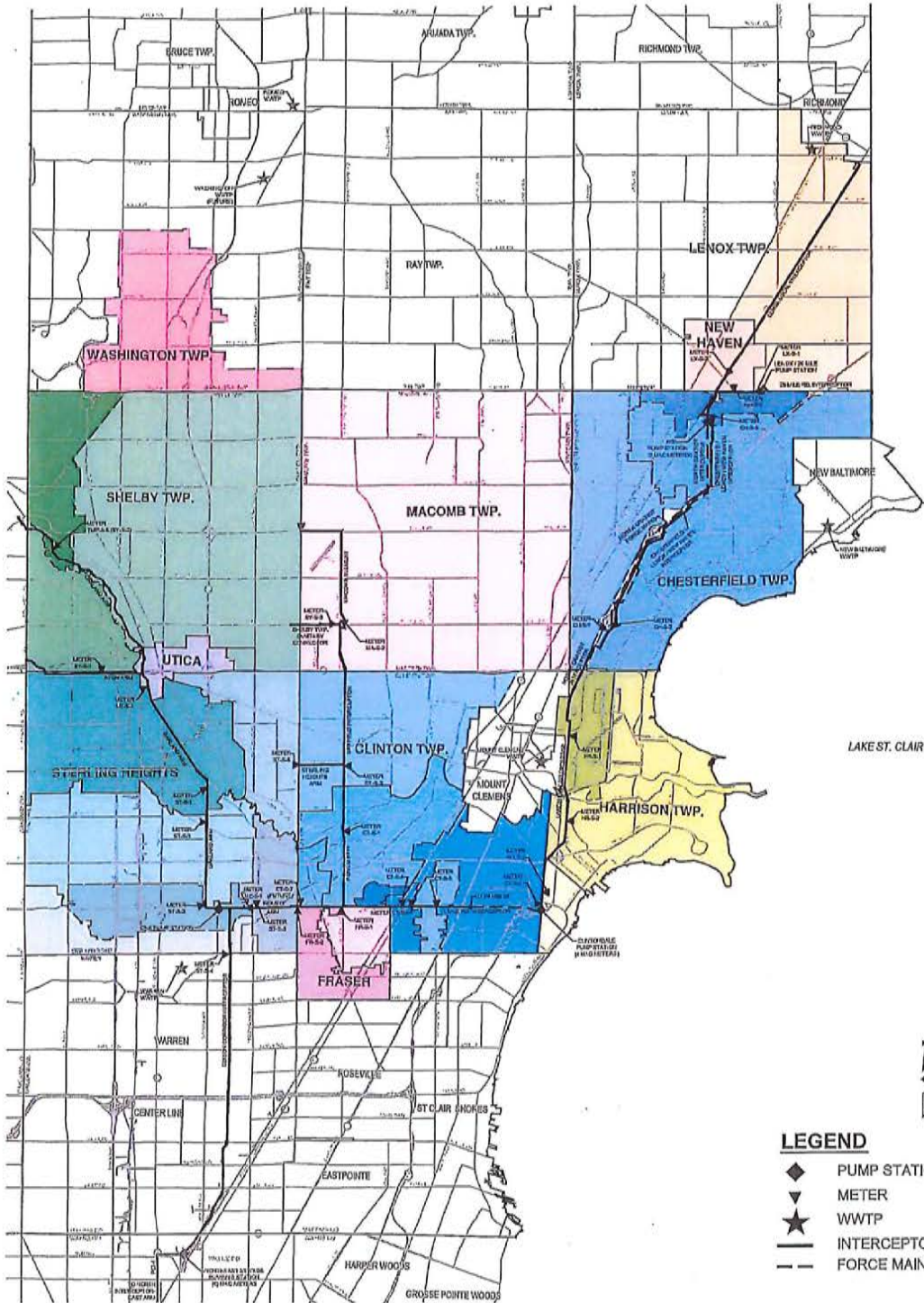


MACOMB INTERCEPTOR DRAIN  
INTRA-COUNTY DRAINAGE BOARD  
APRIL 8, 2019  
10:30 A.M.  
AGENDA

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for April 8, 2019	
3. Approval of Minutes for March 11, 2019	3
4. Public Participation	
5. Insurance Policy Renewal – Bruce Manning/Stephen Saph	6
Motion: To approve the general liability insurance coverage renewal with Argonaut Insurance Company in the amount of \$185,706 (MIDD share \$181,992)	
6. Aquasight Data Review Software Proposal – Vince Astorino	9
Motion: To approve the proposal from Aquasight in the amount of \$290,000 for the development of Module 1 – Wave 1 and to terminate the contract with Ghadys for the development of the Bluewater program	
7. Proposed 2019/2020 MIDD Budget – Brian Baker	24
Motion: To approve the 2019/2020 Macomb Interceptor Drainage District (MIDD) budget and charges	
8. Consideration for approval of invoices (see attached)	48
9. Financial Report – Bruce Manning	50
10. Closed Session – Attorney Client Memorandum	
11. Adjourn	

# MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT



**Candice S. Miller**

MACOMB COUNTY PUBLIC WORKS COMMISSIONER



UPDATED: FEBRUARY 2017

An adjourned meeting of the Intra-County Drainage Board for the **MACOMB INTERCEPTOR DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham, Clinton Township, Michigan, on March 11, 2019, at 10:38 A.M.

PRESENT: Candice S. Miller, Chair  
Bryan Santo, Member  
Robert Mijac, Member

ALSO PRESENT: Brian Baker, Chief Deputy Commissioner, Vince Astorino, Operations & Flow Manager, Jeff Bednar, Environmental Engineer, Stephen Downing, Engineer II, Ken Goike, Drain Maintenance Manager, Dan Heaton, Communications Manager, Kellie Kource, Drain Account Specialist, Bruce Manning, Financial Manager, Tom Stockel, Construction Engineer, Madison Tanghe, Senior Secretary, Macomb County Public Works; Jordan Scott, SHDPW; Norah Krayem, Amanda Mashe, Wayne State University

The meeting was called to order by the Chair, Candice Miller. A motion was made by Mr. Mijac, supported by Mr. Santo to approve the agenda as presented.

Adopted: YEAS: 3  
NAYS: 0

Minutes of the meeting of February 11, 2019 were presented. A motion was made by Mr. Santo, supported by Mr. Mijac to approve the minutes as presented.

Adopted: YEAS: 3  
NAYS: 0

The meeting was opened to public participation, then closed, there being no comments from the public.

Mr. Astorino updated the board that the master plan is fully on its way, we are on schedule and within our budget. Within the next couple months we will be laying out options for the northern section of the County and for contract capacity issues throughout the MID. Ms. Miller asked if we received the Segment 5 report from FKE. We received the next phase (task 3 and 4) last Friday which is still under review.

A motion was made by Mr. Santo, supported by Mr. Mijac to receive and file the project update by Mr. Astorino.

Adopted: YEAS: 3  
NAYS: 0

Mr. Downing informed the board in 2017 we went out to bid for MID As-Needed Engineering services. We had an initial budget of \$450,000 and we selected 6 firms through our competitive bidding process. Each firm was awarded \$75,000 on a not-to-exceed basis. Since that time we have utilized these firms while managing the budget very tightly. For the 2018 and 2019 budget, we put aside the same dollars again, we have not needed them until this date. We have had three of the consultants who have provided a majority of the services (FKE Engineering, Fishbeck, Thompson, Carr and



Huber, and Wade Trim) that we would like to go ahead and extend their contracts by the additional \$75,000 each.

A motion was made by Mr. Mijac, supported by Mr. Santo to approve a change order to the As-Needed Engineering Contracts in the amount of \$75,000 each for FK Engineering, FTC&H, and Wade Trim.

Adopted: YEAS: 3  
NAYS: 0

The Chair presented the invoices totaling \$2,937,547.19 to the board for review and approval.

A motion was made by Mr. Mijac, supported by Mr. Santo to approve the invoices as presented.

Adopted: YEAS: 3  
NAYS: 0

A motion to receive and file the financial report given by Mr. Manning was made by Mr. Santo and supported by Mr. Mijac.

Adopted: YEAS: 3  
NAYS: 0

There being no further business, it was moved by Mr. Mijac, supported by Mr. Santo, that the meeting of the Macomb Interceptor Drain Board be adjourned.

Adopted: YEAS: 3  
NAYS: 0

The meeting was adjourned at 10:47 a.m.

  
Candice S. Miller, Chair  
Macomb County Public Works Commissioner

STATE OF MICHIGAN  
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taking by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on March 11, 2019 the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.

  
Candice S. Miller, Chair  
Macomb County Public Works Commissioner

DATED: 3/11/19



# NICKEL & SAPH, INC.

INSURANCE SINCE 1929

MAILING ADDRESS:

P.O. BOX 46907  
MT. CLEMENS, MI 48046-6907

OFFICE ADDRESS:

44 MACOMB PLACE  
MT. CLEMENS, MI 48043  
(586) 463-4573 • (810) 765-8887  
1-800-657-7373 • FAX: (586) 463-3135  
www.nickelsaph.com

March 11, 2019

Mr. Brian Baker  
Macomb County Intra-County Drains &  
Drainage Districts  
21777 Dunham Road  
Clinton Twp., MI 48036

Dear Mr. Baker:

Please accept the following renewal proposal of certain liability coverages are have been secured for the Intra-County drains and drainage districts.

Carrier: Argonaut Insurance Company  
A. M. Best Rating: A XIV, Stable. Admitted by the State of Michigan.

**General Liability**

Aggregate Limit: \$12,000,000  
Occurrence Limit: \$11,000,000  
Personal and Advertising Injury: \$11,000,000  
Products/Completed Operations Aggregate: \$11,000,000  
Retention: \$250,000

Policy terms include Blanket Additional Insured; Broadcasting, Publishing, and Telecasting offenses are covered under Personal Injury. The Pollution exclusion does not apply to: Hostile Fire, Emergency Operations, Mobile Equipment, Pesticides and/or Herbicides, Water Treatment, Above Ground Tanks, and Water and/or Sewer operations.

**Automobile Liability**

Occurrence Limit: \$11,000,000  
Retention: \$250,000

Coverage is afforded for non-owned and rented autos only. No aggregate limitation applies.

**Public Officials' Liability**

Aggregate Limit:	\$12,000,000
Per Wrongful Act Limit:	\$11,000,000
Retention:	\$250,000
<b>Annual Premium:</b>	<b>\$185,706</b>
<b>Terrorism Risk Insurance:</b>	<b>\$5,001</b>

The expiring annual premium was \$182,352. The renewal offering has increased \$3,354 or 1.84%. Last year, Terrorism Risk Insurance was excluded (optional coverage). Premium is not subject to annual audit.

Afforded liability limits are separate from each other. Payment of claims for one line of coverage will not impact or reduce the limits dedicated to the remaining lines of coverage. Please refer to policy forms for terms, definitions, conditions, and exclusions.

The retention applies to both the payment of claim adjustment expenses and third-party damage payments. Once the retention is exhausted, the specific limit is dedicated to the payment of third party damages alone; claim expenses are outside of the afforded limits. Argonaut required the continued third-party administrator (TPA) relationship with the ASU Group or other approved TPA.

Argonaut has include their proprietary Water Plus 360 endorsed which adds the following coverage enhancements: Under General Liability: Pollution exceptions for water operations; removal of Inverse Condemnation exclusion; Insured contract definition adds sidetrack agreements; watercraft extended for non-owned to under 100 feet and owned up to 300 h.p; and dams are scheduled by endorsement. Under Public Officials': Removal of Inverse Condemnation exclusion and coverage added for Wrongful Acts related to the distribution, treatment, discharge, testing, monitoring, or extraction of water or wastewater.

Prior to the procurement of this coverage last April, no dedicated liability insurance had been secured for any of the drainage districts. Last year we performed a broad ranging marketing effort in search of a willing carrier and a competitive premium. Eleven (11) carriers were approached of which eight (8) declined to quote. The primary reason so many declined to quote was the lack of prior coverage and the inability to present a formal prior loss history. While this year we did not conduct a detailed marketing effort, we did informally communicate with many carriers. The overwhelming response was that until the districts were able to demonstrate at least three (3) years of official, hard copy loss runs, proposals would not be offered. With only ten (10) months of reporting, we obviously did not have enough historic data to secure other quotes.

Please review this information and contact me with any questions or concerns. I will attend at the meeting on Monday, April 8, 2019. Thank you.

Sincerely,



Stephen R. Saph Jr.  
Agent



Chapter 20  
 Insurance Cost Breakdown  
 April 26, 2019 Renewal

DRAIN NAME	PERCENT	PORTION OF INSURANCE
Eight Half Mile Relief	2.000%	\$ 3,714.12
MIDDD	98.000%	\$ 181,991.88

Insurance bill	\$ 185,706.00
----------------	---------------

\*\*\* After an analysis of the 2018 expenses, other drain's portions were minimal and insignificant





**Candice S. Miller**

Public Works Commissioner  
Macomb County

To: Candice Miller, Macomb County Public Works Commissioner

CC: Brian Baker, Chief Deputy

From: Vincent Astorino, Operations & Flow Manager

Date: April 2, 2019

Subject: Aquasight Data Review Tool Recommendation Letter

The Macomb County Public Works Office (MCPWO) manages the sanitary sewer flow meter data review and billing for 30 MIDD customer connections. In approximately 2009, MCPWO developed a desktop-based program called MCMaRS that has been in-use since that date for viewing, editing, and compiling billing information for the communities. The program has been very reliable through the years but has reached the end of its life-cycle and our office requires something that will bring us to the next generation of data management technology.

In 2015, MCPWO management contracted with a company called Ghadys to develop a program called Bluewater. This program was intended to take the current MCMaRS platform and make it web based along with some additional basic data analytic features as part of Phase I. Then in Phase II, our office was hoping to add functionality to program that never existed to allow the engineering department and communities to expedite their workflow and be presented with data that would help run the collections systems more efficiently. Phase I was to be completed within 1 year and then start Phase II shortly thereafter. As of the end of 2018, the Phase I work was not entirely completed but the contractor was out of money. We contemplated terminating the contract at that point, but really did not have another solution to turn to. We decided to issue them a new contract to finish the development of Phase I in October 2018 which was approved by the MIDD board. This at a minimum provided us the opportunity to get them on our new contracts and allowed us language to better manage the contract. They have started to perform better, but to this date we do not have a complete product for Phase I. To date we are several hundred thousand dollars into this program and still do not have the ability to use it for basic data review needs, let alone the high-level analytics as envisioned in Phase II.

In the past month another solution for development of web-based data review tool has come to the attention of MCPWO. We have been meeting with a company based out of Troy called Aquasight. Aquasight has already successfully developed the backbone data management framework and high-level analytics that we envisioned Bluewater would hopefully get to. GLWA has been using this company to successfully provide communities access to the water distribution network to optimize operational decisions. They have also implemented a complete build-out for the GLWA Wastewater Treatment Plant. We have been in contact with GLWA and other community users and all of them

**OFFICE LOCATION:** 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933

**MAILING ADDRESS:** P. O. Box 806, Mt. Clemens, Michigan 48046-0806

**ENGINEERING** • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264

have been happy with the program. Allen Park is currently building the program even further as they are so happy with it.

We will be able to leverage the advanced program Aquasight has developed to build a data review tool for the specific needs of MCPWO within 6-8 months. The proposal from Aquasight is for \$250,000 as an on-boarding fee and then \$40,000 annually to maintain Wave 1 of the program. Wave 1 will provide a data review tool that would perform all necessary tasks currently completed by MCMaRs, plus additional analytic features. The Aquasight program will provide MCPWO an opportunity to become a leader in the data management field by more efficiently processing data and preparing powerful reports. I have also attached future proposed upgrades to the system that we will evaluate at a later date. The goal is to at least provide a roadmap for the board.

It is unfortunate that we are in this position, but looking at the eventual long-term costs of Bluewater our recommendation is terminate the contract of Ghadys for Bluewater and to make the immediate switch to Aquasight.

The recommendation is to terminate the contract of Ghadys for the development of Bluewater immediately. We are also recommending the approval of the contract to Aquasight for the development of Module I – Wave I in the total dollar amount of \$290,000.

Attachments: Aquasight Proposal  
Aquasight screenshots of the program  
Aquasight roadmap spreadsheet

### AQUASIGHT ORDER FORM

1. Client: **Macomb County Public Works  
21777 Dunham Road  
Clinton Township, MI 48036**
  
2. Aquasight Solution: **ACE 3.0, or higher  
See Appendix A for Scope of Work**
  
3. Term: **3 years**
  
4. Fees:  

On-boarding Fee:	<b>\$ 250,000</b>
Annual Subscription Fee:	<b>\$ 40,000 each year</b>
  
5. Payment Terms:
  - Onboarding fees will be invoiced incrementally as detailed in Appendix A
  - Annual Subscription Service will be invoiced annually at the execution of the contract and the beginning of each year after the end of the first year
  - Payment Terms are Net 30



6. Other terms and conditions

- Onboarding fee includes bringing features as described in appendix A on Aquasight's ACE platform
- Onboarding fee includes client visits, as needed, during the course of the project
- Annual Subscription Service fee includes ACE technology and infrastructure management, new technology, feature or algorithm upgrades, additional training if required and period check-ins
- Any new features that are not described in the Appendix A are subject to additional cost and will be provided upon request
- Raw data quality is the responsibility of the client
- Client has to provide access to a computer that is on the network where source data is available with an internet connection
- Data extraction from source system is assuming industry standard data formats and readable technologies
- When requested, client has to provide access to tags, basis of design, standard operating procedures, operators and experts
- Any delay for requested information can cause delays in timelines and milestones
- Pricing is up to 50 users
- This form is entered in accordance with and is governed by the Terms and Conditions of Use available at <http://aquasight.io/Aquasight-sa-61616.pdf>

Acknowledged and Accepted by:

---

Signature

---

Name, Title, Date



Macomb County Public Works ACE  
Appendix A

	Definition	Timeline for Completion	Fees	Payment Schedule
Onboarding Service	<p>Onboarding shall include the setup of the ACE Version 3.0, or higher, to include the following features and/or capabilities:</p> <ul style="list-style-type: none"> <li>-Ingest live raw data (5 min. average)</li> <li>-Generate clean (i.e. corrected or imputed and pre-compiled) data by auto-filling for missing data with pre-approved approaches that are built into the Aquasight System</li> <li>-Show live and clean data for management audit with human intervention capabilities</li> <li>-Prepare flow and rain gauge insights (visuals and analytics) weekly and monthly</li> </ul> <p>*By community (overlay instantaneous contract capacity)            *By meter            *by MCPW            *Average dry weather flow vs actual (I&amp;I)</p> <ul style="list-style-type: none"> <li>-User driven analytics (time range, by meter, by community, etc.)</li> <li>-Generate automated weekly report for MCPW and annual report at the end of the year by each meter and community</li> <li>-Ability to annotate or write comments (on data intervention)</li> <li>-SAMI for real-time stats and alerts of importance to MCPW</li> <li>-Flow meter, rain gauge asset information</li> <li>-Uber dashboard with GIS views with appropriate statistics</li> <li>-Weather app integration</li> <li>-Download data</li> </ul>	Approximately 6 months from Execution of Contract	\$ 250,000.00	5 equal invoices of \$50,000 each  To be billed 30 Days from Execution of Contract and every 30 days thereafter for 4 more months
Annual Service	<ul style="list-style-type: none"> <li>-ACE Technology and infrastructure management</li> <li>-New technology, feature or algorithm upgrades</li> <li>-Additional training, if required</li> <li>-Periodic Check-ins</li> </ul>	N/A	\$ 40,000.00	Billed at execution of contract and at the beginning of each year following the end of the first year

# AQUASIGHT

REAL-TIME INTELLIGENCE

Screenshots

Confidential for MCPWO



# Uber Dashboard

SAMI S ite @ Mar 29 2019, 09:28 to 09:43 | Franklin Efficiency 85% | Franklin Dollar-per-Million Gallon \$112 | Franklin Output Flow 15,830gpm | Franklin Total Cost Month-to-Date \$33

### ADAMS

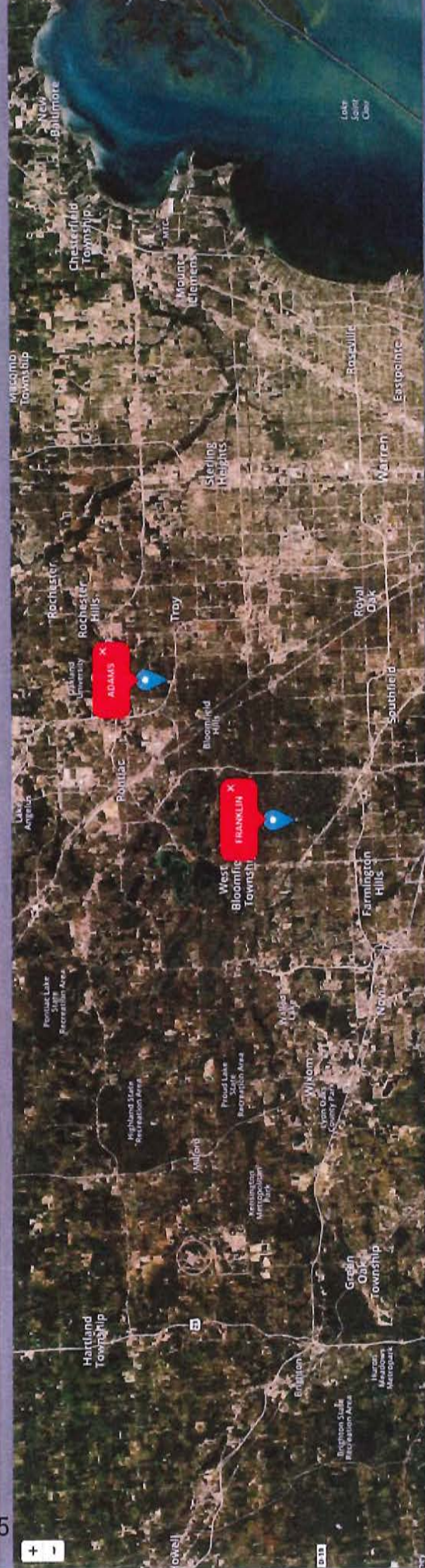
Flow	Pressure	AGIS Pump Aging	
13	121	R1 x 1	18
gpm	psi	Good	Good
Cost	Demand	Efficiency	Efficiency
\$136	823	84%	86%
Smg	kW		

Dashboard    System Statistics    Pump Performance    Weekly Report

### FRANKLIN

Flow	Pressure	AGIS Pump Aging	
22.9	142	L3 x 18	18
gpm	psi	Good	Good
Cost	Demand	Efficiency	Efficiency
\$110	1,166	86%	86%
Smg	kW		

Dashboard    System Statistics    Pump Performance    Weekly Report



Confidential



# Automated Reporting

**Flow**

12.9 gpm ● mgd

**Pressure**

122 psi

**Consumption**

819 Power (kW)

**System Efficiency**

L1 0 L2 0

Run Aged Run Aged

0.8 yr 6.15 yr 0.15 yr 2.2 yr

**ADAMS Current Operation (\$/mg)**

3/25/2019 Weekly Report

**OPERATIONS & MAINTENANCE** powered by AQUASIGHT

Month to Date

79.6 22,454 249,492 884.1 282.2 675.0

EMC % kWh \$/mg MG kWh

Flow (gpm): min: 3.8 avg: 10.752 max: 18.072 Pressure (psi): min: 114.8 avg: 124.9 max: 132.0

**Demand**

**Performance**

Pumps	On/Off Cycles	Avg. Run Time (hrs)	Total Run Time (hrs)
L1	3.0	34.9	104.6
L2	7.0	6.9	48.5
L3	Not Cycled	Not Run	0.0
L4	Not Cycled	Not Run	0.0
R1	4.0	5.5	22.0
R2	Not Cycled	Not Run	0.0

**Optimizer**

Opportunity Lost \$1821 last 7 days

**Real-Time Advisor**

Proposed Condition

L1 Speed @ 1010rpm

L1 Speed @ 1020rpm

L2 Valve @ 50%

Energy Difference

-51.38%

-49.83%

-37.93%

Cost Savings

\$70.77

\$68.60

\$52.25

**Estimated Demand**

\$17,652

On-Peak Demand Cost (\$)

**Vs. Optimal Operation**

R1 0 R2 0

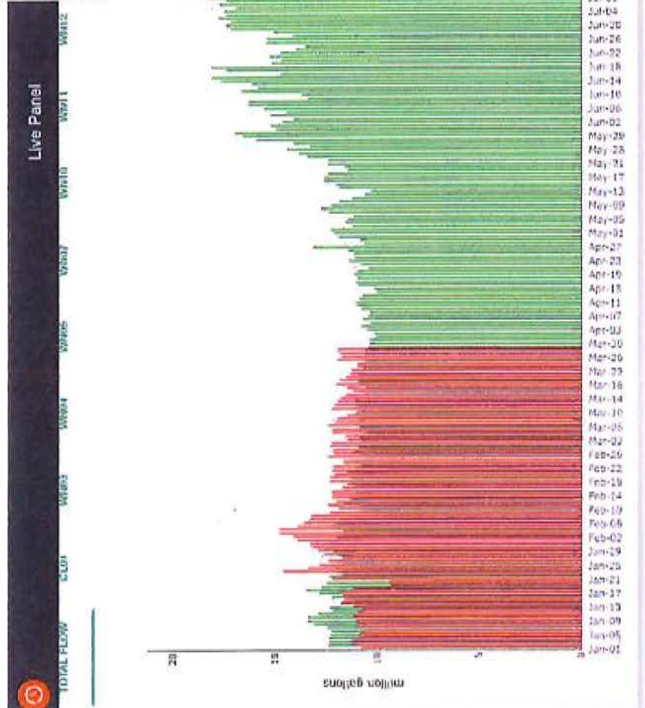
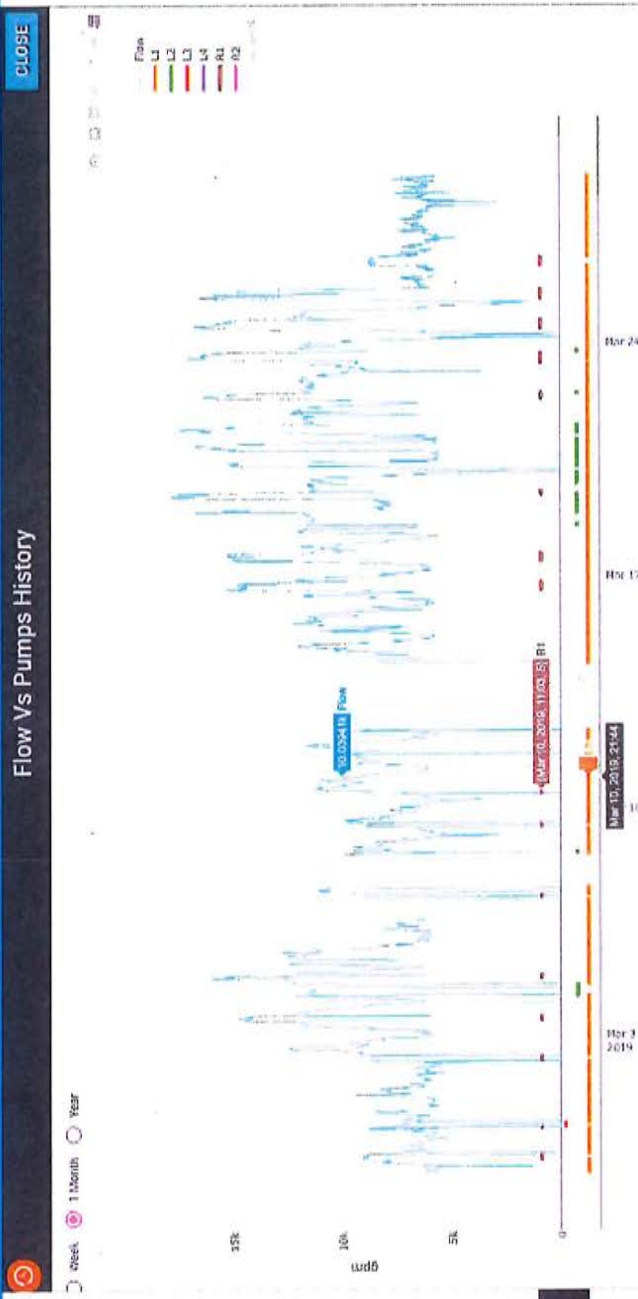
Run Aged Run Aged

0.68 yr

Opportunity Lost \$8 yesterday



# Single Variable and Multivariable Visuals

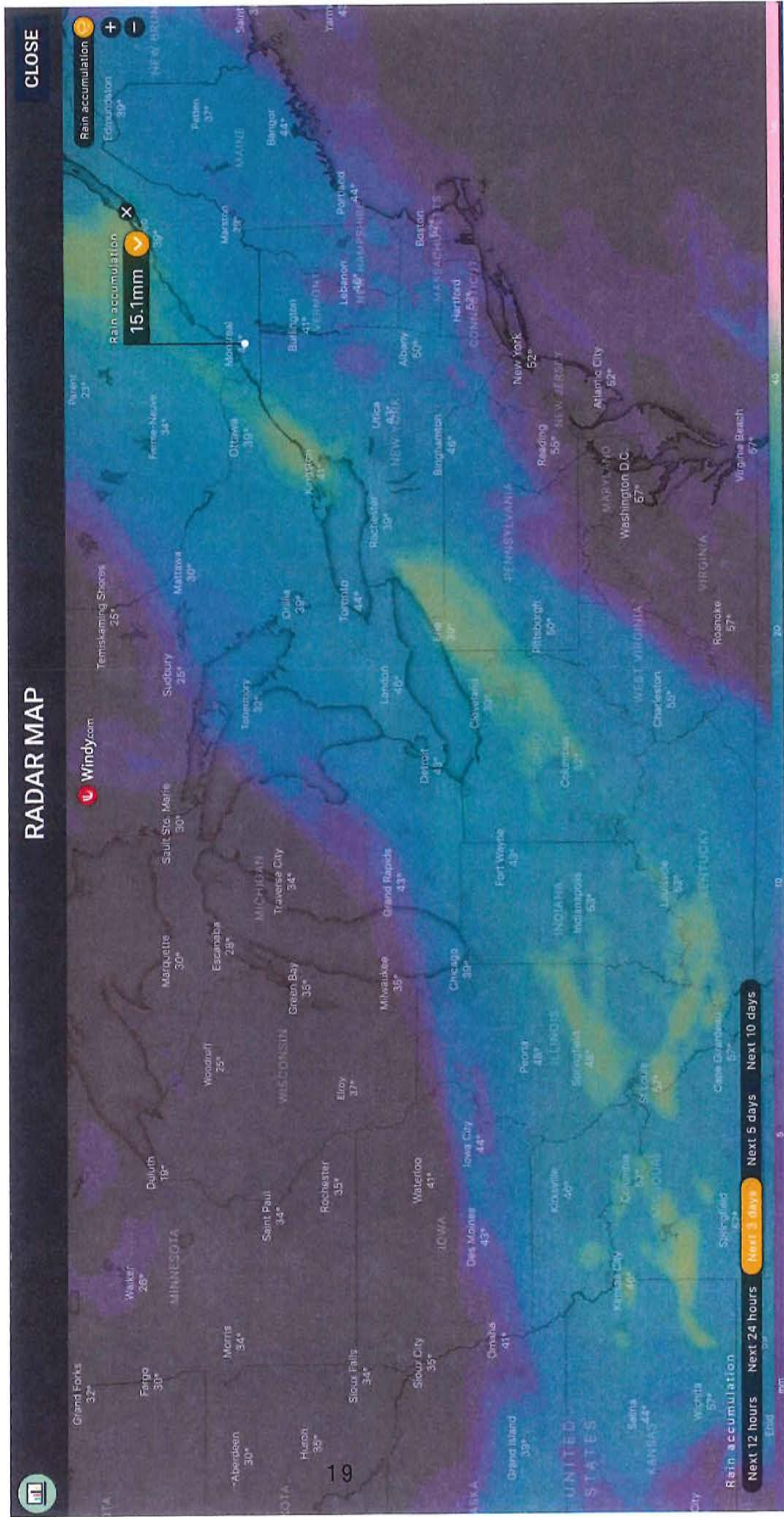


# Real-Time Analytics





# Weather Radar Integration



Confidential

AQUASIGHT

# SAMI – Digital Assistant and Subscriptions

**SUBSCRIPTIONS**

All Types

EMails

mahesh@aquasight.io

Daily Summary Report

**THRESHOLDS**

Hydraulics

Water Quality

Phone Number  
(###) ###-####

**UPDATE**

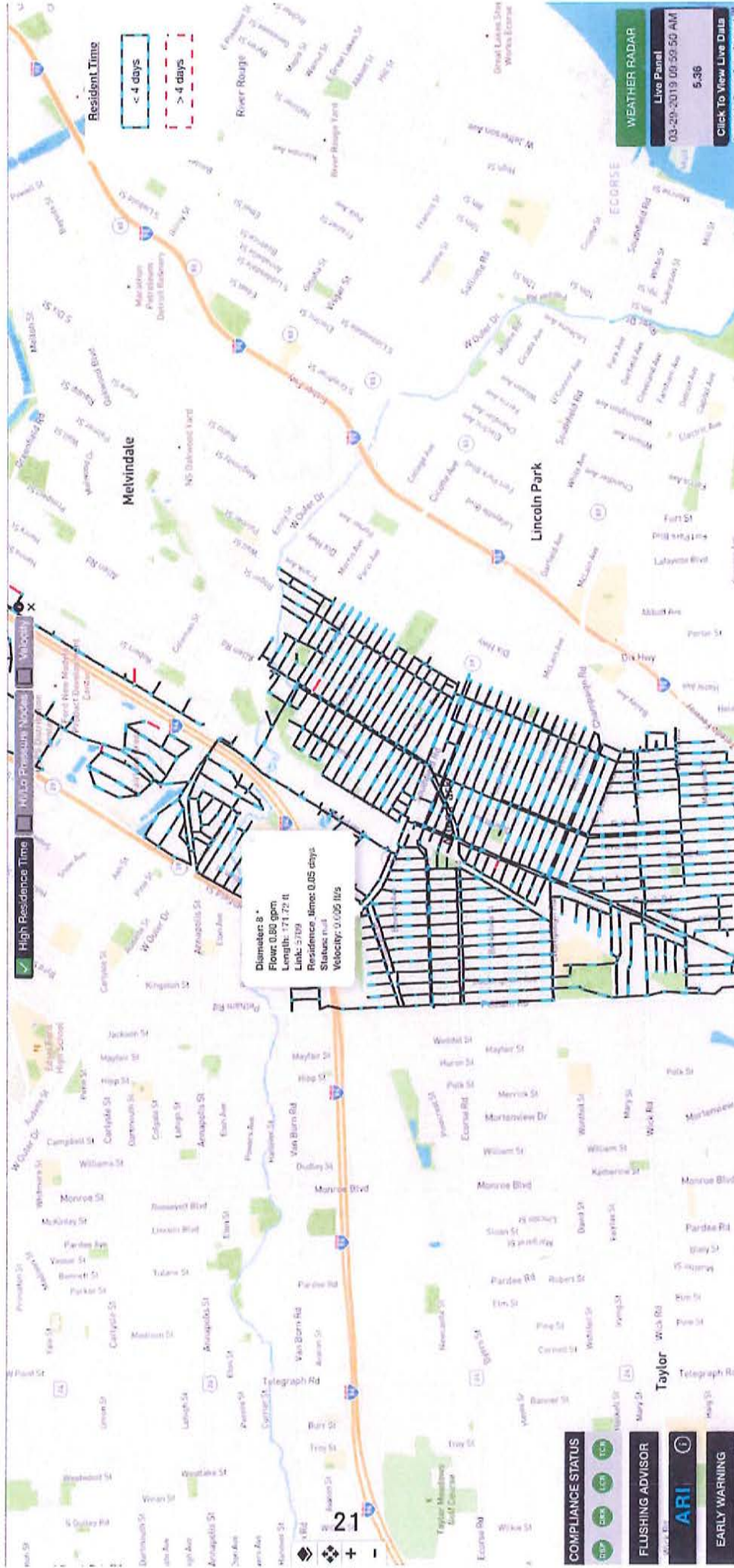
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**Alerts Catalog**

Search

ID	TYPE	DESCRIPTION	PRIORITY	ALERTS
AP04	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes
AP05	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes
AP06	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes
AP07	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes
AP08	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes
AP09	Hydraulics (Pressure)	Pressure change of more than 10 psi in less than 15 minutes; Pressure limits of less than 45 psi and greater than 72 psi	Urgent	Yes





# Advisor and Audit of Actual vs Optimal



Confidential



**AQUASIGHT "ACE" Platform Budget for Macomb County Public Works Office**

**ACE Modules**

Module 1	Metering & Reporting
Module 2	Pump Stations
Module 3	CSO Facilities
Module 4	Digital Twin and WW Forecasting

	On-Boarding	Annual Fee	Note #	Approximate Timing
M1 Wave I	\$250,000	\$40,000	1	6 months +/- 20%
M1 Wave II	\$85,000	\$15,000	2	3 months +/- 20%
M2	\$80,000	\$25,000	3	6 months +/- 20%
M3	TBD	TBD	4	
M4	TBD	TBD	4	

**Note 1**

- Ingest live raw data (5 min average)
- Generate clean (i.e. corrected or imputed and pre-compiled) by auto filling for missing data with pre-approved approaches that is built into Aquasight system
- Show live and clean data for management audit with human intervention capabilities
- Prepare flow and rain gauge insights (visuals and analytics) weekly and monthly
  - o by community (overlay instantaneous contract capacity)
  - o by meter
  - o by MCPW
  - o Average dry weather flow vs Actual (I&I)
- User driven analytics (time range, by meter, by community etc.)
- Generate automated weekly report for MCPW and annual report at the end of the year by each meter and community
- Ability to annotate or write comments (on data intervention)
- SAMI for real-time stats and alerts of importance to MCPW
- Flow meter, rain gauge asset information
- User dashboard with GIS views with appropriate statistics
- Weather app integration
- Download data

**Note 2**

- Virtual Meter (User defined) that groups physical meters together
- Forecast and Predict Meter Flows next day or two days
- Correction audit for anomalies in different correction approaches
- Individual community access
- Mobile Views

**Note 3 (budgetary number)**

- 10 pump stations, if not will proportionally scale back

**Note 4**

- Need to better study the scope

**Macomb Interceptor Drain Drainage District  
FY 2020 Budget & Charges  
Executive Summary**

April 8, 2019

The proposed FY 2020 Macomb Interceptor Drainage District (MIDD) budget for the fiscal year beginning July 1, 2019 totals \$85.6 million. The budget is proposed to increase only \$2.1 million or 2.5%. The budget passes on the lowest rate increase to the MIDD communities in 9 years. The rate of increase has now declined for the second consecutive year and is well below the average 15% annual increases experienced from 2010-2016.

The only slight budget increase is a result of savings achieved from the Great Lakes Water Authority's (GLWA) amended agreement with the Oakland Macomb Interceptor District (OMID). The GLWA approved a revised agreement allowing OMID to assume maintenance of the Northeast Pump Station and a portion of the downstream interceptor (NIEA) as well as the ability to finance the needed repairs to these facilities. The agreement provides savings that allows OMID to fund these improvements. Further, these savings allow MIDD to provide funding toward future needed rehabilitation projects, while also keeping rate increases low.

55% of the MIDD budget is comprised of pass through charges from GLWA. The GLWA adopted their budget and charges on March 13, 2019. OMID pass through charges were approved on March 20, 2019 account for 15% of the budget. The MIDD charges account for the remaining 30% of the budget.

As the prior year budget funded several one-time projects (including \$6 million for drop shaft repairs), next year's budget can provide funding towards several needed MIDD projects. These projects include \$3.85 million for the rehabilitation of the 15 Mile interceptor (west of Hayes to the ITC Corridor), \$1 million for engineering costs for the future rehabilitation of the 15 Mile interceptor (Garfield to Harper), and \$1 million for an annual interceptor inspection program, as SAW grant inspection funds have been exhausted. No new MIDD debt is proposed.

The average sewer charge increase to the 11 MIDD communities is 2.5%. There is a slight charge variability among the MIDD communities due to updated five-year average sewer flow volumes. Attached is a more detailed budget and charge information which will explain the charges by cost center.

Should you have any questions, please do not hesitate to contact the Macomb County Public Works Office.

Attachment



**MIDD Budget  
Total Sewer Charges**

<b>Cost Category</b>	<b>2018/19 Budget</b>	<b>2019/20 Budget</b>	<b>Change</b>	<b>% Change</b>	<b>% of Total</b>
GLWA - OMID	\$51,304,543	\$45,924,393	(\$5,380,150)	-10.5%	53.6%
GLWA CSO Program	1,154,358	980,303	(174,055)	-15.1%	1.1%
<b>Total GLWA</b>	<b>52,458,901</b>	<b>46,904,696</b>	<b>(5,554,205)</b>	<b>-10.6%</b>	<b>54.8%</b>
OMID Capital/Future Debt	0	5,142,784	5,142,784	100.0%	6.0%
OMID O&M	2,391,427	2,979,104	587,677	24.6%	3.5%
OMID Debt	4,611,263	4,614,437	3,174	0.1%	5.4%
<b>Total OMID</b>	<b>7,002,690</b>	<b>12,736,325</b>	<b>5,733,635</b>	<b>81.9%</b>	<b>14.9%</b>
<b>Subtotal GLWA and OMID</b>	<b>59,461,591</b>	<b>59,641,021</b>	<b>179,430</b>	<b>0.3%</b>	<b>69.7%</b>
MIDD Debt	15,052,284	15,052,115	(169)	0.0%	17.6%
MIDD O&M/Charge Required Revenue	8,989,650	10,927,799	1,938,149	21.6%	12.8%
<b>Total MIDD</b>	<b>24,041,934</b>	<b>25,979,914</b>	<b>1,937,980</b>	<b>8.1%</b>	<b>30.3%</b>
<b>Total Budget</b>	<b>\$83,503,525</b>	<b>\$85,620,935</b>	<b>\$2,117,410</b>	<b>2.5%</b>	<b>100.0%</b>

MIDDD COMMUNITIES  
TOTAL SEWER CHARGES  
FY 2019 vs FY 2020

Cost Category	2018/2019 Charge	2019/2020 Charge	Difference	% Change	Page #
1) GLWA-OMID	51,304,543	45,924,393	(5,380,150)	-10.5%	2
2) GLWA CSO Program	1,154,358	980,303	(174,055)	-15.1%	2
3) <i>Sub Total GLWA</i>	52,458,901	46,904,696	(5,554,205)	-10.6%	
4) OMID Capital Improvements	0	5,142,784	5,142,784	100.0%	2
5) OMID O&M	2,391,427	2,979,104	587,677	24.6%	2
6) <i>Sub Total OMID</i>	2,391,427	8,121,888	5,730,461	239.6%	
<b>7) MIDDD O&amp;M/Charge Required Revenue</b>	<b>8,989,650</b>	<b>10,927,799</b>	<b>1,938,149</b>	<b>21.6%</b>	<b>2,4</b>
8) <i>Sub Total</i>	63,839,978	65,954,383	2,114,405	3.3%	
9) OMID Debt	4,611,263	4,614,437	3,174	0.1%	3
10) MIDDD Existing Debt	15,052,284	15,052,115	(169)	0.0%	3
11) <i>Sub Total Debt(See page 3)</i>	19,663,547	19,666,552	3,005	0.0%	
<b>TOTAL</b>	<b>83,503,525</b>	<b>85,620,935</b>	<b>2,117,410</b>	<b>2.5%</b>	

Communities	2018/2019 Charge	2019/2020 Charge	Difference	% Change
Chesterfld Twp	6,644,771	6,916,420	271,649	4.1%
Clinton Twp	17,150,769	17,772,912	622,143	3.6%
Fraser	3,416,060	3,463,617	47,557	1.4%
Harrison Twp <sup>(1)</sup>	4,854,467	5,134,746	280,279	5.8%
Lenox Twp <sup>(1)</sup>	1,397,457	1,462,480	65,023	4.7%
Macomb Twp <sup>(2)</sup>	11,691,388	11,688,328	(3,060)	0.0%
New Haven	1,067,772	1,083,018	15,246	1.4%
Shelby Twp	7,916,559	8,134,712	218,153	2.8%
Sterling Heights	25,558,890	26,127,954	569,064	2.2%
Utica	1,414,596	1,404,756	(9,840)	-0.7%
Wash Twp	2,390,796	2,431,992	41,196	1.7%
<b>TOTAL</b>	<b>83,503,525</b>	<b>85,620,935</b>	<b>2,117,410</b>	<b>2.5%</b>

**NOTES**

- 1) These two communities had higher than average increased 5 year flow from last year to the current year.
- 2) Reflects adjustment for 18/19 flow

**MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT**  
**2019-2020 SEWER CHARGES**  
 Effective July 1, 2019

Five Year Rolling Average per actual consumption 7/1/2013-6/30/2018																
	Chesterfield Twp	Clinton Twp	Fraser	Harrison Twp	Lenox Twp	Macomb Twp	New Haven	Shelby Twp	Sterling Heights	Ulica	Wash Twp					
OMIDD Charges to MIUDDD	Total Annual	% Macomb County	Allocated to Macomb City	Monthly	7.1724%	21.1666%	4.0713%	6.2117%	0.9496%	14.1023%	0.8184%	9.9387%	31.1032%	1.6497%	2.8262%	100.00%
GLWA-OMID	57,426,800	68.11%	45,924,393	3,827,033	274,489	809,669	155,609	237,723	36,341	539,700	31,320	380,357	1,190,330	63,135	108,160	3,827,033
GLWA CSO Program	1,619,800	60.52%	980,303	81,692	5,869	17,283	3,326	5,074	776	11,520	669	8,119	25,409	1,348	2,309	81,692
GLWA Sub Total	59,046,600		46,904,696	3,908,725	280,349	826,952	159,135	242,797	37,117	551,220	31,989	388,476	1,215,739	84,483	110,469	3,908,725
OMID Capital Improvements	7,687,270	66.90%	5,142,784	428,665	30,737	90,671	17,443	26,621	4,070	60,438	3,507	42,594	133,297	7,070	12,112	428,665
OMID O&M	4,373,960	68.11%	2,979,104	248,259	17,807	52,523	10,107	15,421	2,357	35,010	2,032	24,674	77,216	4,086	7,016	248,259
OMID Sub Total	12,061,230		8,121,888	676,824	48,544	143,194	27,555	42,042	6,427	95,448	5,539	67,268	210,513	11,166	19,128	676,824
Total GLWA and OMID Charge(Fy 19)	81,107,830		55,026,584	4,585,549	328,892	970,146	186,690	284,839	43,544	646,668	37,528	455,744	1,426,252	75,649	129,597	4,585,549
STORMWATER PUMP STATION O&M	65,800	100.00%	65,800	5,483	1,550	1,450	0	1,375	0	0	0	0	1,108	0	0	5,483
MIUDDD O&M/Charge Required Revenue(pg 4)	10,861,999	100.00%	10,861,999	905,167	64,922	191,502	36,852	55,226	8,595	127,649	7,409	89,962	281,536	14,933	25,562	905,167
	92,035,629		65,954,383	5,496,199	395,354	1,163,098	223,542	342,440	52,139	774,317	44,936	545,708	1,708,696	90,582	155,179	5,496,199
O&M Total	4,744,367		3,815,737	313,957,175	2,682,503	4,109,279	625,667	9,291,904	639,232	6,548,472	20,506,752	1,862,148	85,954,383			
Debt Total	2,172,053		781,114	1,025,467	836,813	2,399,524	543,786	1,589,240	5,621,202	317,772	569,844	19,666,552				
Grand Total	6,916,420		17,772,912	3,463,617	5,134,746	1,462,480	11,668,328	1,083,018	8,134,712	26,127,954	1,404,766	2,431,992	85,620,935			



DEBT WORKSHEET  
OMID and MIDD

MIDD 2019-2020 DEBT WORKSHEET

Not Part of Monthly Invoices. Will be invoiced separately every 6 months  
Does not include paying or calculation agent fees

MIDD DEBT SERVICE/FIXED BASED ON ORIGINAL FLOW)	Principal	Interest	Interest Rebate	Total	Chesterfield Twp.	Clinton Twp	Fraser	Harr Twp	Lnx Twp	Macomb Twp	New Haven	Shelby Twp	St. Hgts	Ulica	Wash Twp	Total
OMI CWRF #5368-01 26,075,000	641,175	221,193	-	862,368	86,033	188,311	38,914	50,260	4,218	113,104	9,007	79,775	276,127	15,564	21,065	862,368
OMI 6.7 Million Bond Series 2010B (Recovery Zone Bonds)	159,850	128,884	(49,670)	238,964	18,291	52,159	10,779	13,921	1,168	31,328	2,495	22,097	76,483	4,308	5,895	238,964
OMI 2014A	217,958	114,179		332,137	25,433	72,527	14,887	19,357	1,625	43,581	3,469	30,725	106,549	5,991	8,113	332,137
OMI-2011 \$25,530,000 SRF 5368-02	554,890	241,980		796,870	78,567	224,056	46,300	59,800	5,019	0	10,717	0	328,540	18,507	25,064	796,870
OMI-2013 SRF 5368-03	1,423,141	516,544		1,939,685	183,662	466,736	96,449	124,572	10,455	280,333	22,325	0	684,390	38,562	52,211	1,939,685
OMI Possible Bond for NERS2 year GLWA Payment-In 2020	292,881	151,932		444,813	0	144,875	28,938	38,667	0	0	6,930	0	212,436	11,967	0	444,813
SAW Loan Project 2001-01	1,400,000	1,030,000		2,430,000	186,064	530,829	109,664	141,623	11,888	318,708	25,379	224,790	778,076	43,830	59,358	2,430,000
Centoniale Pump Station Rehab-2011	368,592	249,356		617,948	47,315	134,939	27,885	36,015	3,023	81,046	6,454	57,164	197,864	11,146	15,065	617,948
NGI Phase 2015 Refunding District Apportionment 37.9962%	27,917	34,375	(13,243)	49,049	3,758	10,711	2,213	2,859	240	6,433	512	4,537	15,705	885	1,198	49,049
NGI Bond Series 2010 \$16,965 million District Appt 4.6529%	1,415,000	2,762,600		4,177,600	295,320	895,422	175,788	243,878	31,828	575,907	33,784	416,828	1,326,238	75,535	117,278	4,177,600
MIDD 2017A Sinkhole Bond	155,000	78,938		233,938	17,110	51,248	10,378	13,375	1,328	31,819	2,199	22,618	73,303	4,426	6,136	233,938
MIDD SRF 5624-01-Macomb Element	2,256,454	2,570,874		4,827,328	369,628	1,054,124	217,833	281,342	23,615	633,133	50,417	446,557	1,545,691	87,071	117,917	4,827,328
Macomb Interceptor Bonds-2010 Refunding Appt 87.2903%	8,912,458	8,100,755	(62,913)	16,950,300	1,271,179	3,815,737	781,114	1,025,467	94,405	2,115,375	173,688	1,305,091	5,621,202	317,772	423,270	16,950,300
Totals-Fixed																

INDIVIDUAL DEBT SERVICE(NEGOTIATED)	Principal	Interest	Interest Rebate	Total	Chesterfield Twp.	Clinton Twp	Fraser	Harr Twp	Lnx Twp	Macomb Twp	New Haven	Shelby Twp	St. Hgts	Ulica	Wash Twp	Total
NGI Phase 2015 Refunding Remaining Apportionment 62.0008%	601,408	406,857		1,008,265	642,897	235,716			506,692	235,716	129,712					1,008,265
NGI Bond Series 2010 Remaining Apportionment 95.3471%	572,093	704,413	(271,381)	1,005,115	256,037						240,396					1,005,115
Macomb Interceptor Bonds-2010 Refunding Remaining Appt 12.7097%	328,546	374,326		702,872	900,874	0	0	0	742,408	281,149	370,098	281,149	0	0	140,574	702,872
Totals-Negotiated	1,502,037	1,485,596	(271,381)	2,716,252	2,172,053	3,815,737	781,114	1,025,467	836,813	2,396,524	543,786	1,586,240	5,621,202	317,772	563,844	19,666,552
TOTAL by COMMUNITY																

1) Total OMID and MIDD  
OMID 4,614,437  
MIDD 15,052,115  
19,666,552

INFORMATIONAL ONLY-NOT INCLUDED IN MIDD BUDGET CALCULATION

	Principal	Interest	Interest Rebate	Total	Chesterfield Twp.	Clinton Twp	Fraser	Harr Twp	Lnx Twp	Macomb Twp	New Haven	Shelby Twp	St. Hgts	Ulica	Wash Twp	Total
NGI Lenox Local Refunding	550,000	410,250		960,250					960,250							960,250
NGI 2006-Phase 5	125,000	96,388		221,388					148,499		72,889					221,388
Totals-Informational	675,000	506,638		1,181,638					1,108,749		72,889					1,181,638
									1,945,562		616,675					2,562,237

MIDDD  
Operations Maintenance  
Budget to Actual

Description	Page #	Actual 2017/2018	Actual 12/31/2018	Projected 5/30/2019	Budget 2018/2019	Budget 2019/2020	Budget Change	% Change	Notes
<b>EXPENSE</b>									
Public Works Wastewater Personnel Cost	5	1,547,544	799,739	1,599,478	1,602,641	1,721,123	118,482	7.4%	
Office Operations/Insurance	6	284,412	185,328	370,652	288,653	322,800	34,147	11.8%	
SCADA	7	159,876	51,146	122,292	151,626	196,634	45,008	29.7%	
Sewer Systems Projects/Studies/Eng. Design	8	1,224,919	432,939	1,332,939	10,975,000	14,970,000	3,995,000	36.4%	
Macomb Twp Adjustment		0	0	0	0	0	0	0.0%	
Legal Services	9	174,705	164,716	379,432	400,000	500,000	100,000	25.0%	Reflects adjustment for 18/19 flow
Clintondale PS O&M	10	337,994	127,430	344,860	550,000	345,000	(205,000)	-37.3%	
NGI O&M	11	136,056	64,425	149,850	371,000	330,000	(41,000)	-11.1%	
Meters O&M	12	296,065	87,236	274,472	330,000	415,000	85,000	25.8%	
CS-3 O&M	13	0	0	0	52,000	226,000	174,000	334.6%	
Biofilter O&M	14	0	5,300	30,600	304,500	277,500	(27,000)	-8.9%	
Contribution to Emergency Reserve		1,000,000	0	0	0	0	0	0.0%	
Contribution Life Cycle Reserve	7,10,11,13,14	0	0	171,700	171,700	171,700	0	0.0%	
Interceptor O&M	15	0	0	0	0	1,000,000	1,000,000	100.0%	
Stormwater Pump Stations	16	231,618	75,354	185,708	200,000	65,800	65,800	100.0%	
Sewage Disposal Charges - Mt. Clemens		173,396	0	572,530	572,530	200,000	0	0.0%	
Debt Service -SRF Revenue Bonds	17	5,546,595	1,993,611	5,847,593	15,969,650	546,242	(26,268)	-4.6%	
<b>Total</b>		<b>22,919,462</b>	<b>32,993,047</b>	<b>23,704,747</b>	<b>23,704,747</b>	<b>23,704,747</b>	<b>0</b>	<b>0.0%</b>	
<b>REVENUE</b>									
Reimbursements	18	208,288	86,429	225,000	125,000	200,000	75,000	60.0%	
SCADA Sharing Revenue	18	0	0	0	0	0	0	100.0%	
Washington Twp Meter Project	18	0	0	0	0	250,000	250,000	100.0%	
Grants/SRF Funding	18	1,586,982	45,533	329,500	500,000	0	(500,000)	-100.0%	
MIDDD O&M/Charge Required Revenue	2	8,899,443	4,494,825	8,989,650	8,989,650	10,927,799	1,938,149	21.6%	
Carryforward	18	0	0	0	3,325,000	9,610,000	6,285,000	189.0%	
Use of Reserves		0	0	0	3,000,000	0	(3,000,000)	-100.0%	
Sale of Property	18	53,019	100,742	3,600,000	0	0	0	0.0%	
Interest		10,747,742	4,838,964	13,387,020	30,000	300,000	270,000	900.0%	
<b>Total</b>		<b>22,919,462</b>	<b>32,993,047</b>	<b>23,704,747</b>	<b>23,704,747</b>	<b>23,704,747</b>	<b>0</b>	<b>0.0%</b>	

Total Reserve (1)

Additional Notes

1) Broken out as follows:

SCADA Life Cycle	150,000	188,700	227,400
Clintondale PS Life Cycle	225,000	300,000	375,000
NGI Life Cycle	90,000	120,000	150,000
CS-3 Life Cycle	69,000	5,000	10,000
Biofilter Life Cycle	534,000	705,700	877,400

Surplus MIDD Acquisition(2010 Bond)	406,957	406,957	406,957
Surplus Const CPS (2011 Bond)	3,010,579	3,150,000	3,300,000
Proj Surplus 2016 sinkhole project	4,000,000	4,000,000	4,000,000
Emergency Reserve	11,717,926	15,120,390	15,120,390
Carryforward	3,250,000	9,610,000	9,610,000
Spending of Carryforward			(9,610,000)
Contribution/Use of Surplus			

**TOTAL RESERVES**

Non Committed Reserve(Excludes life cycle and carryover)

22,919,462

19,135,462

32,993,047

22,677,347

23,704,747

22,827,347

Needed for 15 Mile/East of Garfield, Segment 5, remainder of Project Plan, and odor control improvements

Public Works Wastewater Disposal Division  
Personnel Cost  
FY 2019/2020

Position	Number of Positions	BUDGET 2018/2019	BUDGET 2019/2020	NOTES
Operation & Flow Manager	1	88,880	89,769	
Construction and Maint Manager	1	88,880	89,769	
Wastewater Engineer II	2.5	158,962	200,691	New position split with 8.5 Mile
Wastewater Field Supervisor	1	69,360	70,054	
SCADA System Manager	1	79,481	80,276	
SCADA Part Time	0.5	33,484	33,819	
GIS Asset Manager	0	0	34,157	New position to support Nexgen tasks for Wastewater. Cost split with 8.5 Mile
Engineer I	1	67,638	68,314	
Community Wastewater Services Manager	1	55,927	58,215	
GIS Specialist/Engineering Tech	0.5	27,240	27,512	
Wastewater Field Operator	3	150,612	152,118	
Wastewater Services Specialist	0	47,810	0	
Drain Account Specialist	1	0	42,507	Reclassified position
Incentive Pay, P.E.		2,400	2,400	
1/3 Admin support from GF(Candice,Karen, Brian,Dan,Ken)	1.65	161,857	163,476	
	<b>15.65</b>	<b>1,032,531</b>	<b>1,113,077</b>	
Overtime		40,000	50,000	
Standby Pay		25,000	22,000	
Longevity		2,400	1,600	
	Subtotal	67,400	73,600	
Fringe Benefits		481,710	512,446	
	Subtotal	1,581,641	1,699,123	
Accounting Support Staff		21,000	22,000	
		<b>1,602,641</b>	<b>1,721,123</b>	



MIDDD  
Office Operations

MIDDD OFFICE OPERATIONS	BUDGET 2018/2019	BUDGET 2019/2020	NOTES
Bank Fees	0	200	Wire fees for incoming deposits and payment of various invoices
Command Center	2,000	1,000	
Computer Consultant(33%)	1,749	0	Transitioned to county accounting software
Dues,Membership & Subscriptions	3,000	4,000	Additional staff
Equipment Repair & Maintenance	15,000	15,000	
Equipment	7,500	7,500	
Gasoline(County)	8,000	8,000	
Internal Service Cost(County)	20,000	22,000	Cross charge from county for telephone, car insurance, and building insurance
Insurance	192,204	200,000	Liability and underground coverage
Office Supplies	1,000	1,000	
Operating Supplies	2,000	2,000	
Parking & Mileage	200	100	
Personnel-Non WWS Employees	12,000	9,000	Charge to WW for Chapaton personnel
Postage & Shipping	500	500	
Training	5,000	7,000	MWEA and WEFTEC Conferences(multiple people), Nexgen & SCADA training, etc
Uniforms	1,000	1,500	
New computer for new hire	1,500	2,000	Engineer II position and Asset Manager. Split with 8.5 Mile
New 27" Monitors (Evans and Steve D)	2,000	0	
Weather Radar	2,000	3,000	
Telephone	7,000	8,000	
New Truck	0	26,000	Pool vehicle
Vehicle Maintenance	5,000	5,000	
<b>Total</b>	<b>288,653</b>	<b>322,800</b>	

SCADA

SCADA	BUDGET 2018/2019	BUDGET 2019/2020
Motor City-SCADA as needed	50,000	49,355
Battery replacements for 10 (6 OMID shared) of the billing meter sites	2,583	2,583
UPS battery replacements	1,000	1,000
Network Maintenance <sup>(1)</sup>	22,686	0
Wonderware Software support	6,785	7,306
Sonicwall support renewal	3,161	0
VMWare support renewal	5,933	0
VEEAM support renewal	390	390
Dell SANs and DR4100 renewal <sup>(2)</sup>	13,153	0
Dell servers and switch renewal	8,720	0
Comcast Business Service for Chapaton	1,223	1,263
Comcast Business Service for Command Center	670	685
Comcast Business Service for Clintondale	1,162	1,184
Comcast Business Service for Biofilter	0	916
Cell modem service (Verizon) 6 units	2,266	3,024
Cell modem service (Sprint) 9 units	1,004	1,004
Sonicwall replacements 1 unit at NGIPS	1,200	0
Juniper switch replacement at NGIPS	1,690	0
Microsoft Surface for new SCADA position	3,000	0
Spare parts for MIDD control panels <sup>(3)</sup>	0	10,000
Fluke calibration meter	0	950
PLC software	0	3,749
Add redundant UPS for headend network server racks <sup>(4)</sup>	0	3,225
Engineering study for SCADA Standards <sup>(5)</sup>	0	100,000
Camera replacement for NGI and Biofilter <sup>(6)</sup>	0	10,000
New Truck	25,000	0
Total	151,626	196,634
Future costs of upgrade-Life Cycle <sup>(7)</sup>	50,000	38,700

**NOTES**

- 1) This maintenance is only required every 2 years
- 2) Paid for in 2018. Hardware will be replaced in second year
- 3) Will be used to purchase spare SCADA equipment to ensure a higher uptime of service
- 4) Added level of protection for SCADA servers.
- 5) Phase 1 evaluation of current SCADA system (review current platform, develop standards, etc.)  
Needed to move to newer software.
- 6) Cameras nearing end of useful life. New cameras have higher resolution and lower bandwidth which will help our network and provide our operators more detailed resolution.
- 7) Used for future server upgrades

SYSTEM PROJECTS/STUDIES/CONSULTING

Project #	Macomb System	BUDGET 2018/2019	BUDGET 2019/2020
	GLWA Assistance	0	20,000
	Washington Township meter <sup>(1)</sup>	0	500,000
	Data Review-Aquasight <sup>(2)</sup>	0	240,000
	Contribution to Segment 5 Construction/Repairs <sup>(3)</sup>	0	3,850,000
	15 Mile Interceptor Design East of Garfield (Segment 6) <sup>(4)</sup>	0	1,000,000
	SAW Engineering	625,000	0
	Level Sensors/Pressure/H2S-Meters	300,000	0
	<b>Total New Projects</b>	<b>925,000</b>	<b>5,610,000</b>
	Seg 5 Engineering Design <sup>(5)</sup>	1,000,000	1,000,000
	Drop Shaft Repairs(MA-S-2),CT-S-2, HR-S-2, ST-S-5,UT-S-1 <sup>(6)</sup>	4,000,000	5,750,000
	Drop Shaft Repair <sup>(6)</sup> Merged with above	2,000,000	0
	System wide odor and corrosion study <sup>(7)</sup>	500,000	350,000
	SY-S-1 & SY-S-2 Meter Rehab <sup>(8)</sup>	1,000,000	1,200,000
	Eng Meter Rehab Design(SYS-1 & SYS-2) <sup>(8)</sup>	250,000	0
	Meter Dye Dilution Testing/As needed	100,000	100,000
	McMARS Operations	50,000	50,000
	Aquasight Operations-Was originally budgeted for Bluewater	100,000	50,000
	As-needed support <sup>(9)</sup> (Year 2 of 2)		
	As Needed FTCH	75,000	50,000
	As Needed CH2M	75,000	70,000
	As needed FK Engineering	75,000	55,000
	As Needed Wade Trim	75,000	45,000
	As Needed Metco	75,000	70,000
	As Needed Applied Science	75,000	70,000
	Wastewater Master Plan/Contract Capacity	600,000	500,000
	<b>Total Carryover Projects</b>	<b>10,050,000</b>	<b>9,360,000</b>
	<b>TOTAL ALL PROJECTS</b>	<b>10,975,000</b>	<b>14,970,000</b>

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NOTES

- 1) Splitting expenses with Washington Township 50/50
- 2) New program for data analysis for the MIDD billing meters. This will be Module 1-Wave 1 and will be completed within 1 year. Module 1-Wave 2(\$100,000) to be budgeted in FY 2021. Previous program (Bluewater) is being abandoned due to numerous issues with the development of it.
- 3) Funds to help pay for the costs of the upcoming Segment 5 repairs.
- 4) Design repair of Segment 6 (15 Mile Road from Garfield to Harper) for construction in FY 21-24
- 5) Segment 5 design.
- 6) \$2,000,000 for design of six drop shafts and construction cost for ST-S-4.
- 7) Due to changes within the system the previous odor studies are outdated. Performing a system wide study that is running parallel to the MIDD Master Plan.
- 8) Design and construction cost for two meter pits. Merged the \$250,000 with other Meter Rehab project.
- 9) We will rebid for 2020/2021 budget year.



**LEGAL SERVICES**

Project #	Legal Services	BUDGET 2018/2019	BUDGET 2019/2020
	General MIDD/OMID Claim	400,000	500,000
	Total	400,000	500,000

**CLINTONDALE PUMP STATION  
OPERATIONS and MAINTENANCE**

Project	Clintondale Pump Stat O & M	2018/2019 BUDGET	2019/2020 BUDGET
	O&M	125,000	100,000
	Spare Parts	35,000	35,000
	Electrical Repairs <sup>(1)</sup>	40,000	0
	Upstream Grease Blockage <sup>(2)</sup>	100,000	0
	Wet Well Level Sensors <sup>(3)</sup>	50,000	0
	Utilities	200,000	210,000
	Total	550,000	345,000
	Life Cycle/Future repairs <sup>(4)</sup>	75,000	75,000

**NOTES**

- 1) Fixed on-going power feed issues causing pot transformers to melt. Designed a solution to remedy the problem.
- 2) Removed large floating mass (fatberg) upstream of CPS.
- 3) Replaced pressure transducers that failed in the wet well
- 4) Replacement cost for impeller, pump shaft, discharge header, diffuser bowl, etc.

**NORTH GRATIOT INTERCEPTOR  
OPERATIONS and MAINTENANCE**

Project	NGI O & M	2018/2019 BUDGET	2019/2020 BUDGET
	O&M	150,000	100,000
	Spare Parts	10,000	10,000
	Intermediate Chamber Sluice Gates <sup>(1)</sup>	200,000	0
	Storage Shed <sup>(2)</sup>	3,000	0
	Repave Parking Lot <sup>(3)</sup>	0	20,000
	Two 20 inch isolation valves (pigging) <sup>(4)</sup>	0	50,000
	Pigging <sup>(5)</sup>	0	30,000
	Move Hydrant connection closer <sup>(6)</sup>	0	10,000
	Replace pressure transducers-sensors <sup>(7)</sup>	0	100,000
	Utilities	8,000	10,000
	Total	371,000	330,000
	Life Cycle/Future repairs <sup>(8)</sup>	30,000	30,000

**NOTES**

- 1) Replaced the intermediate sluice gates with hydraulically driven gates tied to SCADA so that we can properly isolate wet wells
- 2) Storage shed for the NGIPS
- 3) Repave existing pavement areas. Starting to develop large cracks.
- 4) These two valves have been taken apart and worked on by our staff and still are having issues. Recommendation is to replace.
- 5) Annual O&M pigging cost, cost broken out from general O&M.
- 6) Needed to improve pigging operation. Will have long term cost savings.
- 7) Sensors near end of useful life and the installation of new equipment.
- 8) Replacement value for pumps, HVAC, force main, odor control



**METERS  
OPERATION and MAINTENANCE**

Project	METERS O & M	2018/2019 BUDGET	2019/2020 BUDGET
	Meter Maintenance <sup>(1)</sup>	250,000	300,000
	Utilities	30,000	40,000
	Replace Underground Light Fixtures <sup>(2)</sup>	0	25,000
	As Needed	50,000	50,000
	Total	330,000	415,000

**NOTE**

- 1) New 3-year maintenance contract going out this year. We have added the following:  
 3 new billing flow meters  
 4-5 new interceptor flow meters  
 1 new level sensor  
 Possible new pressure sensors at NGI and Clintondale (up to 20)  
 We are still working on adding more right now. These will be added to the contract RFP.
- 2) Light fixtures are starting to fail at multiple facilities. Need to replace for personnel safety.

**CS-3  
OPERATION and MAINTENANCE**

Project	CS-3 O&M	2018/2019 BUDGET	2019/2020 BUDGET
	O&M	50,000	25,000
	Spare Parts	2,000	1,000
	Improvement to Hydraulic Cylinder <sup>(1)</sup>	0	200,000
	Total	52,000	226,000
	Life Cycle	5,000	5,000

**Notes:**

This is a new asset that was previously maintained by OMID.

During OMI construction Oakland County maintained this asset. With OMI construction coming to a close, Macomb County will now handle O&M.

1) Replacing the hydraulic cylinders (end of useful life and safety concerns)

**BIOFILTER  
OPERATIONS and MAINTENANCE**

Project	BIOFILTER O & M	2018/2019 BUDGET	2019/2020 BUDGET
	O&M	50,000	25,000
	Spare Parts	1,500	1,000
	Water	3,000	1,500
	<b>Total New Projects</b>	<b>54,500</b>	<b>27,500</b>
	Media Filter Replacement <sup>(1)</sup>	250,000	250,000
	<b>Total Carryover Projects</b>	<b>250,000</b>	<b>250,000</b>
	<b>TOTAL ALL PROJECTS</b>	<b>304,500</b>	<b>277,500</b>
	Life Cycle <sup>(2)</sup>	23,000	23,000

**NOTES**

- 1) The woodchips need to be replaced. Current recommendation includes replacing woodchips with volcanic rocks that are more expensive but will increase the useful life from 3-5 years to 10-15 years.
- 2) Replacement value for media bed filter material, centrifugal fan, driveway, flow conditioner, etc.



**INTERCEPTOR  
OPERATIONS and MAINTENANCE**

Project	Interceptor	2018/2019 BUDGET	2019/2020 BUDGET
	Annual O&M/Inspection Program <sup>(1)</sup>	0	1,000,000
	Total	0	1,000,000

**NOTES**

1) Pipe Sections not inspected in 2017:

- Macomb Element
- Shelby Sanitary Connector
- Sterling Heights Arm
- NGI

Pipe Sections that are unreinforced concrete pipe(3 year inspections):

- Romeo Arm
- Lakeshore Interceptor

**PUMP STATIONS-STORMWATER  
OPERATIONS and MAINTENANCE**

Chapter	Community	Various Pump Stations <sup>(1)</sup>	2018/2019 BUDGET	2019/2020 BUDGET
4	Chesterfield	Schmidt	0	18,600
4	Clinton Twp	Bridgewood	0	17,400
4	Sterling Heights	Hildebrandt	0	13,300
4	Harrison Twp	Murdock Ballard	0	16,500
		Total	0	65,800

**NOTES**

1) First year for collecting fees for stormwater pumps in MIDD district. Costs are 100% allocated to applicable community listed above. Fee will be used for maintenance, utilities, weekly inspections, annual inspections, and SCADA, as drainage district funds on hand have been exhausted.

**Revenue Bond Calculation  
SRF 5540-01(Biofilter)  
and  
5487-01(Meter Pit Rehab)**

<b>Payment Date</b>	<b>2018/2019 BUDGET</b>	<b>2019/2020 BUDGET</b>
Fall 2018	208,400	202,775
Spring 2019	477,400	481,775
Less Cash on Hand	(113,270)	(138,308)
<b>Total<sup>(1)</sup></b>	<b>572,530</b>	<b>546,242</b>

**NOTE**

1) SRF 5540-01 and 5487-01 are classified as revenue bonds so they must be included in the rate calculation on page 4, unlike the debt shown on page 3.

Previous budget and charges based on maximum SRF draws from State. As actual SRF debt payments were lower than budgeted, the cash on hand has been used to offset current SRF debt payments. As the SRF projects have ended, cash on hand should be exhausted.

	<b>Fall 2019</b>
5540-01 Interest	17,650
5540-01 Principal	100,000
5487-01 Interest	85,125
<b>Total</b>	<b>202,775</b>
	<b>Spring 2020</b>
5540-01 Interest	16,650
5487-01 Principal	380,000
5487-01 Interest	85,125
<b>Total</b>	<b>481,775</b>



Revenue Detail

Revenue	2018/2019 BUDGET	2019/2020 BUDGET
Reimbursements <sup>(1)</sup>	125,000	200,000
Grants/SRF Funding <sup>(2)</sup>	500,000	0
Carryforward <sup>(3)</sup>	3,325,000	9,610,000
MIDD O&M/Charge Required Revenue	8,989,650	10,927,799
Washington Twp Meter Project	0	250,000
Use of Reserves	3,000,000	0
Interest	30,000	300,000
Total	15,969,650	21,287,799

NOTES

- 1) Reimbursement from OMID for personnel, SCADA, and engineering.
- 2) No SRF loan and all SAW grants have been completed
- 3) Remaining projects that were charged in prior years and need to be carried forward for completion in 19/20
  - Wastewater Master Plan/Contract Capacity 500,000
  - Media Filter Replacement 250,000
  - Engineering Design for MID repairs 1,000,000
  - McMARS & Bluewater Operations/Data Review 100,000
  - Meter Dye Dilution Testing/As needed 100,000
  - Drop Shaft Repairs(MA-S-2), CT-S-2, HR-S-2, ST-S-5, UT-S-1) 5,750,000
  - As Needed Engineering 360,000
  - System wide odor and corrosion study 350,000
  - SY-S-1 & SY-S-2 Meter Rehab 1,200,000

TOTAL 9,610,000

Oakland Macomb Interceptor Drain Drainage District (OMIDDD) FY 2020  
 Charge Summary

March 19, 2019

Effective July 1, 2019

# Exhibit A

Annual Operating Charges

	Current 2019 Budget	2020 Budget	COSDS %	Macomb %	Annual		Monthly	
					COSDS	Macomb	COSDS	Macomb
<u>GLWA</u>								
Common-to-all and OMIDDD Charges		\$ 67,426,800	31.89%	68.11%	\$ 21,502,407	\$ 45,924,393		
CSO Program		1,619,800	39.48%	60.52%	639,497	980,303		
Total	77,533,200	69,046,600			22,141,904	46,904,696	\$ 1,845,156.67	\$ 3,908,724.67
<u>OMIDDD</u>								
Operations and Maintenance Expense								
Sewer System Maintenance	1,048,730	1,386,710	31.89%	68.11%	442,222	944,488		
Sewer System Engineering	108,100	70,100	31.89%	68.11%	22,355	47,745		
Pump Maintenance Unit	-	2,063,000	31.89%	68.11%	657,891	1,405,109		
Systems Control Unit	655,840	71,060	31.89%	68.11%	22,661	48,399		
Mapping Unit	-	13,620	31.89%	68.11%	4,343	9,277		
Miss Dig	250	490	31.89%	68.11%	156	334		
General and Administrative	500,380	370,190	31.89%	68.11%	118,054	252,136		
Subtotal	2,313,300	3,975,170			1,267,682	2,707,488	105,640.17	225,624.00
Non Operating								
Major Maintenance	400,000	600,000	31.89%	68.11%	191,340	408,660	15,945.00	34,055.00
Emergency Maintenance	-	-	31.89%	68.11%	-	-	-	-
Capital Improvement	1,000,000	7,687,270	33.10%	66.90%	2,544,486	5,142,784	212,040.50	428,665.33
Subtotal	1,400,000	8,287,270			2,735,826	5,551,444		
O&M Non-Rate Revenue	(138,670)	(201,210)	31.89%	68.11%	(64,166)	(137,044)	(5,347.17)	(11,420.33)
<b>FY 2020 Total Fixed Charges</b>	<b>\$ 81,107,830</b>	<b>\$ 81,107,830</b>			<b>\$ 26,081,246</b>	<b>\$ 55,026,584</b>	<b>2,173,437.17</b>	<b>4,585,548.67</b>



**Office of the Chief Executive**

735 Randolph Street, Suite 1900  
Detroit, Michigan 48226

March 21, 2019

RE: Great Lakes Water Authority FY 2020 Approved Wholesale Sewer Charges

On March 13, 2019, the Great Lakes Water Authority (GLWA) Board of Directors approved a schedule of wholesale sewage charges for Fiscal Year 2020. These service charges continue to incorporate our ongoing efforts to control expenses while providing effective and efficient wastewater services to all our customers. The approved sewer charges reflect:

- Limiting the sewer revenue requirement budget to a 2.2 percent increase from the prior year;
- Improvement in Highland Park payments which lowered the bad debt charge to wholesale customers; and
- The impact of the recent amendment to the Oakland Macomb Interceptor Drain Drainage District ("OMID") service agreement where OMID will provide all maintenance and financing activities related to the Northeast Sewer Pump Station ("NESPS").

**The result:** Sewer charges for suburban wholesale customers will *decrease* by an average of 0.1 percent, rather than the 0.5 percent *increase* originally presented in January 2019.

The revised FY 2020 schedule of charges for your organization is attached. The new charge amounts will apply to services provided beginning July 1, 2019 and will be effective on all bills rendered by GLWA as of August 1, 2019. The new schedule of charges also includes moderate changes to Industrial Waste Control (IWC) charges and Pollutant Surcharges, compared to what was originally proposed.

Our pledge to you is to continue to control the budget within the four percent 'Promise' contained in the Lease Agreements that established GLWA. We have delivered on that promise every year since the launch of GLWA. Mitigating increases in future charges continue to be a top priority for GLWA.

I want to extend my thanks once again to the *One Water Partnership* for their efforts, and to your representatives who participated in the Customer Outreach Program. The approval of the FY 2020 charges represents the successful result of this continued collaborative process with all of our member partners.



It continues to be our pleasure to provide you these services. If you have any questions please contact Jon Wheatley, Public Finance Manager at (313) 224-4771.

Sincerely yours,



Sue F. McCormick  
Chief Executive Officer

Enclosures



Great Lakes Water Authority  
**Final Approved** FY 2020 Suburban Wholesale Sewer Service Charges  
**OMID**

	Existing Charges FY 2019	Originally Proposed FY 2020 Charges (a)	Final Approved FY 2020 Charges (b)
<b>Total Charges</b>			
1 Fixed Monthly Charge - \$/month	5,499,900	5,640,800	<b>5,600,300</b>
2 Bad Debt Adjustment - \$/month	86,000	41,800	<b>41,800</b>
3 Wholesale Service Charge - \$/month	5,585,900	5,682,600	<b>5,642,100</b>
4 OMID Only Charge- \$/month	875,200	111,800 (c)	<b>111,800 (c)</b>
5 Total OMID Fixed Charge- \$/month	6,461,100	5,794,400	<b>5,753,900</b>
6 Estimated Utility Charges- \$/month	0	62,500 (d)	<b>62,500 (d)</b>
7 Total Estimated OMID Charges- \$/month	6,461,100	5,856,900	<b>5,816,400</b>
<b>Total Revenues</b>			
8 Projected Revenue from Charges - \$	77,533,200	69,533,000	<b>69,046,600</b>
9 Projected Utility Charges- \$	0	750,000	<b>750,000</b>
10 Application of Capital Contribution - \$	0	5,960,000	<b>5,960,000</b>
11 Total Annual Revenue Requirement- \$	77,533,200	76,243,000	<b>75,756,600</b>

(a) Reflects proposed charges originally presented on January 27, 2019, which supported an overall 2.9% Budget increase for FY 2020.

(b) Reflects reduction in revenue budget from an effective 2.9% increase to a 2.2% increase, as approved by the GLWA Board of Directors on March 13, 2019.

(c) From Contract Amendment Schedule 22.05- Summary of OMID Cost Elements, line 7. Excludes estimated direct pass through utility charges.

(d) Per section 22.05 of the Contract Amendment, utility bills will be a direct pass through charge to OMID.

MACOMB INTERCEPTOR DRAIN 3/19/19 - 4/2/19

Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance			
Macomb Interceptor Drain	Chapter 20 Chesterfield - 6.9899% Clinton - 20.9164% Fraser - 4.1343% Harrison - 5.9902% Lenox - 8610% Macomb - 14.5180% New Haven - 8150% Shelby - 9.9241% Sterling Heights - 31.2761% Utica - 1.7244% Washington - 2.8507%	Administration	Astorino	City of Mt. Clemens	\$ 22,697.91	Invoice #28000302 - 3.8.19	Sewage Flow Billing - February	\$ 2,123.57		
			Astorino	FK Engineering Associates	\$ 532.75	Invoice #17-134-012 - 03.13.19	As Needed Geotechnical Services-Grouting 02.01.19 - 02.28.19	\$ 635,083.10		
			Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 11,541.25	Invoice #381250 - 03.04.19	Engineering Services ending 02.22.19	GLWA Assistance	\$ 27,575.20	
			Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 3,603.30	Invoice #381209 - 3.4.19	Invoice #380607 - 02.04.19	As-Needed Engineering through 01.25.19	\$ 22,955.20	
			Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 942.00	Invoice #381143 - 03.4.19	Invoice #380614 - 02.04.19	GLWA Services	\$ 544,098.05	
			Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 4,620.00	Invoice #381143 - 03.4.19	Invoice #168696 - 03.25.19	Task D Updated Project Plan	\$ 545,117.84	
			Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 4,477.40	Invoice #380614 - 02.04.19	Engineering Services - Ending 03.09.19	Task C Final Red Zone Review	\$ 12,602.50	
			Astorino	Hubbell, Roth & Clark, Inc.	\$ 1,019.79	Invoice #168696 - 03.25.19	Engineering Services - Ending 03.09.19	2010 MIDD Refunding		
			Astorino	Hubbell, Roth & Clark, Inc.	\$ 6,616.41	Invoice #168695 - 03.25.19	Engineering Services - Ending 03.09.19	Conversion of MCMARS to Bluewater Legal Services		
			Astorino	Huntington National Bank	\$ 3,994,100.00	Invoice #19-133 - 03.18.19	Invoice #42757 - 3.7.19	Legal Services - Clean Water Act Review		
			Astorino	Johnson & Anderson	\$ 750.00	Invoice #19-133 - 03.18.19	Invoice #41739 - 3.6.19	Fleet Fuel		
			Astorino	Kienbaum Hardy Viviano Pelton & Forrest PLC	\$ 20,020.00	Invoice #41739 - 3.6.19	Invoice #41734 - 03.06.19	SCADA Radio Inspection Services		
			Astorino	Kienbaum Hardy Viviano Pelton & Forrest PLC	\$ 8,403.75	Invoice #41734 - 03.06.19	February, 2019	Boots for Astorino, Rozycki, and Welser		
			Astorino	Macomb County Department of Roads	\$ 615.24	Invoice #301227 - 03.07.19	Invoice #92340 - 03.04.19	Monthly Cell - 01.24.19 - 02.23.19		
			Astorino	Motor City Electric Technologies	\$ 16,359.28	Invoice #92340 - 03.04.19	Invoice #20190310018989	Monthly Cell - 01.24.19 - 02.23.19		
			Astorino	Red Wing Business Advantage	\$ 521.99	Invoice #20190310018989	Invoice #578736375-089 - 02.24.19	Preventative Maintenance on HVAC		
			Astorino	Verizon	\$ 500.00	Invoice #578736375-089 - 02.24.19	Invoice #9824818211 - 02.24.19	Monthly Water - 01.29.19 - 2.26.19		
			Astorino	Verizon	\$ 799.62	Invoice #9824818211 - 02.24.19	Invoice #WO19000851 - 03.19.19	Winter Preventative Maintenance		
			Biofilter		Astorino	DE-CAL, Inc.	\$ 546.20	Invoice #19-103 - 2.28.19	Monthly Electric - 02.04.19 - 03.03.19	
			Clintondale P.S.		Astorino	Clinton Township Treasurer	\$ 2,111.41	Invoice #WO19000911	Filters For Air Supply Louvers	
Astorino	De-Cal, Inc.	\$ 2,106.19			Invoice #19-106 - 3.5.19	Clintondale Bond				
Astorino	DTE Energy	\$ 21,161.77			Invoice #19-106 - 3.5.19	Filters for VFD fans				
Astorino	GALCO	\$ 546.48			Invoice #AD2668301 - 03.15.19	Re-insulation of Air Valves				
Manning	Huntington National Bank	\$ 1,847,500.00			Invoice #19-132 - 03.18.19					
Astorino	McNaughton-McKay Electric	\$ 823.92			Invoice #16373929-00 - 2.20.19					
Astorino	Michigan Mechanical Insulation	\$ 1,395.00			Invoice #18248 - 02.20.19					



MACOMB INTERCEPTOR DRAIN 3/19/19 - 4/2/19

Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance	
1.5 Mile Sinkhole		Bantios	Anderson, Eckstein & Westrick	\$ 17,698.25	Invoice #121198 - 03.13.19	PCI-12A 1.5 Mile Rd - Fraser Water Main		
		Bantios	Anderson, Eckstein & Westrick	\$ 7,077.50	Invoice #121147 - 03.12.19	PCA 12A 1.5 Mile Road Recovery Shaft		
		Bantios	DTE Energy	\$ 164,620.74	Invoice #19-128 - 05.17.18	Final DTE Bill - Bypass Pumps	\$ 28,081.17	
		Bantios	Dr. Mole Incorporated	\$ 4,300.00	Invoice #18011-09 - 03.17.19	Finalize Expert Report		
		Manning	Huntington National Bank	\$ 2,759,925.00	Invoice #19-133 - 03.18.19	2017 Sinkhole Bond		
		Bantios	Kienbaum Hardy Viviano Pelton & Forrest PLC	\$ 6,772.50	Invoice #41738 - 3.6.19	Legal Services		
	Meters		Bantios	Anderson, Eckstein & Westrick, Inc.	\$ 16,488.85	Invoice #121187 - 03.14.19	MIDD Dropshaft & Connecting Sewer Rehab	\$ 204,683.90
			Bantios	Anderson, Eckstein & Westrick, Inc.	\$ 8,074.75	Invoice #120980 - 02.21.19	Dropshaft & Connecting Sewer Rehab Design	\$ 221,172.75
			Astorino	DTE Energy	\$ 523.02	Invoice #19-124 - 03.21.19	Monthly Electric - 02.20.19 - 03.20.19	
			Astorino	HESCO	\$ 1,287.50	Invoice #10379 - 03.13.19	As Needed Meter Maintenance, February 2019	
		Astorino	HESCO	\$ 17,780.00	Invoice #161024-28 - 03.14.19	MIDD Meter Maintenance	\$ 210,180.00	
		Bantios	Hubbell, Roth & Clark, Inc.	\$ 2,162.45	Invoice #168693 - 03.25.19	SY-S-1 and SY-S-2 Meter Rehab	\$ 43,477.32	
		Bantios	Hubbell, Roth & Clark, Inc.	\$ 5,037.08	Invoice #168694 - 03.25.19	SY-S-1 and SY-S-2 Meter Rehab	\$ 38,440.24	
		Bantios	NTH Consultants, Ltd.	\$ 21,841.33	Invoice #617644 - 2.28.19	Meter & Drop Shaft Rehab	\$ 236,241.41	
NGI			Astorino	DTE Energy	\$ 1,200.55	Invoice #19-099 - 2.28.19	Monthly Electric - 01.30.19 - 02.27.19	
			Astorino	National Industrial Maintenance	\$ 1,175.00	Invoice #34258 - 03.12.19	Clean Basket	
		Manning	US Bank	\$ 175,693.75	Invoice #1370467 - 3.11.19	North Gratiot Interceptor Drain Drainage	\$ 25,463.50	
		Rozycki	Wade Trim	\$ 4,022.50	Invoice #M2014213 - 03.29.19	As-Needed Services 02.23.19 - 03.22.19		
OMID		Bantios	Motor City Electric Technologies	\$ 739.69	Invoice #92340 - 03.04.19	SCADA Radio Inspection Services		
		Bantios	Oakland County Treasurer	\$ 4,570,860.67	Invoice #SDS0006293 - 03.19.19	Sewage Disposal Charges - February 2019		
SEMSD		Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 58,158.20	Invoice #381280 - 03.04.19	SEMSD WWMP - Paid SEMSD	\$ 251,663.50	
<b>Total</b>				\$ 13,819,750.99	Engineering Services ending 02.22.19			

Budget to Actual  
MIDD  
As of March 31, 2019 = 75%

DESCRIPTION	2019 FINAL BUDGET	ENCUMBERED	ACTUAL	REMAINING BUDGET	PCT UTILIZED
<b>REVENUE ACCOUNTS</b>					
GLWA-OMID	52,458,900		35,108,007	17,350,893	66.9%
OMID O&M	2,391,427		1,395,003	996,424	58.3%
Reimbursements	125,000		237,413	(112,413)	189.9%
Grants/SRF Funding	500,000		330,093	169,907	66.0%
PY Revenue-Fund Balance	3,325,000			3,325,000	0.0%
Sale of Land	-		100,742	(100,742)	100.0%
Reimb-Local Communities	8,989,650		5,993,110	2,996,540	66.7%
Surplus	3,000,000			3,000,000	0.0%
Interest	30,000		215,051	(185,051)	716.8%
<b>Total Revenue Accounts</b>	<b>70,819,977</b>	<b>-</b>	<b>43,379,420</b>	<b>27,440,557</b>	<b>61.3%</b>
<b>EXPENSE ACCOUNTS</b>					
GLWA-OMID	52,458,900		35,251,686	17,207,214	67.2%
OMID O&M	2,391,427		1,594,284	797,143	66.7%
Public Works Wastewater Disposal Division	1,602,641		815,737	786,904	50.9%
Administration and Operations	288,653		166,127	122,526	57.6%
SCADA	151,626		87,622	64,004	57.8%
<b>Engineering</b>					
As Needed FTCH	75,000		45,477	29,523	60.6%
AS Needed CH2M	75,000		24,446	50,554	32.6%
As needed FK Engineering	75,000		25,333	49,667	33.8%
As Needed Wade Trim	75,000		36,411	38,589	48.5%
AS Needed Metco	75,000		2,264	72,736	3.0%
As Needed Applied Science	75,000		20,700	54,300	27.6%
Meter Dye Dilution Testing/As needed	100,000			100,000	0.0%
Engineering Design for MID repairs	1,000,000			1,000,000	0.0%
Drop Shaft Repairs(MA-S-2), CT-S-2, HR-S-2, ST-S-5,UT-S-1)	4,000,000			4,000,000	0.0%
SY-S-1 & SY-S-2 Meter Rehab	1,000,000		72,555	927,445	7.3%
System wide odor and corrosion study	500,000		130,931	369,069	26.2%
Lining Evaluation	-		24,861	(24,861)	100.0%
McMARS Operations	50,000		6,948	43,052	13.9%
SAW Engineering	625,000		41,924	583,076	6.7%
Bluewater	100,000			100,000	0.0%
Eng Meter Rehab Design(SYS-1 & SYS-2)	250,000			250,000	0.0%
Drop Shaft Repair	2,000,000		214,088	1,785,912	10.7%
Wastewater Master Plan/Contract Capacity	600,000		384,357	215,643	64.1%
Level Sensors/Pressure/H25	300,000			300,000	0.0%
Legal Services	400,000		174,647	225,353	43.7%
Clintondale PS O&M	550,000		292,926	257,074	53.3%
NGI O&M	371,000		107,892	263,108	29.1%
Meters O&M	330,000		154,727	175,273	46.9%
CS-3 O&M	52,000			52,000	0.0%
Biofilter O&M	304,500		8,444	296,056	2.8%
Contribution Life Cycle Reserve	171,700		85,850	85,850	50.0%
Sewage Disposal Charges - Mt. Clemens	200,000		129,125	70,875	64.6%
Debt Service - Revenue Bonds	572,530		286,265	286,265	50.0%
<b>Total Expense Accounts</b>	<b>70,819,977</b>	<b>-</b>	<b>40,185,627</b>	<b>30,634,350</b>	<b>56.7%</b>

	O&M Balance 6/30/2018	O&M	Total 3/31/2019
Cash - Operating	24,259,763	3,193,793	27,453,556
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		43,379,420	43,379,420
Expenditures		40,185,627	40,185,627
			0
Equity*	24,259,763		27,453,556

**Detail of 2018 Equity\***

Projected reserve at 6/30/2018	15,675,763
Projected Engineering Reserve	3,250,000
Projected Sinkhole Surplus	4,800,000
Life Cycle Reserve	534,000
Use of surplus for 18/19	(3,000,000)

**Dec 2016 Sinkhole**

Revenue	75,661,243
Expenditures	71,670,753
Net	3,990,490