



July 27, 2016

The Honorable  
Board of Directors  
Great Lakes Water Authority

Dear Chairman Daddow and Directors:

**Regarding: CEO's Report – July, 2016**

Based on actual billed amounts for wholesale water customers for FY 2016, the wholesale customer revenues have exceeded budgeted amounts for the first time this century. Billed revenues were 100.8% compared to budget and billed volumes were at 101.2%.

This achievement is the result of customer collaboration in realizing changes in usage trends were being experienced not just in our service region, but nationwide. For FY 2016, changes were made to the wholesale water charge structure to increase the portion of allocated costs recovered via fixed monthly charges to 60% of the revenue requirement, and using a more conservative 24 month historical average to determine the budgeted volume for each customer. This success comes on the heels of a similar accomplishment for budget stability achieved with the wholesale sewer charges, with implementation of the sewer rate simplification efforts in FY 2015, which resulted in actual billed revenues of exactly 100% of budgeted amounts for that year, and for FY 2016.

This accomplishment is fundamental to the system's ability to deliver on its programmatic, operational and service level commitments to our customer communities. Though this a great step forward, continuing to monitor usage trends of our customers will be important to determine if future adjustments are required.

A Memorandum of Understanding has been signed with Wayne State University to collaborate on research efforts focused on improving effluent quality and minimizing process energy consumption at the Waste Water Treatment Plant (WWTP). This research will begin to lay the groundwork for understanding nutrient removal in the WWTP.

We continue to meet with MDEQ to discuss concerns raised in the Board's letter to Governor Snyder regarding Highland Park's continued non-payment and burden that places on other GLWA customer communities. The State has indicated that it hopes to have an additional response in the near future. GLWA has begun an audit of Highland Park's sewer escrow account and begun to receive data from that City. Additional details can be found in the General Counsel's report attached.

## **PLANNING SERVICES**

### ***Asset Management and CIP Group***

The Asset Management and Capital Improvement Plan Work Group (AM & CIP) hosted a presentation from an Asset Management analytical software company, PowerPlan (formerly known as Riva Modeling) in June. The presentation provided the Work Group with a better understanding of the state of analytical Asset Management software systems, implementation and lessons learned. Information gained from these presentations will be used to help develop the GLWA enterprise Strategic Asset Management Plan anticipated for development in the fall of 2016.

The new prioritization methodology, documentation and schedule for both water and wastewater CIP projects has been created and rolled out to project managers throughout GLWA for use in the development of the FY2018 CIP. All newly identified projects and all previously identified projects that have yet to go to Procurement for solicitation require a completed Business Case Evaluation. This documentation is due to the Capital Finance Group by July 31, 2016 for internal processing and review.

Progress continues to be made to advance the CIP Program Management support solicitation. Timing of the release of the solicitations is currently being coordinated with DWSD, and may be delayed to optimize consultant responses and proposed fees.

### ***Systems Planning Group***

Proposals for the Comprehensive Regional Wastewater Master Plan were received on July 25, 2016. Evaluations will be conducted in August and will be performed by an evaluation team comprised of representatives from DWSD, GLWA and several customer communities. Staff continue to work actively with three prospective water customers.

Background documents on system optimization have been circulated to the Board in advance of upcoming discussions.

### ***System Analytics and Meter Operations Group***

The System Analytics and Meter Operations Group is moving forward with a project to improve the water and sewer metering systems. The design drawings for meter improvements and site rehabilitation for fifty water meter locations is complete, and the request for proposal is being drafted. Water meter replacements are planned to be performed in-house in the fall.

## **PLANNING SERVICES** (continued)

A request for proposal for a consultant to reevaluate “Units of Service for Non-Master Metered Customers of GLWA and System Water Audit” was advertised in June and proposals are due in late July. As is prescribed in the Water and Sewer Services Agreement, the work is required to be performed by an independent consultant.

Several new features were deployed on the Wholesale Automated Meter Reading System (WAMR) portal and presented at the Analytical Work Group (AWG) meeting in July, where they were well received. WAMR Portal training was held for one community customer and GLWA’s internal customers.

System Analytics and Meter Operations is evaluating opportunities for improving data collection from the Greater Detroit Regional Sewerage System (GDRSS) sewer meters. The goal is to increase data quality and provide close to real-time sewer data on the GDRSS Portal.

### ***Energy Management Group***

The Energy Management Team has been very active in pursuing new solutions for GLWA to become more operationally efficient by using new ideas and technologies to achieve sustainability. These activities include an investment grade energy audit at the Wastewater Treatment Plant and lighting renovations across various facilities.

New language for request for proposals and construction contracts now include the requirement that equipment must, at a minimum, be Energy Star rated and reviewed by the Energy Manager for efficiency ratings.

The Energy Management Team along with IT is making progress gathering requirements for a comprehensive database. This database will compile all of the disparate data from multiple operations housed software/tools and will be the foundation for all data requests moving forward. All dashboards, reports, pdf’s spreadsheets, etc. will ideally begin here, eliminating the redundant data requests and department silos. The reporting function will make it easier to establish a baseline for energy consumption and to track the changes over time.

## **WASTEWATER OPERATIONS**

### ***Flood Event on July 8, 2016***

A significant rain event occurred in the early hours of the morning on July 8, 2016. The peak one-hour accumulated rainfall was recorded to be 2.55 inches at Detroit City Airport.

### **WASTEWATER OPERATIONS ( continued)**

This is double the one-hour rainfall intensity that occurred on August 11, 2014 which resulted in wide-spread basement backups in many communities in southeastern Michigan, including Detroit.

This intensity is also in excess of the design standard MDEQ presently utilizes for combined sewer overflow (CSO) facilities. Within 40 minutes, seven of the nine combined sewer overflow facilities operated by GLWA were activated. Crews were dispatched immediately. This event was particularly impactful to residents in the eastern portions of the City of Detroit where combined sewage backed-up in basements and on many streets. Staff had difficulty accessing the Conner Creek CSO facility due to the amount of water on the streets in its vicinity.

GLWA and DWSD have met on several occasions since the event to discuss appropriate after-event actions, and co-presented at a well-attended community meeting on July 20, 2016 that was called by Detroit City Councilmember Spivey. Estimates are that 400 to 500 residents attended the meeting and a large number of these people participated in a public comment period. Among other significant concerns, people effected by the event reported the damage to their homes and communicated their frustration with the fact that many of them have experienced basement back-ups on multiple occasions within the last five years.

Staff has developed a three-stage plan in response to this event:

#### 1. Short-Term Response

- Engage consultants to perform an after-event analysis that will include a thorough look at the sewer system's response to the rainfall and the processes and facilities that were activated in response to it. It is expected to take approximately six weeks to complete. The work is underway.
- Evaluate and implement methods to more fully automate and remotely operate facility equipment to reduce response times for high intensity events such as this. Scoping of this work is underway.

#### 2. Mid-Term Response

- Expedite the completion of a \$22.5M capital improvement project which has already been identified and approved to begin this fiscal year. This project, identified as CIP 1315, is scheduled to improve system operations, efficiency and reliability of pumping responses to storm events at the Freud and Conner Creek Pump Stations.

**WASTEWATER OPERATIONS** (continued)

3. Long-Term Response

- Make “changing weather patterns” a high priority consideration in the wastewater master plan. Proposals for consultants for the master plan were due this week. This element of the planning will be advanced so as to identify other quick response actions that may be able to be undertaken using a regional approach to sewer system operations.

Staff is working diligently on all fronts to address this very important facet of wastewater operations.

***Incineration and Fire Remediation Update***

As noted previously, the fire that occurred in March damaged the conveyance system feeding the recently upgraded incinerators in Incineration Complex II, resulting in an inability to utilize these newly upgraded incinerators and delayed retirement of Complex I incinerators.

Although we have placed incineration of solids as the last option for solids disposal, use of the outdated incinerators in Incineration Complex I is still occasionally necessary. Since my last report, Violation and Enforcement Notices were received from MDEQ-Air Quality Division due to the ongoing operation of the Complex I Incinerators. A response has been submitted to the violation notice and a meeting is being scheduled with MDEQ-Air Quality Division staff to discuss a resolution to the matter.

The cleaning and painting in Incineration Complex II remains on schedule. An incineration start-up specialist inspected the incinerators and is developing a list of recommended parts that should be ordered in preparation for start-up. It has been determined that a monorail crane in the fire area must be replaced due to damage. Anticipated return to service of the incinerators remains late 2016.

The July 2016 Wastewater Sludge Inventory and Disposal Graph is attached.

***Rouge River Outfall (RRO) Disinfection Project Update***

The Rouge River Disinfection Project is on schedule for completion of 60% by the contractually required date. The change order request before the Board today for sediment removal will allow construction to remain on schedule.

## WASTEWATER OPERATIONS (continued)

### *Bio-Solids Dryer Facility Update*

The Contractor continues to pursue expeditious upgrading of equipment to improve reliability. The current construction schedule has the most critical modifications to improve conveyance being completed by late November.

On July 19<sup>th</sup>, a fire began in Train #3 at approximately 9:00 AM. Preliminary indications are that it was a small fire at the dryer inlet area near the exhaust duct that resulted in minimal damage. The Fire Department was called to verify that the fire had been extinguished. A detailed investigation is underway.

Continuous emissions monitoring continues to indicate intermittent SO<sub>2</sub> (sulfur dioxide) emission excursions above the air permit limits, but average levels remain well below the limit. As a result of lab scale testing, the addition of ferric chloride before feeding to the dryer system to reduce volatile sulfur compounds will move to full scale pilot testing.

If pilot testing is successful, this treatment option will be implemented to ensure SO<sub>2</sub> emission is in full compliance with the permit. GLWA did receive a violation notice from MDEQ-Air Quality Division for the SO<sub>2</sub> testing exceedances. The violation notice recognized the ongoing status of the corrective action plan. A response has been submitted to this violation notice.

### *Compliance*

The plant was in compliance with all NPDES (National Pollutant Discharge Elimination System) and MDEQ (Michigan Department of Environmental Quality) water quality permits in the month of June 2016 with the exception of phosphorous at the Detroit River primary effluent and Rouge River outfalls during June's single wet weather event. The short duration of the event and lack of other events resulted in an exceedance due to lack of full flushing of the conduits. In the July monthly compliance call with MDEQ we agreed that this compliance calculation and associated operating protocols will be reviewed in upcoming NPDES permit discussions.

## WATER OPERATIONS

### *Fleet and Facilities*

An effort is underway to conduct a right-sizing of fleet. This is a collaborative effort being performed in conjunction with DWSD and will assist in the creation of a vehicle replacement plan based upon industry standards.

**WATER OPERATIONS** (continued)

As a starting point, current inventory levels and daily requirements will be determined, followed by an assessment of “under-utilized” vehicles to determine opportunities to redeploy vehicles to meet operational needs.

***Systems Control Center***

Systems Control Center (SCC) received a letter from Northville Township regarding operational changes intended to lower their peak hour demand. Northville Township has engaged a consultant to investigate use of their 1 MG storage to reduce their peak hour values. Through the letter, Northville Township has requested a reopening meeting this fall.

On July 20 at 8:20 a.m., Systems Control Center (SCC) received a low pressure complaint from the WWTP. There was a significant water pressure drop in the area of the WWTP due to a leak in one of the system's transmission lines. During the period of low pressure, operations at the WWTP were temporarily placed on standby, using in-system storage. There were no calls of reported main breaks from DWSD Dispatch or any other communities. There were eight (8) crews (including DWSD Field staff) in the field to locate the break. The field crews were mobilized near the plant to isolate the 42-inch main to restore pressure. The break was located at 10:00 a.m. in the middle of the Rouge River and then isolated and pressure returned to near normal. Throughout this period, the Wastewater Treatment Plant maintained compliance with all water quality requirements.



*Main Break in the middle of the Rouge River*

**WATER OPERATIONS** (continued)

The main going under the river bed is a 30-inch cast iron main installed in 1923. The cause of the failure is under investigation. Staff is conducting hydraulic modeling simulations for the area to determine the criticality for repair/replacement. Based on initial estimates, cost to repair may be comparable to replacement.

The Oakland County Water Resources Commission (OCWRC) is analyzing the fire flow for Royal Oak Township at meters RT-01 and RT-02. Both meters RT-01 and RT-02 are supplied by the Springwells High pressure discharge through a 54-inch transmission main. We are meeting this week with OCWRC's consultant to discuss different configurations at RT-01 and RT-02 to increase the fire flow capacity at the master meters.

***Treatment Plant Operations***

The Springwells Water Treatment Plant pedestrian and utility tunnel connecting the Administration Building and Boiler House building was constructed in early 1930. Due to aging and structural issues, water was leaking into the tunnel and the ceiling was failing, creating potential safety hazards. Under contract SP-570 Concrete Work Improvement, the leaks were fixed, within six weeks, by digging up the parking lot and reinforcing the existing tunnel structure with water proofing. *(See pictures below.)*



***Lean Six Sigma***

Water Works Park's (WWP) Plant Manager, Balvinder Sehgal, started the Lean Six Sigma project "WWP's Cost of Clean Water" in August 2015.

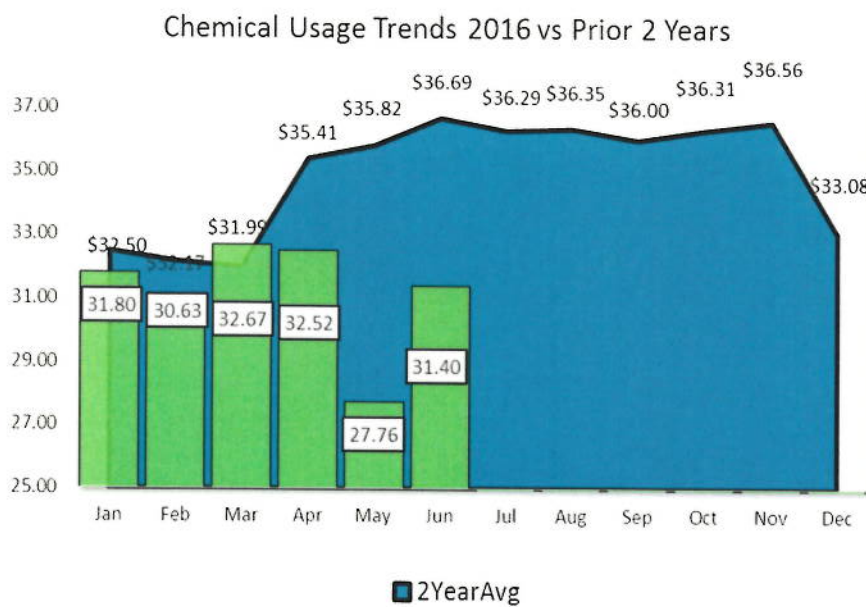
**WATER OPERATIONS** (continued)

Though the project was intended to assist Ms. Sehgal in attaining her Black Belt, the project targeted the reduction of chemical usage based on percent usage and the price of all the chemicals used at WWP, while maintaining the same high level of water quality. Alum was considered to be a good first target for cost savings.

Project tasks included:

- Brainstorm sessions, discussions and surveys that were conducted to find the root causes for the increased usage of Alum. The last five (5) years of data was used from Chemical Inventory and Lab Records.
- Studies on individual styles, calibration of pumps and analyzers, automatic and manual controls effects on chemical usage, environment, high and low flows were conducted.
- Improvement ideas with benefit scoring were taken and implemented from WWP’s Operations team.

The project demonstrated the potential for a reduction of 9.53% in cost of chemicals per million gallons (MG). The project is being extended for the potential application at the other Water Treatment Plants. Financial Services will be engaged for confirmation of cost savings.



Cost/MG		
Mon	2YearAvg	Current
Jan	32.50	31.80
Feb	32.17	30.63
Mar	31.99	32.67
Apr	35.41	32.52
May	35.82	27.76
Jun	36.69	31.40
Jul	36.29	
Aug	36.35	
Sep	36.00	
Oct	36.31	
Nov	36.56	
Dec	33.08	

9.53%

For this project we are converting "Usage per MGD" into "\$ per MGD" so that we can normalize the relative impact of different chemical usages based on cost. We are keeping prices constant based on 30-APR-2016 levels because we are interested in usage fluctuations, not price fluctuations.

- The blue background indicates average costs for prior two years.
- Vertical bars indicate monthly costs for the first Six months of 2016.

## **PUBLIC AFFAIRS**

We are pleased to announce the arrival of GLWA's first Public Affairs Officer, Michele Zdrodowski. Michele joins us with extensive consulting and public sector experience in public affairs and media relations. Please join me in welcoming her to GLWA.

Public Affairs, in support of a group of talented and enthusiastic Great Lakes Water Authority employees, will release this week the inaugural edition of *WaterWorks Magazine*, a quarterly employee publication by GLWA employees for GLWA employees. Throughout each issue, there will be articles written by GLWA employees that inform, enlighten and entertain. Every article, story and photo will contain at least one GLWA employee's name, face or words of wisdom. *WaterWorks Magazine* will be distributed via email, with a limited print/hard copy printing. Submissions by GLWA Board Members are welcome! Edition #1 features "5 Questions" with Board Member Brian Baker.

## **FINANCIAL SERVICES GROUP**

The Financial Services Group is reaching a number of milestones which include the following.

- The Financial Services Group has initiated a three year strategic plan process. This plan will address continued deployment of staffing, technology, and process. This plan will also encompass a balance between internal staff resources and external resource providers.
- GLWA's financial system provider, BS&A, has begun a six week on site assignment for training, roll out of new features, and assisting staff with implementation of Phase 2. A key element of Phase 2 includes launching the Capital Asset module.
- A vendor has been selected for the capital asset valuation services. The work is expected to begin August 1, 2016. This valuation will be a key source of data for GLWA's opening balance sheet as of January 1, 2016.
- The Financial Services Group has project managers assigned to "the old DWSD close" as of December 31, 2015 and the GLWA close for June 30, 2016. A kick off meeting was held with representatives of the City of Detroit, DWSD and GLWA earlier this month to coordinate this effort on behalf of all parties. A project manager structure is in place so that all three entities are supported and coordinated for the completion of their respective FY2016 audited financial reports.
- Also this month, a kick off meeting was held for the 2016 Refunding and New Water Money transactions. Staff and advisors are presently working on the preliminary official statements and other related legal and financial documents.

### **FINANCIAL SERVICES GROUP** (continued)

- The Procurement team has been actively working with operating unit partners, key procurement initiatives include:
  - Units of services
  - Wastewater master plan
  - Skilled trade services
  - Water tunnel repairs
  - Construction assistance for the Rouge River Outfall Project

### **KUDOS and STAFF ACCOLADES**

Northeast, Lake Huron, and the Southwest Water Treatment Plants received the 10 Year Directors Award from Partnership for Safe Water sponsored by the American Water Works Association (AWWA). This award was given to GLWA Chief Operating Officer, Cheryl Porter, at the Annual AWWA Chicago convention in June 2016. This award is in recognition for the commitment to superior water quality by maintaining the partnership for safe water for ten (10) consecutive years. Ms. Porter celebrated this prestigious award with each location by arranging a luncheon for each respective team.

*Photographed from left to right is Peter Grevatt, Director of the USEPA Office of Ground Water and Drinking Water, Cheryl Porter, GLWA Chief Operating Officer, and Jeanne Bennett-Bailey, AWWA President.*



GLWA's Water Quality laboratory and Water Works Park Operations laboratory successfully completed the Water Works Park laboratory proficiency testing required to maintain the Michigan Department of Environmental Quality (MDEQ) drinking water laboratory certification. As part of the MDEQ Drinking Water Laboratory Certification Program, laboratories must analyze specific parameters annually for each method and analyte. Proficiency testing determines the performance of individual laboratories, and it is used to monitor the laboratories' continuing performance. The evaluation covers bacteriological analysis, inorganic chemicals and trace metals.

The Northeast Water Treatment Plant has received the "Certificate of Excellence" in recognition of the quality of its laboratory proficiency testing from the Environmental Resource Associates (ERA). Northeast's laboratory has been recognized as a "Laboratory of Excellence" for achieving 100% acceptable data in this study which included 294 participating laboratories. This is the third consecutive year that Northeast's laboratory has received this recognition.

**KUDOS and STAFF ACCOLADES** (continued)

Congratulations to the team of Electrical Instrumentation Control Technicians Leonard Fleming and Jason Hammond, and SCADA Technician Chirag Kawa for completion of the Chlorine Redundancy Project at Water Works Park Water Treatment Plant. This project was put in place to meet regulatory requirements with having a redundant control system in place to control the chlorine banks in the event of failure with the primary control system. The team handled all aspects of the project including scope, design, installation, updates to the operations/maintenance manual, and training. This project was completed in half the time estimated with internal staff.

During the week of June 27, ninety-three (93) Water Operations employees successfully completed the Overhead Crane and Rigging certification course. Employees will not be required to renew this certification until June 2019.

**LEGAL**

General Counsel's July Report is attached to the Chief Executive Officer's report.

Respectfully submitted,



Sue F. McCormick  
Chief Executive Officer

SFM/dlr  
Attachments (2)



## General Counsel – July, 2016

General Counsel worked on the following matters:

1) Contract matters

Contracts reviewed as to form: General Counsel reviewed 23 contracts as to form and execution.

Contracts drafted or revised: General Counsel drafted or revised 20 contracts.

2) Subpoenas / Information Requests:

General Counsel received 11 subpoenas/ information requests and responded to 19 subpoenas/ information requests.

General Counsel received 1 FOIA appeal.

3) New Cases:

*No new cases.*

4) Cases Closed:

MERC - Gosh This charge was dismissed.

MERC - AME, SCATA – Petition For Fact Finding This Petition was denied.

MERC – AFSCME Charge RE: Transfer of Employees to GLWA This charge was withdrawn.

Tamika Gaines EEOC Discrimination Charge The EEOC has entered a 90 day right to sue letter dismissing Ms. McKinney's complaint in this alleged disability matter.

5) SCATA – Charge regarding CET GLWA has filed a Motion for Summary Disposition and SCATA has filed a response.



- 6) MERC – AFSCME Charge RE: Transfer of Employees to GLWA This charge has been stayed.
- 7) MERC – ADE Charge regarding CET A motion to dismiss this charge has been filed.
- 8) AFSCME v IUOE, DWSD, and GLWA Appeal The briefing in this appeal has been completed.
- 9) Gordie Howe International Bridge General Counsel continues to assist in this ongoing project associated with the planned bridge construction.
- 10) Lapeer County Property Acquisition Properties for locating the booster chlorination stations for continuing service to Lapeer County customers Imlay City, Mayfield Twp. and Lapeer have been identified and appraised.
- 11) DWSD v Highland Park Highland Park has filed an Interlocutory Application for appeal to the Michigan Supreme Court the Court of Appeals' ruling denying its request to remand the case to the trial court for further fact finding. GLWA was granted additional time to respond to this Application because it was not served upon GLWA in a timely manner. GLWA will oppose Highland Park's request.

GLWA has begun an audit of Highland Park's sewer escrow account and begun to receive data from that City.

The flow study that was begun last summer has been concluded and a final report will be issued soon. Based upon the data received, it appears that Highland Park's water usage meets or exceeds the levels recorded in 2012 when its plant was operational. In addition, both sides agree that only 3 of the 13 interconnection points between Detroit and Highland Park are necessary to provide water service to Highland Park.

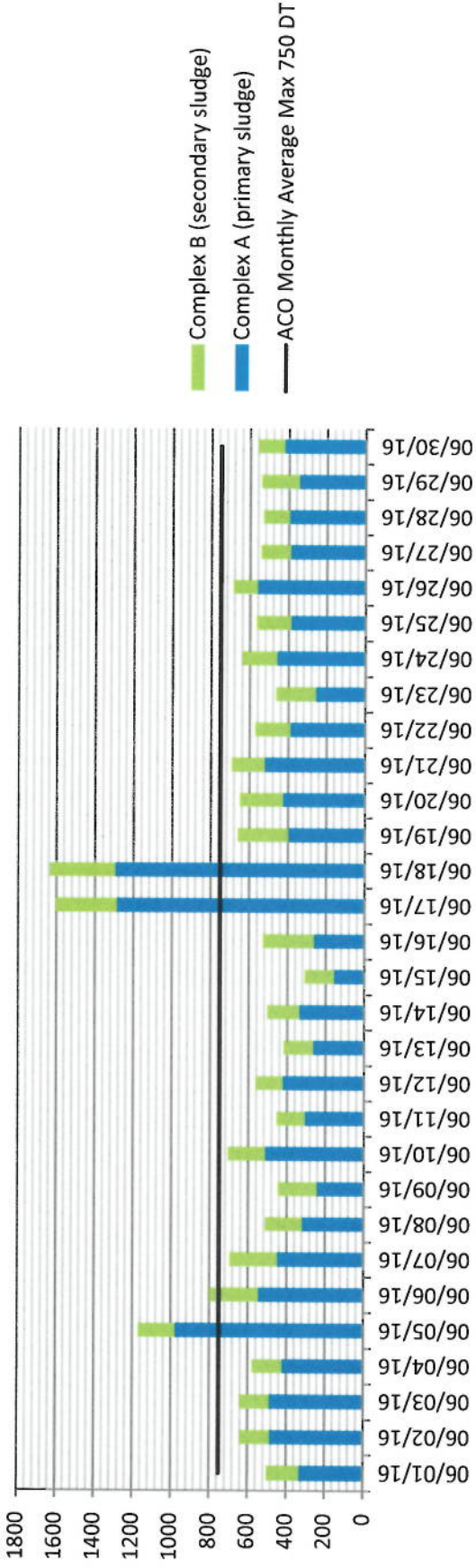
GLWA has decided to allow the temporary meters used in this flow study to remain in place to gather further data on Highland Park's water usage patterns.

GLWA continues to meet with MDEQ to discuss concerns raised in the Board's letter to Governor Snyder regarding Highland Park's continued non-payment. The State has indicated that it hopes to have an additional response in the near future.



- 12) IPP Program Transfer: General Counsel continues to support this initiative and has developed form documents to allow IPP end-users to be billed directly and create privity of contract.
- 13) NPDES Permit Renewal: General Counsel continues to support this initiative.
- 14) Flint: General Counsel continues to assist in responding to investigators and litigants.

## Sludge Inventory (dry tons)



## Sludge Disposal by Method (dry tons)

