00
VAN BUREN TOWNSHIP	\$288,558.57	\$288,558.57	\$0.00	\$0.00	\$0.00
VILLAGE OF ALMONT	\$19,132.70	\$19,132.70	\$0.00	\$0.00	\$0.00
WALLED LAKE	\$154,853.76	\$152,268.06	\$2,585.70	\$0.00	\$0.00
WARREN	\$822,004.10	\$822,004.10	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$109,479.00	\$109,479.00	\$0.00	\$0.00	\$0.00
WAYNE	\$238,077.50	\$238,077.50	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$1,636,705.63	\$1,636,705.63	\$0.00	\$0.00	\$0.00
WESTLAND	\$1,027,935.18	\$1,027,935.18	\$0.00	\$0.00	\$0.00
WIXOM	\$186,729.67	\$186,729.67	\$0.00	\$0.00	\$0.00
WOODHAVEN	\$ (38,854.91)	\$ (38,854.91)	\$0.00	\$0.00	\$0.00
YCUA	\$817,371.43	\$817,371.43	\$0.00	\$0.00	\$0.00
<b>TOTAL WATER ACCOUNTS</b>	<b>\$39,356,755.24</b>	<b>\$30,825,687.16</b>	<b>\$1,027,908.16</b>	<b>\$1,062,912.89</b>	<b>\$6,440,247.03</b>

# GLWA Aged Accounts Receivable- SEWER ACCOUNTS

1/1

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$0.00	\$0.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE	\$74,100.00	\$74,100.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE FARMS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE PARK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HARPER WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$31,629,183.37	\$467,900.00	\$467,900.00	\$467,900.00	\$30,225,483.37
MELVINDALE	\$126,900.00	\$126,900.00	\$0.00	\$0.00	\$0.00
OAKLAND COUNTY GWK DD	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OMID	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
REDFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ROUGE VALLEY	\$8,960,200.00	\$4,480,100.00	\$4,480,100.00	\$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	\$8,200.00	\$4,100.00	\$4,100.00	\$0.00	\$0.00
<b>TOTAL SEWER ACCOUNTS</b>	<b>\$42,940,182.87</b>	<b>\$7,294,699.50</b>	<b>\$4,952,100.00</b>	<b>\$467,900.00</b>	<b>\$30,225,483.37</b>

# GLWA Aged Accounts Receivable- IWC ACCOUNTS

1/4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	\$1,612.35	\$1,612.35	\$0.00	\$0.00	\$0.00
AUBURN HILLS (C-O)	\$20,241.76	\$20,241.76	\$0.00	\$0.00	\$0.00
AUBURN HILLS (E-F)	\$375.19	\$375.19	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BIRMINGHAM (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BIRMINGHAM (SEOC)	\$16,771.52	\$11,182.80	\$5,588.72	\$0.00	\$0.00
BLOOMFIELD HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BLOOMFIELD TOWNSHIP	\$7,161.14	\$7,161.14	\$0.00	\$0.00	\$0.00
CANTON TOWNSHIP	\$479,804.52	\$38,132.92	\$19,066.46	\$0.00	\$422,605.14
CENTER LINE	\$3,683.10	\$3,683.10	\$0.00	\$0.00	\$0.00
CHESTERFIELD TOWNSHIP	\$12,122.27	\$12,122.27	\$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	\$ (334.78)	\$0.00	\$0.00	\$0.00	\$ (334.78)
CLAWSON	\$2,763.45	\$2,763.45	\$0.00	\$0.00	\$0.00
CLINTON TOWNSHIP	\$25,399.65	\$25,399.65	\$0.00	\$0.00	\$0.00
DEARBORN	\$110,909.88	\$73,939.92	\$36,969.96	\$0.00	\$0.00
DEARBORN HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$106.64	\$106.64	\$0.00	\$0.00	\$0.00
EASTPOINTE	\$6,404.90	\$6,404.90	\$0.00	\$0.00	\$0.00

Appendix A-6

# GLWA Aged Accounts Receivable- IWC ACCOUNTS

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Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
FARMINGTON	\$4,046.54	\$4,046.54	\$0.00	\$0.00	\$0.00
FARMINGTON HILLS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FRASER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GARDEN CITY	\$6,113.93	\$6,113.93	\$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	\$1,182.65	\$1,182.65	\$0.00	\$0.00	\$0.00
GROSSE POINTE SHORES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GROSSE POINTE WOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HAMTRAMCK	\$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	\$3,166.76	\$3,166.76	\$0.00	\$0.00	\$0.00
HAZEL PARK	\$3,156.12	\$3,156.12	\$0.00	\$0.00	\$0.00
HIGHLAND PARK	\$1,655,435.21	\$7,921.62	\$3,962.58	\$0.00	\$1,643,551.01
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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LAKE ORION	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LATHRUP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LENOX TOWNSHIP	\$325.36	\$325.36	\$0.00	\$0.00	\$0.00
LIVONIA	\$40,109.96	\$40,109.96	\$0.00	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- IWC ACCOUNTS

3/4

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACOMB TWP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MADISON HEIGHTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MELVINDALE	\$3,629.99	\$3,629.99	\$0.00	\$0.00	\$0.00
NEW HAVEN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTHVILLE	\$2,107.64	\$2,107.64	\$0.00	\$0.00	\$0.00
NORTHVILLE TOWNSHIP	\$115,132.02	\$9,148.06	\$4,574.03	\$0.00	\$101,409.93
NOVI	\$17,372.17	\$17,372.17	\$0.00	\$0.00	\$0.00
OAK PARK	\$6,844.39	\$6,844.39	\$0.00	\$0.00	\$0.00
OAKLAND TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ORCHARD LAKE VILLAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ORION TOWNSHIP (C-O)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
OXFORD TOWNSHIP	\$2,086.92	\$2,086.92	\$0.00	\$0.00	\$0.00
OXFORD VILLAGE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLEASANT RIDGE	\$273.77	\$273.77	\$0.00	\$0.00	\$0.00
PLYMOUTH	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PLYMOUTH TOWNSHIP	\$320,468.58	\$25,462.54	\$12,731.27	\$0.00	\$282,274.77
REDFORD TOWNSHIP	\$12,440.95	\$12,440.95	\$0.00	\$0.00	\$0.00
ROCHESTER HILLS	\$18,251.61	\$18,251.61	\$0.00	\$0.00	\$0.00
ROMULUS	\$926.07	\$926.07	\$0.00	\$0.00	\$0.00
ROSEVILLE	\$14,750.16	\$14,750.16	\$0.00	\$0.00	\$0.00
ROYAL OAK	\$13,593.61	\$13,593.61	\$0.00	\$0.00	\$0.00
ROYAL OAK TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SHELBY TOWNSHIP	\$12,295.63	\$12,295.63	\$0.00	\$0.00	\$0.00

Appendix A-8

# GLWA Aged Accounts Receivable- IWC ACCOUNTS

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Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SOUTHFIELD (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SOUTHFIELD (SEOC)	\$3,770.45	\$3,770.45	\$0.00	\$0.00	\$0.00
ST. CLAIR SHORES	\$12,102.46	\$12,102.46	\$0.00	\$0.00	\$0.00
STERLING HEIGHTS	\$31,370.50	\$31,370.50	\$0.00	\$0.00	\$0.00
TROY (E-F)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TROY (SEOC)	\$37,176.99	\$37,176.99	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WASHINGTON TOWNSHIP	\$1,381.10	\$1,381.10	\$0.00	\$0.00	\$0.00
WATERFORD TOWNSHIP	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
WAYNE	\$5,017.87	\$5,017.87	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (C-O)	\$944.01	\$944.01	\$0.00	\$0.00	\$0.00
WEST BLOOMFIELD TWP (E-F)	\$6,311.54	\$6,311.54	\$0.00	\$0.00	\$0.00
WESTLAND	\$23,003.71	\$23,003.71	\$0.00	\$0.00	\$0.00
<b>TOTAL IWC ACCOUNTS</b>	<b>\$3,090,684.77</b>	<b>\$558,285.68</b>	<b>\$82,893.02</b>	<b>\$0.00</b>	<b>\$2,449,506.07</b>

# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

1/8

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY	\$4,160.31	\$4,160.31	\$0.00	\$0.00	\$0.00
A & R PACKING CO., LLC	\$9,624.85	\$9,624.85	\$0.00	\$0.00	\$0.00
AACTRON	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ACADEMY PACKING CO.	\$302.06	\$302.06	\$0.00	\$0.00	\$0.00
ACME RUSTPROOF	\$79.13	\$79.13	\$0.00	\$0.00	\$0.00
ADVANCED RESOURCE RECOVERY	\$796.22	\$796.22	\$0.00	\$0.00	\$0.00
AEVITAS SPECIALITY SERVICES	\$18,546.80	\$18,546.80	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$5,958.02	\$5,958.02	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$23,271.92	\$23,271.92	\$0.00	\$0.00	\$0.00
ALEXANDER & HORNUNG	\$1,125.97	\$1,125.97	\$0.00	\$0.00	\$0.00
ALGAL SCIENTIFIC CORPORATION	\$16,533.05	\$0.00	\$0.00	\$0.00	\$16,533.05
ALL CHEM CORP, LLC.	\$ (89.96)	\$0.00	\$0.00	\$0.00	\$ (89.96)
ALPHA STAMPING COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
AMERICAN WASTE TECH INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
ATWATER IN THE PARK	\$37.20	\$37.20	\$0.00	\$0.00	\$0.00
AUTOMOTIVE FINISH	\$7.23	\$7.23	\$0.00	\$0.00	\$0.00
AXLE BREWING COMPANY, LLC	\$105.31	\$105.31	\$0.00	\$0.00	\$0.00
B. NEKTAR MEADERY	\$2.56	\$2.56	\$0.00	\$0.00	\$0.00
BAFFIN BREWING COMPANY	\$108.95	\$108.95	\$0.00	\$0.00	\$0.00
BARON INDUSTRIES	\$984.24	\$984.24	\$0.00	\$0.00	\$0.00
BARTZ BAKERY	\$106.01	\$106.01	\$0.00	\$0.00	\$0.00
BASTONE BREWERY	\$56.56	\$56.56	\$0.00	\$0.00	\$0.00
BATCH BREWING COMPANY	\$ (121.94)	Appendix A-10 \$0.00	\$0.00	\$0.00	\$ (121.94)

# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

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Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BAYS MICHIGAN CORPORATION	\$420.89	\$420.89	\$0.00	\$0.00	\$0.00
BEIRUT BAKERY, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BETTER MADE SNACK FOOD	\$17,351.99	\$17,351.99	\$0.00	\$0.00	\$0.00
BLACK LOTUS BREWING CO.	\$228.69	\$54.24	\$0.00	\$72.32	\$102.13
BOZEK'S MARKET	\$67.14	\$67.14	\$0.00	\$0.00	\$0.00
BREW DETROIT	\$3,668.92	\$3,668.92	\$0.00	\$0.00	\$0.00
BROADWAY MKT CORNED BEEF	\$ (17.54)	\$0.00	\$0.00	\$0.00	\$ (17.54)
BROOKS BREWING, LLC.	\$68.45	\$68.45	\$0.00	\$0.00	\$0.00
BROWN IRON BREWHOUSE	\$41.69	\$41.69	\$0.00	\$0.00	\$0.00
CANTON BREW WORKS	\$199.03	\$56.40	\$0.00	\$72.32	\$70.31
CAPITAL REPRODUCTIONS	\$2.97	\$1.35	\$1.62	\$0.00	\$0.00
CF BURGER CREAMERY	\$15,008.27	\$15,008.27	\$0.00	\$0.00	\$0.00
CHILANGO'S BAKERY	\$2,238.40	\$47.47	\$112.34	\$31.65	\$2,046.94
CINTAS CORP. - MACOMB TWP.	\$49,573.52	\$49,573.52	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$27,148.99	\$27,148.99	\$0.00	\$0.00	\$0.00
CINTAS CORPORATION	\$12,413.32	\$12,413.32	\$0.00	\$0.00	\$0.00
CITY LAUNDRY, INC.	\$6.38	\$6.38	\$0.00	\$0.00	\$0.00
CLASSIC CONTAINER CORP.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COCA-COLA REFRESHMENTS USA,	\$5,043.86	\$3,196.66	\$1,847.20	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$5,068.96	\$5,068.96	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$716.66	\$716.66	\$0.00	\$0.00	\$0.00
COSTCO WHOLESALE STORE	\$6,704.13	\$6,704.13	\$0.00	\$0.00	\$0.00



# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

3/8

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
COSTCO WHOLESALE STORE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COUNTRY FRESH DAIRY CO.	\$ (1,974.96)	\$ (1,974.96)	\$0.00	\$0.00	\$0.00
CROSS CHEMICAL COMPANY, INC.	\$3,091.39	\$1,033.49	\$1,029.10	\$0.00	\$1,028.80
DARLING INGREDIENTS, INC.	\$5,755.02	\$5,755.02	\$0.00	\$0.00	\$0.00
DAVE'S SAUSAGE FACTORY 2	\$373.49	\$373.49	\$0.00	\$0.00	\$0.00
DEARBORN BREWING	\$46.94	\$46.94	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE	\$9,450.03	\$9,450.03	\$0.00	\$0.00	\$0.00
DEARBORN SAUSAGE CO., INC.	\$12,717.39	\$12,717.39	\$0.00	\$0.00	\$0.00
DETROIT BEER	\$122.18	\$122.18	\$0.00	\$0.00	\$0.00
DETROIT LINEN SERVICE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT METRO WC AIRPORT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
DETROIT RIVERTOWN BREWERY CC	\$1,010.38	\$1,010.38	\$0.00	\$0.00	\$0.00
DETROIT SAUSAGES CO INC	\$27.97	\$27.97	\$0.00	\$0.00	\$0.00
DETRONIC INDUSTRIES, INC.	\$118.68	\$118.68	\$0.00	\$0.00	\$0.00
DIFCO LABORATORIES, INC.	\$22,226.16	\$22,226.16	\$0.00	\$0.00	\$0.00
DIVERSIFIED CHEM TECH. INC.	\$146.20	\$146.20	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$937.28	\$937.28	\$0.00	\$0.00	\$0.00
DOMESTIC UNIFORM RENTAL	\$3,084.35	\$2,732.50	\$351.85	\$0.00	\$0.00
DOWNEY BREWING COMPANY	\$31.00	\$31.00	\$0.00	\$0.00	\$0.00
E.W. GROBBEL'S SONS, INC.	\$8,112.89	\$8,112.89	\$0.00	\$0.00	\$0.00
EASTERN MARKET BREWING COMP	\$129.71	\$129.71	\$0.00	\$0.00	\$0.00
ENVIROSOLIDS, L.L.C.	\$88,354.83	\$21,914.51	\$0.00	\$0.00	\$66,440.32
EQ DETROIT, INC.	\$533.12	\$533.12	\$0.00	\$0.00	\$0.00

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# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

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Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	\$2,479.60	\$2,479.60	\$0.00	\$0.00	\$0.00
EQ DETROIT, INC.	\$ (1,238.68)	\$0.00	\$0.00	\$0.00	\$ (1,238.68)
EQ DETROIT, INC.	\$ (4,588.68)	\$0.00	\$0.00	\$0.00	\$ (4,588.68)
ETON ST BREWERY- GRIFFIN CLF	\$2,842.46	\$2,842.46	\$0.00	\$0.00	\$0.00
EXTRUDE HONE CORPORATION	\$142.61	\$142.61	\$0.00	\$0.00	\$0.00
EXTRUDEHODE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
FARMINGTON BREWING COMPANY	\$143.01	\$143.01	\$0.00	\$0.00	\$0.00
FAYGO BEVERAGES, INC.	\$511,651.44	\$74,142.25	\$47,496.42	\$51,276.74	\$338,736.03
FORD NEW MODEL PROGRAM	\$370.02	\$370.02	\$0.00	\$0.00	\$0.00
FOUNDERS BREWING COMPANY	\$83.03	\$83.03	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$732.20	\$732.20	\$0.00	\$0.00	\$0.00
FRESH-PAK	\$2,991.99	\$2,991.99	\$0.00	\$0.00	\$0.00
G2O ENERGY, LLC	\$4,591.85	\$3,099.92	\$1,491.93	\$0.00	\$0.00
GENERAL LINEN SUPPLY CO.	\$69,131.46	\$12,057.98	\$6,672.12	\$6,181.90	\$44,219.46
GLOBAL TITANIUM, INC.	\$4,003.98	\$4,003.98	\$0.00	\$0.00	\$0.00
GLOBAL TITANIUM, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$125.07	\$125.07	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$61.60	\$61.60	\$0.00	\$0.00	\$0.00
GRANITE CITY FOOD & BREWERY	\$331.98	\$86.66	\$0.00	\$115.99	\$129.33
GREAT BARABOO BREWING CO.	\$ (2,054.91)	\$0.00	\$0.00	\$0.00	\$ (2,054.91)
HACIENDA MEXICAN FOODS	\$5,744.66	\$3,109.53	\$0.00	\$0.00	\$2,635.13
HENKEL CORPORATION	\$636.69	\$162.75	\$473.94	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

5/8

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HOME STYLE FOOD INC.	\$4,373.97	\$4,373.97	\$0.00	\$0.00	\$0.00
HOOD CLEANERS	\$211.33	\$0.97	\$0.00	\$0.00	\$210.36
HOUGHTON INTERNATIONAL INC.	\$179.76	\$179.76	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$106.22	\$106.22	\$0.00	\$0.00	\$0.00
HOUGHTON INTERNATIONAL INC.	\$3,840.33	\$3,840.33	\$0.00	\$0.00	\$0.00
HUNTINGTON CLEANERS	\$494.80	\$494.80	\$0.00	\$0.00	\$0.00
INDUSTRIAL METAL COATING	\$584.20	\$584.20	\$0.00	\$0.00	\$0.00
ISLAMIC SLAUGHTER HOUSE	\$986.71	\$986.71	\$0.00	\$0.00	\$0.00
ITALIAN BUTTER BREAD STICKS	\$9.49	\$9.49	\$0.00	\$0.00	\$0.00
J & G FOOD PRODUCTS, INC.	\$131.48	\$131.48	\$0.00	\$0.00	\$0.00
JAMEX BREWING CO.	\$38.31	\$38.31	\$0.00	\$0.00	\$0.00
KAR NUT PRODUCTS	\$756.63	\$756.63	\$0.00	\$0.00	\$0.00
KOWALSKI SAUSAGES, CO.	\$505.07	\$505.07	\$0.00	\$0.00	\$0.00
KUHNHENN BREWING	\$118.88	\$118.88	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$588.43	\$588.43	\$0.00	\$0.00	\$0.00
LA MICHOACANA FLOUR TORTILLA	\$47.42	\$47.42	\$0.00	\$0.00	\$0.00
LEAR CORPORATION DBA EAGLE C	\$5,871.86	\$5,871.86	\$0.00	\$0.00	\$0.00
LIBERTY STREET PROD. BREWERY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LILY'S SEAFOOD GRILL & BREWE	\$60.27	\$60.27	\$0.00	\$0.00	\$0.00
MACDERMID, INC.	\$3,873.16	\$3,873.16	\$0.00	\$0.00	\$0.00
MCNICHOLS POLISHING & ANODIZ	\$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
METROPOLITAN BAKERY	\$393.99	\$393.99	\$0.00	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

6/8

Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MIBA HYDRAMECHANICA CORP.	\$162.70	\$162.70	\$0.00	\$0.00	\$0.00
MICHIGAN DAIRY	\$178,224.59	\$178,224.59	\$0.00	\$0.00	\$0.00
MICHIGAN PROD. MACHINING	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MICHIGAN SOY PRODUCTS CO.	\$557.77	\$557.77	\$0.00	\$0.00	\$0.00
MIDWEST WIRE PRODUCTS, INC.	\$ (2.94)	\$0.00	\$0.00	\$0.00	\$ (2.94)
MILANO BAKERY	\$1,351.53	\$1,351.53	\$0.00	\$0.00	\$0.00
MILTON CHILI CO.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MINNIE MARIE BAKERS, INC	\$10,616.30	\$10,616.30	\$0.00	\$0.00	\$0.00
MISTER UNIFORM & MAT RENTALS	\$103.77	\$0.00	\$23.63	\$27.74	\$52.40
MOTOR CITY BREWING WORKS	\$ (23.25)	\$0.00	\$0.00	\$0.00	\$ (23.25)
NATIONAL CHILI COMPANY	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
NORTH CENTER BREWING COMPANY	\$57.69	\$57.69	\$0.00	\$0.00	\$0.00
NORTHERN LAKES SEAFOOD & MEAT	\$44.48	\$44.48	\$0.00	\$0.00	\$0.00
OAKWOOD BAKERY	\$160.58	\$160.58	\$0.00	\$0.00	\$0.00
PARKER'S HILLTOP BREWER & S	\$117.01	\$117.01	\$0.00	\$0.00	\$0.00
PELLERITO FOODS INC.	\$465.30	\$465.30	\$0.00	\$0.00	\$0.00
PEPSI COLA, INC.	\$31,669.93	\$31,669.93	\$0.00	\$0.00	\$0.00
PERSONAL UNIFORM SERVICE, IN	\$45.58	\$45.58	\$0.00	\$0.00	\$0.00
PETRO ENVIRON TECH, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PINE TREE ACRES, INC.	\$25,482.58	\$25,482.58	\$0.00	\$0.00	\$0.00
PLATING SPEC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
POWER VAC OF MICHIGAN, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

# GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

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Balances as of 01/31/19

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
PREMIER PLATING, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PRODUCTION SPRING, LLC.	\$531.76	\$531.76	\$0.00	\$0.00	\$0.00
QUALA SERVICES, LLC	\$1,192.85	\$1,192.85	\$0.00	\$0.00	\$0.00
RAY'S ICE CREAM CO.	\$59.22	\$59.22	\$0.00	\$0.00	\$0.00
RED SPOT PAINT #409139	\$14.22	\$14.22	\$0.00	\$0.00	\$0.00
RIVER ROUGE BREWING COMPANY	\$789.47	\$789.47	\$0.00	\$0.00	\$0.00
ROAK BREWING CO. LLC	\$1,161.12	\$1,161.12	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS BEER COMPANY	\$324.46	\$324.46	\$0.00	\$0.00	\$0.00
ROCHESTER MILLS PROD BREWERY	\$3,083.05	\$1,077.32	\$0.00	\$2,005.73	\$0.00
RTT	\$23,842.21	\$0.00	\$0.00	\$0.00	\$23,842.21
SEAFARE FOODS, INC.	\$61.35	\$61.35	\$0.00	\$0.00	\$0.00
SHERWOOD BREWING COMPANY	\$819.08	\$0.00	\$0.00	\$707.30	\$111.78
SMITH-WATKINS, LLC	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPRAYTEK, INC.	\$12.80	\$12.80	\$0.00	\$0.00	\$0.00
SWEETHEART BAKERY, INC.	\$1,017.51	\$152.86	\$77.14	\$75.72	\$711.79
THE CROWN GROUP-LIVONIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
THE ROYAL OAK BREWERY	\$ (1,400.20)	\$0.00	\$0.00	\$0.00	\$ (1,400.20)
TOM LAUNDRY CLEANERS	\$9.68	\$9.68	\$0.00	\$0.00	\$0.00
TRAFFIC JAM & SNUG	\$31.21	\$31.21	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TURRI'S ITALIAN FOODS	\$28,629.02	\$28,629.02	\$0.00	\$0.00	\$0.00
U-METCO, INC.	\$2,345.03	\$2,345.03	\$0.00	\$0.00	\$0.00
UNCLE RAYS SNACKS, LLC	\$35,446.18	\$35,446.18	\$0.00	\$0.00	\$0.00

Appendix A-16

**GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS**

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**Balances as of 01/31/19**

<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>
UNCLE RAYS SNACKS, LLC	\$140.65	\$140.65	\$0.00	\$0.00	\$0.00
UNIQUE LINEN SERVICES, INC.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
UNITED FISH DISTRIBUTORS	\$7.40	\$7.40	\$0.00	\$0.00	\$0.00
UNITED LINEN SERVICE, LLC.	\$302.42	\$302.42	\$0.00	\$0.00	\$0.00
UNITED MEAT & DELI	\$542.73	\$542.73	\$0.00	\$0.00	\$0.00
US ECOLOGY MICHIGAN	\$ (808.33)	\$0.00	\$0.00	\$0.00	\$ (808.33)
US ECOLOGY ROMULUS, INC.	\$2,461.00	\$2,461.00	\$0.00	\$0.00	\$0.00
USHER OIL SERVICES	\$4,200.34	\$4,200.34	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS	\$9,966.38	\$9,966.38	\$0.00	\$0.00	\$0.00
VERNDALE PRODUCTS, INC.	\$4,479.79	\$4,479.79	\$0.00	\$0.00	\$0.00
VERNOR FOOD PRODUCTS	\$128.30	\$55.78	\$36.26	\$27.89	\$8.37
WIGLEY'S MEAT PROCESS	\$324.52	\$324.52	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$744.14	\$744.14	\$0.00	\$0.00	\$0.00
WINTER SAUSAGE MFG. CO.	\$103.52	\$103.52	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO	\$6,727.80	\$6,727.80	\$0.00	\$0.00	\$0.00
WOLVERINE PACKING CO.	\$2,629.70	\$2,629.70	\$0.00	\$0.00	\$0.00
WOODWARD AVENUE BREWERS	\$219.55	\$0.00	\$0.00	\$219.55	\$0.00
<b>TOTAL POLLUTANT SURCHARGE ACCOUNTS</b>	<b>\$1,382,454.42</b>	<b>\$775,494.04</b>	<b>\$59,613.55</b>	<b>\$60,814.85</b>	<b>\$486,531.98</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 (7 Months)	741,678	3,277,600	31,413	4,050,690
FY 2019 Payments (7 Months)	<u>-</u>	<u>(2,745,744)</u>	<u>-</u>	<u>(2,745,744)</u>
				-
<b>Balance as of January 31, 2019</b>	<b><u>\$ 6,853,926</u></b>	<b><u>\$ 31,629,183</u></b>	<b><u>\$ 1,655,435</u></b>	<b><u>\$ 40,138,544</u></b>



## **Financial Services Audit Committee Communication**

**Date:** April 24, 2019

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

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

**Re:** CFO Updates

For discussion: See materials attached related to sewer shares methodology discussion with member partners.





## Presentation Topics

1. Brief Overview of Current SHARES Methodology
2. Data Developments Potentially Impacting FY 2021 SHARES
3. Brief Summary of Technically Driven Methodology Considerations
4. Introduction of a different "*Path Forward*" for Stakeholder Consideration

## Presentation Notes . . .

- **This material is designed to provide information of a conceptual nature.**
  - ✓ *Example cost allocations to Customers are indicated based on assumptions noted, but . . .*
  - ✓ *This material is not intended to represent any recommended charges, etc.*
  - ✓ *The potential “Path Forward” embraces notions grounded in principles to improve regional water quality at the lowest possible costs.*
- This material focusses on the GLWA Sewer Revenue Requirement that is allocated to ALL Wholesale Customers and the City of Detroit Customer Class
  - ✓ *Excludes OMID specific and Industrial Specific Cost Pools*



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## Brief Overview of Current SHAREs



## The Current “SHAREs” Approach Implements a Methodology that:

- Assigns Budget to Cost Pools
- Allocates Cost Pool Budget to Customers Based on Measure of Use
  - ✓ *CSO Facilities – 83/17 via 1999 Rate Settlement Agreement*
  - ✓ *Master Meters – Exclude Detroit*
  - ✓ *All Other Costs:*
    - 50% based on estimated contributed annual volume
    - 50% based on estimated (based on strength of flow assumptions) contributed annual pollutants



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## Current “SHAREs” Approach Illustration

<i>Cost Pool:</i>	<b>CSO Facilities</b>	<b>Suburban Only</b>	<b>Volume SHAREs</b>	<b>Pollutant SHAREs</b>	<b>TOTAL</b>
FY 2020 Operating (\$ millions)	\$18.02	\$3.61	\$50.24	\$111.96	\$183.83
FY 2020 Capital (\$ millions)	\$43.07	\$6.08	\$139.01	\$77.30	\$265.46
FY 2020 Revenue Req't (\$ millions)	\$61.10	\$9.68	\$189.26	\$189.26	\$449.30
FY 2020 Revenue Requirement %	13.6%	2.2%	42.1%	42.1%	100.0%
Assigned to Customers Via:	83/17 Rate Settlement Agreement	Average Annual Contributed Volume, Excluding Detroit	Average Annual Contributed Volume	Estimated Pollutant Contributions, based on Strength of Flow Assumptions	

- Current SHAREs utilize contributed volume data from FY 2013 - 2016



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*Data Developments  
Potentially Impacting FY 2021  
SHAREs*



## Two Ongoing Technical Studies

- Updated Strength of Flow Opinions
  - ✓ *Data from March 2019 Draft CDM Study Report*
- Updated Contributed Volume / Flow Balance Data
  - ✓ *Master Metered Communities*
    - Need updated data for FY 2017 - FY 2019
  - ✓ *D+ Communities*
    - Subject to ongoing analyses – target date of June 2019



## Potential Impact of Data Updates

- Updated Strength of Flow Opinions
  - ✓ Result = "Non Sanitary" strengths are lower than indicated by prior opinions
  - ✓ Implementing new opinions would moderately increase cost allocations to Customers with high relative sanitary contributions
  - ✓ See Hypothetical Impact Analysis - Handout 1
- Updated Contributed Volume / Flow Balance Data
  - ✓ TBD



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*Brief Summary of Technically  
Driven Methodology  
Considerations*



## Methodology Considerations: 2017 Board of Directors Resolution

“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.”



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## Methodology Considerations: Peaking – A Status Report

- The “Small SHARES” work group has initiated detailed discussions of how peaking could be incorporated into the charges methodology
- Investigation has included:
  - ✓ *How peaking impacts specific asset categories;*
  - ✓ *How peak contributions might be measured;*
  - ✓ *Historical review of how the existing methodology emerged*
- The investigation is ongoing, with no completion date established



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## Methodology Considerations: Potential Other Factors

- While they have not received detailed investigation, consideration of other factors have been mentioned:
  - ✓ *Different Wet Weather Flow Balance approaches for separated and combined systems;*
  - ✓ *Reflection of “level of treatment” for different flow types at the WRRF*
    - i.e. not all wet weather contributions receive Secondary Treatment

## Methodology Considerations: Potential Other Factors (*continued*)

- While they have not received detailed investigation, consideration of other factors have been mentioned:
  - ✓ *Recognition of historical System development*
  - ✓ *Affordability considerations*
  - ✓ *Other methods introduced at the 2018 Symposium*
  - ✓ *Public policy objectives*
  - ✓ *Other approaches to meet equity and stability goals*

## Methodology Considerations: Things I've Heard in the SHARES Process . . .

- We need to dump strength of flow and go back to volume
- The basic results of the current methodology are fair – but we need to simplify the methodology
- The methodology needs to provide incentives for taking flow out of the System
- We'll never reach a consensus on peaking – particularly not for FY 2021
- All of this is premature pending the outcomes of the Master Plan Study
- This level of complexity is crazy – no one does this



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*Introduction of a different  
"Path Forward" for  
Stakeholder Consideration*





## What if . . .

- We eliminated cost pools
  - ✓ *Simplifies cost tracking and avoids disagreement on how to allocate certain costs*
- We no longer assigned pollutant concentrations by strength of flow estimates
  - ✓ *Eliminates confusion / technical challenges to strength opinions*
  - ✓ *Provides flow based incentives*
- We included population as an allocation factor
  - ✓ *Recognition of historical perspectives – everyone benefits from water quality improvements provided by GLWA Sewer System*



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## What if . . .

- We primarily allocated ALL costs based on contributed volumes
- We utilized different measurements of volume
  - ✓ *Sanitary – recognizes that wastewater treatment costs are largely driven by sanitary wastewater*
  - ✓ *Peak or wet weather – recognizes that peak volume contributions impact facility sizing (including CSO facilities) and therefore costs*
  - ✓ *Average – recognizes that some transport and treatment costs are uniform irrespective of flow type*



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## What if . . .

- We established some simple, policy driven weightings to each of these factors, and applied them separately to:
  - ✓ *Operating revenue requirements;*
  - ✓ *Capital revenue requirements*

## Simplified Methodology for Consideration

- The accompanying exhibits illustrate what this simplified approach might look like
- We've offered 3 alternative scenarios reflecting different policy assumptions
- We've used existing volume estimates (average of FY 2013 – FY 2016)
- We've developed VERY preliminary estimates of peak flow volumes – assuming that a peak monthly volume metric would be used for allocation purposes
- Analyses should be considered preliminary, and we again encourage stakeholders to focus on logic and structure rather than the assumptions and results

## Simplified Methodology for Consideration – Sample Scenarios

Allocation Factor:	Population	Sanitary Volume	Total Volume	Peak Volume	TOTAL
Operating Budget	0.0%	50.0%	25.0%	25.0%	100.0%
Capital Budget					
Scenario 1	15.0%	15.0%	20.0%	50.0%	100.0%
Scenario 2	25.0%	0.0%	0.0%	75.0%	100.0%
Scenario 3	33.3%	0.0%	33.3%	33.3%	100.0%
Assigned to Customers Via:	Population Statistics	Average Annual Sanitary Volume	Average Annual Contributed Volume	Estimated Peak Monthly Volume	

- For purposes of illustrating the concept, we've established 3 alternative "weighting assumption" scenarios
- See accompanying material for hypothetical cost allocations of these 3 Scenarios

## Closing Comments

- Implementing some aspect of this concept arguably . . .
  - ✓ Provides incentives for Member Partners to remove flows from the System, resulting in lower future investment requirements for ALL
  - ✓ Makes charges easier to understand / explain
  - ✓ Allows GLWA and its Member Partners to focus on more strategic initiatives

## Closing Comments (*taken from 2013 Rate Simplification Initiative*)

- Implementing some aspect of this concept arguably . . .
  - ✓ *Further aligns Charge development with reality*
    - Efforts to get precise estimates of wastewater volume and pollutant contributions are (and will continue to be) fruitless
  - ✓ *Eliminates waste – unnecessary oversight and analytical work*
  - ✓ *Reduces costs for legal / consulting / engineering support*
    - Allows resources to focus on higher value added initiatives



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Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs  
Scenario Comparison

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Alternative SOF Opinions			Alternative D+ Flow Balance			Both		
	<u>Current</u>	<u>Rev Req</u>	<u>Variance</u>	<u>% Variance</u>	<u>Rev Req</u>	<u>Variance</u>	<u>% Variance</u>	<u>Rev Req</u>	<u>Variance</u>	<u>% Variance</u>
<u>Allocated Rev Req'ts</u>										
1 OMID	65,980,200	67,111,300	1,131,100	1.7%						
2 Rouge Valley	52,579,300	52,939,000	359,700	0.7%						
3 Oakland GWK	43,814,600	43,617,900	(196,700)	-0.4%						
4 Evergreen Farmington	33,849,600	34,220,800	371,200	1.1%						
5 SE Macomb San Dist	24,057,000	23,965,400	(91,600)	-0.4%						
6 Dearborn	18,876,100	18,786,100	(90,000)	-0.5%						
7 Grosse Pointe Farms	2,666,800	2,651,300	(15,500)	-0.6%						
8 Grosse Pointe Park	1,755,200	1,748,800	(6,400)	-0.4%						
9 Melvindale	1,489,000	1,499,500	10,500	0.7%						
10 Farmington	1,117,200	1,124,900	7,700	0.7%						
11 Center Line	1,004,500	1,011,000	6,500	0.6%						
12 Allen Park	828,200	832,900	4,700	0.6%						
13 Highland Park	5,500,700	5,460,500	(40,200)	-0.7%						
14 Hamtramck	3,858,600	3,831,200	(27,400)	-0.7%						
15 Grosse Pointe	859,400	852,400	(7,000)	-0.8%						
16 Harper Woods	210,300	208,400	(1,900)	-0.9%						
17 Redford Township	258,000	256,400	(1,600)	-0.6%						
18 Wayne County #3	48,200	48,100	(100)	-0.2%						
19 Subtotal Suburban Wholesale	258,752,900	260,165,900	1,413,000	0.5%						
20 Detroit Customers	190,544,800	189,131,800	(1,413,000)	-0.7%						
21 Total	449,297,700	449,297,700	0	0.0%						
22 M Subtotal	248,017,700	249,508,900	1,491,200	0.6%						
23 D+ Subtotal	201,280,000	199,788,800	(1,491,200)	-0.7%						
<u>High Level Summary</u>										
24 OMID	65,980,200	67,111,300	1,131,100	1.7%						
25 Rouge Valley	52,579,300	52,939,000	359,700	0.7%						
26 Oakland GWK	43,814,600	43,617,900	(196,700)	-0.4%						
27 Evergreen Farmington	33,849,600	34,220,800	371,200	1.1%						
28 SE Macomb San Dist	24,057,000	23,965,400	(91,600)	-0.4%						
29 Dearborn	18,876,100	18,786,100	(90,000)	-0.5%						
30 Other "M" Customers	8,860,900	8,868,400	7,500	0.1%						
31 D+	201,280,000	199,788,800	(1,491,200)	-0.7%						
32 Total	449,297,700	449,297,700	0	0.0%						

TFG

## Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs

## A - Possible Allocation Factors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<u>Population</u>	<u>Sanitary Vol</u>	<u>Dry Vol</u>	<u>DWII</u>	<u>Wet Vol</u>	<u>Avg Vol</u>	<u>Peak Factor</u>	<u>Peak Vol</u>	<u>Pollutants</u>	<u>CSO</u>	<u>Sub Only</u>
							<i>Prelim Concept</i>				
<b><u>Customer Units</u></b>							(a)	(3) * (7)			
1 OMID	691,270	2,181,200	2,706,100	524,900	244,900	2,951,000	1.37	3,707,400	20.415%	2.651%	22.182%
2 Rouge Valley	454,492	1,449,200	2,200,700	751,500	506,200	2,706,900	2.09	4,599,500	14.361%	2.956%	20.347%
3 Oakland GWK	292,577	1,011,100	1,656,900	645,800	820,900	2,477,800	2.66	4,407,400	11.011%	2.256%	18.625%
4 Evergreen Farmington	287,967	997,400	1,469,900	472,500	222,100	1,692,000	1.72	2,528,200	9.613%	1.485%	12.718%
5 SE Macomb San Dist	167,983	571,600	878,100	306,500	454,900	1,333,000	2.62	2,300,600	6.193%	1.174%	10.020%
6 Dearborn	101,584	420,200	706,900	286,700	346,200	1,053,100	2.89	2,042,900	4.590%	1.631%	8.048%
7 Other "M" Customers	52,856	219,000	341,000	122,000	126,900	467,900	2.83	963,900	2.276%	0.778%	3.517%
8 M Customer Subtotal	2,048,729	6,849,700	9,959,600	3,109,900	2,722,100	12,681,700	2.06	20,549,900	68.459%	12.931%	95.458%
9 D+ Customers	699,843	2,784,300	8,582,100	5,797,800	2,427,000	11,009,100	3.49	29,992,900	31.541%	87.069%	4.542%
10 Total	2,748,572	9,634,000	18,541,700	8,907,700	5,149,100	23,690,800	2.73	50,542,800	100.000%	100.000%	100.000%
<b><u>Customer Share</u></b>											
1 OMID	25.150%	22.641%	14.595%	5.893%	4.756%	12.456%		7.335%	20.415%	2.651%	22.182%
2 Rouge Valley	16.536%	15.043%	11.869%	8.437%	9.831%	11.426%		9.100%	14.361%	2.956%	20.347%
3 Oakland GWK	10.645%	10.495%	8.936%	7.250%	15.943%	10.459%		8.720%	11.011%	2.256%	18.625%
4 Evergreen Farmington	10.477%	10.353%	7.928%	5.304%	4.313%	7.142%		5.002%	9.613%	1.485%	12.718%
5 SE Macomb San Dist	6.112%	5.933%	4.736%	3.441%	8.835%	5.627%		4.552%	6.193%	1.174%	10.020%
6 Dearborn	3.696%	4.362%	3.812%	3.219%	6.724%	4.445%		4.042%	4.590%	1.631%	8.048%
7 Other "M" Customers	1.923%	2.273%	1.839%	1.370%	2.465%	1.975%		1.907%	2.276%	0.778%	3.517%
8 M Customer Subtotal	74.538%	71.099%	53.715%	34.912%	52.866%	53.530%		40.658%	68.459%	12.931%	95.458%
9 D+ Customers	25.462%	28.901%	46.285%	65.088%	47.134%	46.470%		59.342%	31.541%	87.069%	4.542%
10 Total	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%		100.000%	100.000%	100.000%	100.000%

(a) Peak Volume in this demonstration reflects peak monthly data based on a review of recent data. Peak Factor reflects maximum month during FYs 2016 - 2018 divided by average dry weather monthly volume.

TFG

## Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs

B - Revenue Requirement Allocation - **Current Methodology**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<u>Population</u>	<u>Sanitary Vol</u>	<u>Dry Vol</u>	<u>Wet Vol</u>	<u>Avg Vol</u>	<u>Peak Vol</u>	<u>Pollutants</u>	<u>CSO</u>	<u>Sub Only</u>	<u>TOTAL</u>	<u>~ SHARE</u>
<u>Cost Pool Allocation Factors</u>											
1 Operating Revenue Req't	0.0%	0.0%	0.0%	0.0%	27.3%	0.0%	60.9%	9.8%	2.0%	100.0%	
2 Capital Revenue Req't	0.0%	0.0%	0.0%	0.0%	52.4%	0.0%	29.1%	16.2%	2.3%	100.0%	
3 Total Revenue Requirement	0.0%	0.0%	0.0%	0.0%	42.1%	0.0%	42.1%	13.6%	2.2%	100.0%	
<u>Cost Pool Allocation</u>											
4 Operating Revenue Req't	0	0	0	0	50,244,500	0	111,956,900	18,024,600	3,607,300	183,833,300	
5 Capital Revenue Req't	0	0	0	0	139,014,200	0	77,301,700	43,073,200	6,075,300	265,464,400	
6 Total Revenue Requirement	0	0	0	0	189,258,700	0	189,258,600	61,097,800	9,682,600	449,297,700	
<u>Allocated Rev Req'ts</u>											
7 OMID	0	0	0	0	23,574,700	0	38,637,900	1,619,800	2,147,800	65,980,200	14.685%
8 Rouge Valley	0	0	0	0	21,624,600	0	27,178,700	1,805,900	1,970,100	52,579,300	11.703%
9 Oakland GWK	0	0	0	0	19,794,400	0	20,838,500	1,378,300	1,803,400	43,814,600	9.752%
10 Evergreen Farmington	0	0	0	0	13,516,900	0	18,193,900	907,300	1,231,500	33,849,600	7.534%
11 SE Macomb San Dist	0	0	0	0	10,648,900	0	11,720,600	717,300	970,200	24,057,000	5.354%
12 Dearborn	0	0	0	0	8,412,900	0	8,687,400	996,500	779,300	18,876,100	4.201%
13 Other "M" Customers	0	0	0	0	3,737,900	0	4,307,000	475,600	340,500	8,861,000	1.972%
14 M Customer Subtotal	0	0	0	0	101,310,300	0	129,564,000	7,900,700	9,242,800	248,017,800	55.201%
15 D+ Customers	0	0	0	0	87,948,400	0	59,694,700	53,197,000	439,800	201,279,900	44.799%
16 Total	0	0	0	0	189,258,700	0	189,258,700	61,097,700	9,682,600	449,297,700	100.000%

## Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs

B1 - Hypothetical Revenue Requirement Allocation - **Scenario 1**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<u>Population</u>	<u>Sanitary Vol</u>	<u>Dry Vol</u>	<u>Wet Vol</u>	<u>Avg Vol</u>	<u>Peak Vol</u>	<u>Pollutants</u>	<u>CSO</u>	<u>Sub Only</u>	<u>TOTAL</u>	<u>~ SHARE</u>
<u>Cost Pool Allocation Factors</u>											
1 Operating Revenue Req't	0.0%	50.0%	0.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	100.0%	
2 Capital Revenue Req't	15.0%	15.0%	0.0%	0.0%	20.0%	50.0%	0.0%	0.0%	0.0%	100.0%	
3 Total Revenue Requirement	8.9%	29.3%	0.0%	0.0%	22.0%	39.8%	0.0%	0.0%	0.0%	100.0%	
<u>Cost Pool Allocation</u>											
4 Operating Revenue Req't	0	91,916,700	0	0	45,958,300	45,958,300	0	0	0	183,833,300	
5 Capital Revenue Req't	39,819,700	39,819,700	0	0	53,092,900	132,732,200	0	0	0	265,464,500	
6 Total Revenue Requirement	39,819,700	131,736,400	0	0	99,051,200	178,690,500	0	0	0	449,297,800	
<u>Allocated Rev Req'ts</u>											
7 OMID	10,014,700	29,826,000	0	0	12,338,100	13,107,300	0	0	0	65,286,100	14.531%
8 Rouge Valley	6,584,400	19,816,500	0	0	11,317,500	16,261,200	0	0	0	53,979,600	12.014%
9 Oakland GWK	4,238,700	13,825,900	0	0	10,359,700	15,582,100	0	0	0	44,006,400	9.794%
10 Evergreen Farmington	4,171,900	13,638,600	0	0	7,074,200	8,938,300	0	0	0	33,823,000	7.528%
11 SE Macomb San Dist	2,433,600	7,816,100	0	0	5,573,300	8,133,600	0	0	0	23,956,600	5.332%
12 Dearborn	1,471,700	5,745,900	0	0	4,403,000	7,222,500	0	0	0	18,843,100	4.194%
13 Other "M" Customers	765,700	2,994,600	0	0	1,956,300	3,407,800	0	0	0	9,124,400	2.031%
14 M Customer Subtotal	29,680,700	93,663,600	0	0	53,022,100	72,652,800	0	0	0	249,019,200	55.424%
15 D+ Customers	10,138,900	38,072,800	0	0	46,029,000	106,037,800	0	0	0	200,278,500	44.576%
16 Total	39,819,600	131,736,400	0	0	99,051,100	178,690,600	0	0	0	449,297,700	100.000%

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Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs  
**B2 - Hypothetical Revenue Requirement Allocation - Scenario 2**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<u>Population</u>	<u>Sanitary Vol</u>	<u>Dry Vol</u>	<u>Wet Vol</u>	<u>Avg Vol</u>	<u>Peak Vol</u>	<u>Pollutants</u>	<u>CSO</u>	<u>Sub Only</u>	<u>TOTAL</u>	<u>~ SHARE</u>
<u>Cost Pool Allocation Factors</u>											
1 Operating Revenue Req't	0.0%	50.0%	0.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	100.0%	
2 Capital Revenue Req't	25.0%	0.0%	0.0%	0.0%	0.0%	75.0%	0.0%	0.0%	0.0%	100.0%	
3 Total Revenue Requirement	14.8%	20.5%	0.0%	0.0%	10.2%	54.5%	0.0%	0.0%	0.0%	100.0%	
<u>Cost Pool Allocation</u>											
4 Operating Revenue Req't	0	91,916,700	0	0	45,958,300	45,958,300	0	0	0	183,833,300	
5 Capital Revenue Req't	66,366,100	0	0	0	0	199,098,300	0	0	0	265,464,400	
6 Total Revenue Requirement	66,366,100	91,916,700	0	0	45,958,300	245,056,600	0	0	0	449,297,700	
<u>Allocated Rev Req'ts</u>											
7 OMID	16,691,200	20,810,500	0	0	5,724,700	17,975,300	0	0	0	61,201,700	13.622%
8 Rouge Valley	10,974,000	13,826,600	0	0	5,251,200	22,300,700	0	0	0	52,352,500	11.652%
9 Oakland GWK	7,064,500	9,646,800	0	0	4,806,700	21,369,300	0	0	0	42,887,300	9.545%
10 Evergreen Farmington	6,953,200	9,516,100	0	0	3,282,300	12,258,000	0	0	0	32,009,600	7.124%
11 SE Macomb San Dist	4,056,100	5,453,600	0	0	2,585,900	11,154,500	0	0	0	23,250,100	5.175%
12 Dearborn	2,452,800	4,009,100	0	0	2,042,900	9,905,000	0	0	0	18,409,800	4.097%
13 Other "M" Customers	1,276,200	2,089,400	0	0	907,700	4,673,500	0	0	0	8,946,800	1.991%
14 M Customer Subtotal	49,468,000	65,352,100	0	0	24,601,400	99,636,300	0	0	0	239,057,800	53.207%
15 D+ Customers	16,898,200	26,564,600	0	0	21,356,800	145,420,500	0	0	0	210,240,100	46.793%
16 Total	66,366,200	91,916,700	0	0	45,958,200	245,056,800	0	0	0	449,297,900	100.000%

## Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs

B3 - Hypothetical Revenue Requirement Allocation - **Scenario 3**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<u>Population</u>	<u>Sanitary Vol</u>	<u>Dry Vol</u>	<u>Wet Vol</u>	<u>Avg Vol</u>	<u>Peak Vol</u>	<u>Pollutants</u>	<u>CSO</u>	<u>Sub Only</u>	<u>TOTAL</u>	<u>~ SHARE</u>
<u>Cost Pool Allocation Factors</u>											
1 Operating Revenue Req't	0.0%	50.0%	0.0%	0.0%	25.0%	25.0%	0.0%	0.0%	0.0%	100.0%	
2 Capital Revenue Req't	33.3%	0.0%	0.0%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	100.0%	
3 Total Revenue Requirement	19.7%	20.5%	0.0%	0.0%	29.9%	29.9%	0.0%	0.0%	0.0%	100.0%	
<u>Cost Pool Allocation</u>											
4 Operating Revenue Req't	0	91,916,700	0	0	45,958,300	45,958,300	0	0	0	183,833,300	
5 Capital Revenue Req't	88,479,300	0	0	0	88,505,800	88,479,300	0	0	0	265,464,400	
6 Total Revenue Requirement	88,479,300	91,916,700	0	0	134,464,100	134,437,600	0	0	0	449,297,700	
<u>Allocated Rev Req'ts</u>											
7 OMID	22,252,700	20,810,500	0	0	16,749,300	9,861,200	0	0	0	69,673,700	15.507%
8 Rouge Valley	14,630,600	13,826,600	0	0	15,363,800	12,234,100	0	0	0	56,055,100	12.476%
9 Oakland GWK	9,418,300	9,646,800	0	0	14,063,500	11,723,100	0	0	0	44,851,700	9.983%
10 Evergreen Farmington	9,269,900	9,516,100	0	0	9,603,400	6,724,700	0	0	0	35,114,100	7.815%
11 SE Macomb San Dist	5,407,500	5,453,600	0	0	7,565,800	6,119,300	0	0	0	24,546,200	5.463%
12 Dearborn	3,270,100	4,009,100	0	0	5,977,200	5,433,900	0	0	0	18,690,300	4.160%
13 Other "M" Customers	1,701,500	2,089,400	0	0	2,655,700	2,563,900	0	0	0	9,010,500	2.005%
14 M Customer Subtotal	65,950,600	65,352,100	0	0	71,978,700	54,660,200	0	0	0	257,941,600	57.410%
15 D+ Customers	22,528,700	26,564,600	0	0	62,485,400	79,777,400	0	0	0	191,356,100	42.590%
16 Total	88,479,300	91,916,700	0	0	134,464,100	134,437,600	0	0	0	449,297,700	100.000%

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Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs  
Scenario Summary

	(1)	(2)	(3)	(4)
	<u>Current</u>	<u>Scenario 1</u>	<u>Scenario 2</u>	<u>Scenario 3</u>
<u>Operating Cost Pool Factors</u>				
1 Sanitary Vol	-	50.0%	50.0%	50.0%
2 Dry Vol	-	-	-	-
3 Wet Vol	-	-	-	-
4 Avg Vol	27.3%	25.0%	25.0%	25.0%
5 Peak Vol	-	25.0%	25.0%	25.0%
6 Pollutants	60.9%	-	-	-
7 Population	-	-	-	-
8 CSO	9.8%	-	-	-
9 Sub Only	2.0%	-	-	-
<u>Capital Cost Pool Factors</u>				
10 Sanitary Vol	-	15.0%	-	-
11 Dry Vol	-	-	-	-
12 Wet Vol	-	-	-	-
13 Avg Vol	52.4%	20.0%	-	33.3%
14 Peak Vol	-	50.0%	75.0%	33.3%
15 Pollutants	29.1%	-	-	-
16 Population	-	15.0%	25.0%	33.3%
17 CSO	16.2%	-	-	-
18 Sub Only	2.3%	-	-	-
<u>Effective Combined Cost Pool Factors</u>				
19 Sanitary Vol	-	29.3%	20.5%	20.5%
20 Dry Vol	-	-	-	-
21 Wet Vol	-	-	-	-
22 Avg Vol	42.1%	22.0%	10.2%	29.9%
23 Peak Vol	-	39.8%	54.5%	29.9%
24 Pollutants	42.1%	-	-	-
25 Population	-	8.9%	14.8%	19.7%
26 CSO	13.6%	-	-	-
27 Sub Only	2.2%	-	-	-

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Hypothetical Alternative Allocation of FY 2020 GLWA Sewage Disposal System Costs  
Scenario Comparison

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Scenario 1			Scenario 2			Scenario 3		
	<u>Current</u>	<u>Rev Req't</u>	<u>Variance</u>	<u>% Variance</u>	<u>Rev Req't</u>	<u>Variance</u>	<u>% Variance</u>	<u>Rev Req't</u>	<u>Variance</u>	<u>% Variance</u>
<u>Allocated Rev Req'ts</u>										
1 OMID	65,980,200	65,286,100	(694,100)	-1.1%	61,201,700	(4,778,500)	-7.2%	69,673,700	3,693,500	5.6%
2 Rouge Valley	52,579,300	53,979,600	1,400,300	2.7%	52,352,500	(226,800)	-0.4%	56,055,100	3,475,800	6.6%
3 Oakland GWK	43,814,600	44,006,400	191,800	0.4%	42,887,300	(927,300)	-2.1%	44,851,700	1,037,100	2.4%
4 Evergreen Farmington	33,849,600	33,823,000	(26,600)	-0.1%	32,009,600	(1,840,000)	-5.4%	35,114,100	1,264,500	3.7%
5 SE Macomb San Dist	24,057,000	23,956,600	(100,400)	-0.4%	23,250,100	(806,900)	-3.4%	24,546,200	489,200	2.0%
6 Dearborn	18,876,100	18,843,100	(33,000)	-0.2%	18,409,800	(466,300)	-2.5%	18,690,300	(185,800)	-1.0%
7 Other "M" Customers	8,860,900	9,124,700	263,800	3.0%	8,946,800	85,900	1.0%	9,010,400	149,500	1.7%
8 M Customer Subtotal	248,017,700	249,019,500	1,001,800	0.4%	239,057,800	(8,959,900)	-3.6%	257,941,500	9,923,800	4.0%
8 D+ Customers	201,280,000	200,278,300	(1,001,700)	-0.5%	210,239,900	8,959,900	4.5%	191,356,200	(9,923,800)	-4.9%
9 Total	449,297,700	449,297,800	100	0.0%	449,297,700	0	0.0%	449,297,700	0	0.0%

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