

**UTILITY ADVISORY BOARD**  
**Thursday, August 20, 2015**  
**8:00 a.m.**  
**Grand Rapids Water Office**  
**1900 Oak Industrial Drive NE**

**AGENDA**

1. Approval of Minutes – July 16, 2015 (attached)
2. Public Comment on Agenda Items
3. Cascade/Ada USD Adjustments (attached)
4. Draft NPDES Permit for the Wastewater System (attached)
5. Concentrated Waste – WWTP Modeling Update (attached)
6. Rate study Timeline (attached)
7. Financial Reports (attached)
  - a. WSS and SDS Financial Reports
  - b. Combined Operational Graphs
8. Monthly Contract Awards (July) (attached)
9. Updates:
  - a. Comprehensive Master Plan
  - b. Indian Trails Camp and Tallmadge Township’s USD Expansion
  - c. Steelcase Sanitary Sewer Payback Agreement
  - d. Caledonia Township
  - e. Prima Civitas/Food Innovation District
  - f. Butterworth Solar Project
  - g. Demand Response Pilot Program at WWTP and LMFP
  - h. ACSET Amendment to Agreement
  - i. UAB Rate Review Subcommittee
  - j. 5-year Extension of Water/Sewer Agreements  
(awaiting final recommendations of Rate Review Subcommittee)
10. Information Items (attached)
  - a. News Release – GR Environmental Services Dept. Chemist receives MWEA’s Educational Professional of the Year
  - b. News Release – GR Completes Water Quality Project
  - c. Solar to power City’s WWTP, saving up to \$300,000 annually
11. Items from Members
12. Next Meeting – Thursday, September 17 – Where?
13. Adjournment

**Utility Advisory Board  
July 16, 2015**

**1. Call to Order:**

The meeting was called to order by Eric DeLong, at 8:00 a.m. at Grand Rapids Water Office, 1900 Oak Industrial Drive NE.

**2. Attendance:**

Members Attending:

Tim Bradshaw  
Eric DeLong  
George Haga  
Wayne Jernberg  
Mike Lunn  
Ed Robinette  
Darrell Schmalzel  
Chuck Schroeder  
Joellen Thompson

Others Attending:

Haris Alibasic  
John Allen  
Jenessa Carter  
Molly Eastman  
Amie Merren  
Nancy Meyer  
Nicole Pasch  
Kara Wood

Members Absent:

Mark DeClercq  
Mike DeVries  
Doug LaFave  
Pam Ritsema  
Richard Robertson  
Ben Swayze  
Toby VanEss  
Josh Westgate

**3. Approval of Minutes:**

**Motion 15-11:** Ed Robinette, supported by Darrell Schmalzel, moved approval of the minutes of the May 21, 2015, Utility Advisory Board meeting as presented. Motion carried.

**4. Public Comment:** There was no public comment.

**5. Food Innovation District**

Kara Wood, Economic Development Director, was introduced. Eric DeLong indicated that the UAB has talked before about ways to sell more water. We've talked with the Right Place and learned that they are more regional so can't really do anything specifically aimed at just our Water System. Mr. DeLong has asked Ms. Wood to develop a system to help us retain, grow and attract food related businesses. She has received a proposal from Prima Civitas that she can review.

Kara Wood reported that Prima Civitas is the economic development arm from MSU. Agricultural food processing is the second largest sector in Michigan. The proposal itself isn't a final draft and can still be modified. Prima Civitas has put together a team, members of which are listed in the document. The scope includes a current state assessment, market assessment, assistance with lead generation and marketing, talent investment, and the provision of a strategy and recommendations. We've done some ad hoc booths at some conferences recently for regional food producers, and we're learning some things from doing that. These efforts are very good for relationship building.

Eric DeLong indicated that the proposed work would provide us with an actual action plan. This isn't just research for researches sake.

Kara Wood then discussed the Food Innovation District and referred to the brochure that Lansing uses. Eric DeLong noted that we would consider that the District would be the entire system so Grand Rapids and all the partner communities combined. Ms. Wood added that different areas could have different strategies based on various factors. Prima Civitas proposes to begin in September and complete the work by March 2016.

Eric DeLong indicated that the fee is just under \$40,000. He then discussed the team that is proposed.

Ed Robinette thought it would be a worthy use of funds to try to market to prospective customers. He noted that we could do all this work and then have a company locate with one of our neighboring communities. Should we also review how competitive we would be with our surrounding communities? Kara Wood agreed and indicated that we have done some of this work already. Eric DeLong noted that once this work is complete, we would have our elevator speech together and could compete well for the business when the Right Place or others bring someone in.

Tim Bradshaw asked how the \$40,000 would be allocated and if it is a one-time fee. Eric DeLong indicated that this may be the start of an ongoing campaign so there may be different services that we find we would like in the future once we have this work done. The payment would go into contractual services and be split 50-50 between water and sewer as an integrated cost. Darrell Schmalzel indicated that he felt this would be a good idea to market the region in this way.

Joellen Thompson noted that timing is good because we are working on the Comprehensive Master Plan currently and will be looking at updating land uses and other things that this group will also need to have.

**Motion 15-12:** Ed Robinette, supported by Darrell Schmalzel, moved to authorize staff to move forward with the engagement of Prima Civitas to complete the work provided in the proposal substantially in the form as presented at today's meeting, with costs to be an integrated cost split 50% water and 50% sewer. Motion carried.

## **6. Butterworth Solar Project**

Amie Merren, Purchasing Director, was introduced. Haris Alibasic of the Office of Energy and Sustainability reported that staff have been looking into various options for renewable energy. We believe that power purchase agreements could be a good way to accomplish this work. The Butterworth site is a place where we can place a lot of solar panels, and the EPA has been supportive of this project. When we looked at where we could use the electricity produced, we thought of the Wastewater Treatment Plant. Electricity pricing has been going up. We worked with Consumers Energy to gain their agreement to move forward with this project. An RFP was issued, and we received six proposals. Following the team's review, three respondents were interviewed. Mr. Alibasic feels this will be a very unique project because we won't have any upfront costs and will receive lower pricing.

Mike Lunn discussed the proposals received and the interviews. Capital Energy came out as the recommended consultant. We are now completing our due diligence before moving to agreement. We plan to talk to the City Commission next Tuesday and then this could be placed on their agenda for the following Tuesday. The Site Work Group has asked that an escrow account be set up for ongoing maintenance needs. We will go to a stand-by rate with Consumers which means we'll pay them for reserve power. Our solar installation will produce the most energy when their rates are the highest so we should reduce our Consumers bill and also pay less for the solar electricity.

Haris Alibasic noted that the power purchase agreement is good to use because the private company can get the tax abatements that a government entity can't use.

Eric DeLong asked if we would own the field at the end. Mr. Lunn indicated that we will not own it. As part of their bid, the consultant is to come back and take all the items off and clean up the site at the end. We suspect that what will happen, however, is that they will come back with another proposal at the end of the 10 years. Local companies will be used for maintenance of the site.

Eric DeLong noted that these will be ground mounted in a way that they will not penetrate the cap. Mr. Alibasic noted that we have 110 acres there and this will be on just a small little corner of the site. However, it will be larger than GVSU's solar project. We will want to maximize using all of the electricity on site so we don't have any to sell back to the grid.

Eric DeLong then asked if this work will blaze a trail for future work at the Lake Michigan Filtration Plant. Mr. Alibasic indicated that the Lake Plant would be a very good site for this type of installation.

Amie Merren added that American Capital Energy definitely came out on top during the interview process. They are very excited about the project. We are just down to completing the due diligence and getting ready to negotiate the contracts.

Mike Lunn indicated that the intent is to take this to the City Commission and get their approval and then continue to negotiate the power purchase agreement and have that ready hopefully in September. Support to move ahead from the UAB would be good so we can provide that to the City Commission.

Darrell Schmalzel noted that the savings here will more than pay for the study we just talked about.

Tim Bradshaw said he assumes there must be some electrical connections, etc., that will be needed. Mike Lunn indicated that there are some additional costs but they are all soft costs.

It was noted that the group that did the cap at the site are partnering with the consultant so they will ensure that the cap remains intact.

**Motion 15-13:** Tim Bradshaw, supported by George Haga, moved that the UAB supports the City's moving forward with contracting with American Capital Energy for the provision of solar energy at the Butterworth site. Motion carried.

**7. Demand Response Pilot Program**

Joellen Thompson reported that this is another energy reduction opportunity that we were approached about. They want the actual load to reduce and not just be off loaded to another source such as a generator, and they will pay us for the Kwh hours we are able to reduce. We met with them in June. We made sure that there was no commitment here and it's voluntary. If we try to do it and find we can't, we can turn a pump back on. We aren't required to keep them off.

The Wastewater Treatment Plant (WWTP) and Lake Michigan Filtration Plant (LMFP) will shed 400 Kwh of electrical load, if possible, when requested. The WWTP will do so by shutting down dewatering and/or utilizing the primary effluent retention basin, and the LMFP by switching pumps and revising fill cycles of water reservoirs.

Mike Lunn indicated that this allows us to help Consumers Energy meet their requirements, and possibly be paid for it.

Joellen Thompson added that they will install 5 minute metering for us so we'll be able to see our metering online. This was approved by the City Commission on June 16, and we have signed on. The program will run from July through September. We haven't been called on yet to reduce the load.

**8. ACSET 2<sup>nd</sup> Quarter 2015**

Nicole Pasch reported that ACSET hasn't requested a second draw yet this year.

We are behind in assistance for the year due to starting later and also because the number of cut-offs are down.

**9. ACSET Amendment**

Nicole Pasch reported that staff have been in discussion about how to supplement the program if needed in the future. The Fire Department use the garage space at the City's Coldbrook Building that the Water System is no longer using. An agreement was reached whereby the funds received from the Fire Department for use of the facility could be used for the Individual Circuit Breaker program because it's new, non-operating revenue. The amendment to the agreement will add a clause which reserves the right to add this funding and administer it in the same way as the original funding.

Eric DeLong noted that this amendment implements the recommendations that were made a couple of meetings ago. If the UAB approves, then this will go to the ACSET Board and the City Commission for approval.

**Motion 15-14:** Darrell Schmalzel, supported by Joellen Thompson, moved to approve the First Amendment to Area Community Services Employment and Training Council (ACSET) – Individual Circuit Breaker Contract as presented at today's meeting and recommend the same to the City Commission for approval. Motion carried.

**10. Operational Graphs**

Molly Eastman noted that water flow is down significantly. Usage has been down this year possibly due to the somewhat cooler, wetter weather. She then referred members to the bar graph on billed flow and noted how it will change due to the one year that will be falling off the three-year rate smoothing.

Ms. Eastman indicated that staff have kicked off the rate study, and so far it is going well. Staff are starting to collect and provide the information as needed.

**11. Contract Awards**

Chuck Schroeder reported that they had a 72" pipe that had to be removed on Monday. The bulkhead was removed and now we have a true storm sewer as it should be. This is important because we are three years ahead of our requirements from the state that mandated that we have these combined sewers separated by 2019. This was our last required overflow point that has now been eliminated. We started on the Combined Sewer Overflow (CSO) project back in 1989 and did the first project on the west side in 1991.

Eric DeLong congratulated everyone that has worked on this important and lengthy project for getting it done and actually getting it done early.

Mike Lunn noted that our draft permit now has a wet weather section based on the State's Sanitary Sewer Overflow (SSO) Policy. We knew this was coming and now we have to certify the entire system as far as SSO's. So CSO moves out of our permit and SSO is moving into the permit so we are looking at strategies for this.

## **12. UAB Rate Review Subcommittee Report**

Eric DeLong reported that the Rate Review Subcommittee has been meeting for some time and has now completed preliminary recommendations. They determined that the premise of the contracts is good and that we shouldn't tinker with the Utility Service District, the Urban Utility Boundary and things like that. They were interested in incenting more customers to the system. They looked at what the barriers were to becoming a customer and compared the cost of connection to the cost of putting in well and septic. Members were referred to the chart on pages 4 and 5 of the report.

On pages 3 through 5, the report looks at the components that make up the cost of connection to the water/sewer system. The group had good debates about the use of the front footage fees and how it is used differently in various communities. We looked at how many agreements there are of this type and there really aren't that many. It was found, though, that where they exist, they are important. They are financial transactions that ultimately the subcommittee decided we didn't want to change.

By dealing with the integrated connection fee you create a more competitive rate where there are front footage fees and an even more competitive rate in those areas where front footage fees are not collected. Front footage fees can still be done on a case by case basis by communities according to the current contract.

We have looked at the integrated connection fee and are trying yet to determine how low we can afford to reduce it. We looked at total elimination, and it could have a 1% - 2% impact on rates. The group also looked at phasing to mitigate the impact, but that would also mitigate the impact of the reduction. The group felt the phasing would cause development to stall until such time as they knew the connection fee would no longer be charged. They feel that doing it all at one time will be best.

Eric DeLong then reviewed the recommendations as follows:

- 1) No change to the Readiness to Serve Charge
- 2) Continuation of the current policy on Front Footage Fees
- 3) Amendment of the Rules and Regulations to allow options for charging or waiving stub fees
- 4) Consideration of reducing the integrated connection fee—either a phased approach or a one-time reduction. We feel a one-time reduction is best.
- 5) Continued modeling to determine the proper amount of the reduction and timing.
- 6) Development of strategies for increasing the customer base.
- 7) Development of a UAB policy to guide connections and then work to develop an ordinance that would require connection to the public water/sewer system in certain circumstances.
- 8) Track and evaluate the impact of the changes made.

Mr. DeLong then discussed the work that would be needed to create an ordinance requiring connection. The group feels strongly that it's the right thing to do but further study is needed to determine just how to go forward with it.

Ed Robinette indicated that the goal was to incentivize customers to connect. It's currently difficult to force people to connect due to the high cost, but incentivizing them with a lower cost of connection would make it easier to more strongly require their connection. When the contract started we were controlling growth, and things have changed to where we want more customers. Eric agreed that we want new customers but we don't want growth anywhere. We still want growth to take place within the USD. The contracts we have are working to control growth where we didn't want it and to focus growth in the correct area.

George Haga noted that it didn't look like the recommendation was for a total elimination of the connection fee. Eric DeLong agreed and indicated that the group felt that some minimum fee should still be charged to cover some minimal costs. Wayne Jernberg is working on this and noted that it would probably be somewhere around \$1,000 or slightly less, but he will be making a recommendation on this.

Tim Bradshaw asked about front footage fees and noted that front footage fee is 50% of the cost of connection. Eric DeLong agreed that it can be, but front footage fees aren't charged everywhere. So where they aren't charged, the cost of connection is much less and reducing the integrated connection fee will make it even more attractive.

Wayne Jernberg explained the discussions that took place around front footage fees and how it was the payback agreements that were difficult for us to figure out how to deal with if we looked at reducing or eliminating the fee. Members were then referred to the chart on Page 12 of the report where the amount of front footage fees collected over the past three years by community is detailed.

Tim Bradshaw stated that it seems the committee found small areas where we can make a difference, but he wonders if it is really worth doing if we are still going to be higher than well/septic. Eric DeLong explained the costs in more detail. With everything included, current cost is about \$33,000. Without both the front footage fee and the connection fee it gets us down to about \$17,000. If a front footage fee is charged, the total cost is still up around \$28,000. The land area covered by those that would be charged the lower amount would be significantly higher. We need to find a way to say this more specifically in the report. We should also add that the septic and well is about \$16,000 so we are going to be fairly competitive with septic and well at \$17,000.

Darrell Schmalzel asked what the next steps were or if the group was looking for approval today. Eric DeLong indicated that the subcommittee wanted to provide an update today. They will continue working and bring back a final recommendation in September or once we know more where we are headed with the rate study.



Mr. DeLong then asked that members review the report more and let him know if they have additional questions or comments.

### **13. Updates**

Comprehensive Master Plan – Mike Lunn reported that this project has kicked off and work has begun. Asset Management meetings are taking place this week so it's moving along.

Indian Trails Camp – Wayne Jernberg reported that the preliminary utility plan has come through. We still need the signed USD maps and the agreement term sheets executed. Toby VanEss is following up on these.

Cascade/Ada USD Adjustments – George Haga said he didn't have an update, but had thought it would be on the agenda today for action. He will follow up with Ben Swayze on this.

Steelcase Sanitary Sewer – Tim Bradshaw reported that some additional flow monitoring was done to determine the split of payment. They have now agreed on final numbers. This payment will only impact Kentwood and Cascade, and they would like this board to approve the payment so they can keep this moving forward. He will be meeting with Molly Eastman following this meeting to discuss options for payment.

Eric DeLong asked if the UAB was ready to endorse the agreement.

**Motion 15-15:** Tim Bradshaw, supported by Darrell Schmalzel, moved that the UAB endorses the payment arrangements as negotiated between the parties and authorizes staff to move forward with the Steelcase Sanitary Sewer Payback Agreement. Motion carried

Caledonia Township - Chuck Schroeder reported Caledonia is not sending flow to us yet. The final piece is a pipeline under M-6 that needs completion. Their design consultant has informed him that they should start sending flow sometime in September. He has also been informed that they don't plan to do the phased-in approach but will send it all at once.

Combined Sewer Overflow Project – This was discussed earlier in the meeting. There was no additional discussion.

Permit – Mike Lunn reported that there is now a requirement for an Asset Management System in the permit. There are some things in MARB that we will need to tweak based on this. It looks like a pretty good draft permit so we'll be sending comments soon and begin to move it through the process. We can talk more about specific changes at the next UAB meeting.

Hydrant and ATT – Nicole Pasch indicated that information was sent to members upon completion of these items. There were no questions or discussion.

5-year Extension of Water/Sewer Agreements – Nancy Meyer indicated that we are just waiting for the work of the Rate Review Subcommittee to be completed. Grand Rapids Township will then consider taking action to extend the agreement. All other communities have agreed to the extension.

#### **14. Items from Members**

George Haga reported that Ada Township broke ground yesterday on the Envision Ada project. This will include new water and sewer in a large street project. He then distributed copies of the new logo for Ada Township.

Joellen Thompson reported that the Water System received the top Conservation Award from the Great Lakes and Saint Lawrence Cities Initiative. We are protecting the great lakes and we have plenty of capacity for new users. The way we approach conservation is working to eliminate any lost water or leaks that are non-billed water. In 2007, we signed on to a conservation pact to reduce usage within the time period through 2015 and this is the result. We actually reduced it two times more than we estimated—30% vs. 15%.

Tim Bradshaw noted that he is very interested in zonegating as we do the Comprehensive Master Plan (CMP) this time. Zonegating is to be updated every 5 years and we are a little behind so this needs to be done. Mike Lunn suggested that we complete the CMP before we take this on due to staff capacity. We could try to have this done for the 2016 rate study. Eric DeLong indicated, however, that we should scope out the work that will be needed on zonegating as part of the CMP.

Mike Lunn noted that they are still working with Founders on the new arrangement with them. Contracts are being worked out, and they continue to make progress.

#### **15. Next Meeting**

The next meeting of the UAB is scheduled for Thursday, August 20, and will be held at the 1900 Oak Industrial Drive building unless staff can arrange an alternate location. Members will be notified of any change in time or location for the meeting.

#### **16. Adjournment**

The meeting was then adjourned.

# UAB

## UTILITY ADVISORY BOARD

Partners: Ada Township/Cascade Charter Township/City of East Grand Rapids  
Grand Rapids Charter Township/City of Grand Rapids/City of Kentwood/  
Tallmadge Charter Township/City of Walker/Wright Township

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Date: August 14, 2015

To: Utility Advisory Board

From: Eric R. DeLong, Chair



RE: Joint Request for Utility Services District Adjustment in Ada and Cascade Townships

Ada and Cascade Townships have jointly requested an adjustment of Utility Service Districts (USD) under Section 21 of the Retail Water and Sewer Agreement for an 18.38 acre border area south of Hall Street.

The proposed adjustment is to facilitate sewer for a proposed assisted living complex that will be physically located in Cascade Township but served by Ada Township sewer facilities. The project, as proposed, does not create any additional utility practice issues. The proposed USD adjustment does not change total USD area and merely exchanges the 0.029 square mile parcel between partner USDs.

Since the parcel to be exchanged is currently part of a USD, the test contained in Section 21 of the Agreement is not applicable.

At this time, the UAB should consider confirming that the proposed adjustment of the Ada Township and Cascade Township sewer USD meets the requirements provided in the Retail Water/Sewer Agreement and should, therefore, be approved.

ERD/nlm  
Attachments



# CASCADE CHARTER TOWNSHIP

2865 Thornhills SE Grand Rapids, Michigan 49546-7140

August 10, 2015

Eric DeLong  
Deputy City Manager  
300 Monroe Ave. NW  
Grand Rapids, MI 49503

Dear Eric -

Cascade Charter and Ada Townships have been working together with a developer wishing to develop an Assisted Living Complex on land located in Cascade Township near the Ada Township border. Currently, Cascade Township has public water available to these parcels through our partnership in the Grand Rapids retail utility system, but no public sewer. After meeting with Ada Township, the two Townships and the developer have come to an agreement that the potential development could be serviced by Cascade Township water and Ada Township sewer. This is a similar arrangement to the Lake Michigan Credit Union (1210 Spaulding Avenue) and Jehovah Witness Hall (1250 Spaulding Avenue) developments.

Attached are maps from both Cascade Township and Ada Township illustrating the USD- Sewer change request. The request includes the properties located at 1210 Spaulding and 1250 Spaulding as neither Cascade nor Ada Township could find record that the USD - Sewer change request for those two properties was ever made official. I have also attached a GIS map measuring the proposed properties to be removed from the Cascade USD – Sewer and added to the Ada USD - Sewer which comes to approximately 18.38 acres (0.029 miles).

Thank you in advance for your consideration of our request, and please let me know if you need any further information.

Sincerely,

Benjamin Swayze, Manager  
Cascade Charter Township

George Haga, Supervisor  
Ada Township

Assessing  
949-6176

Building  
949-3765

Buildings & Grounds  
682-4836

Clerk  
949-1508

Fire  
949-1320

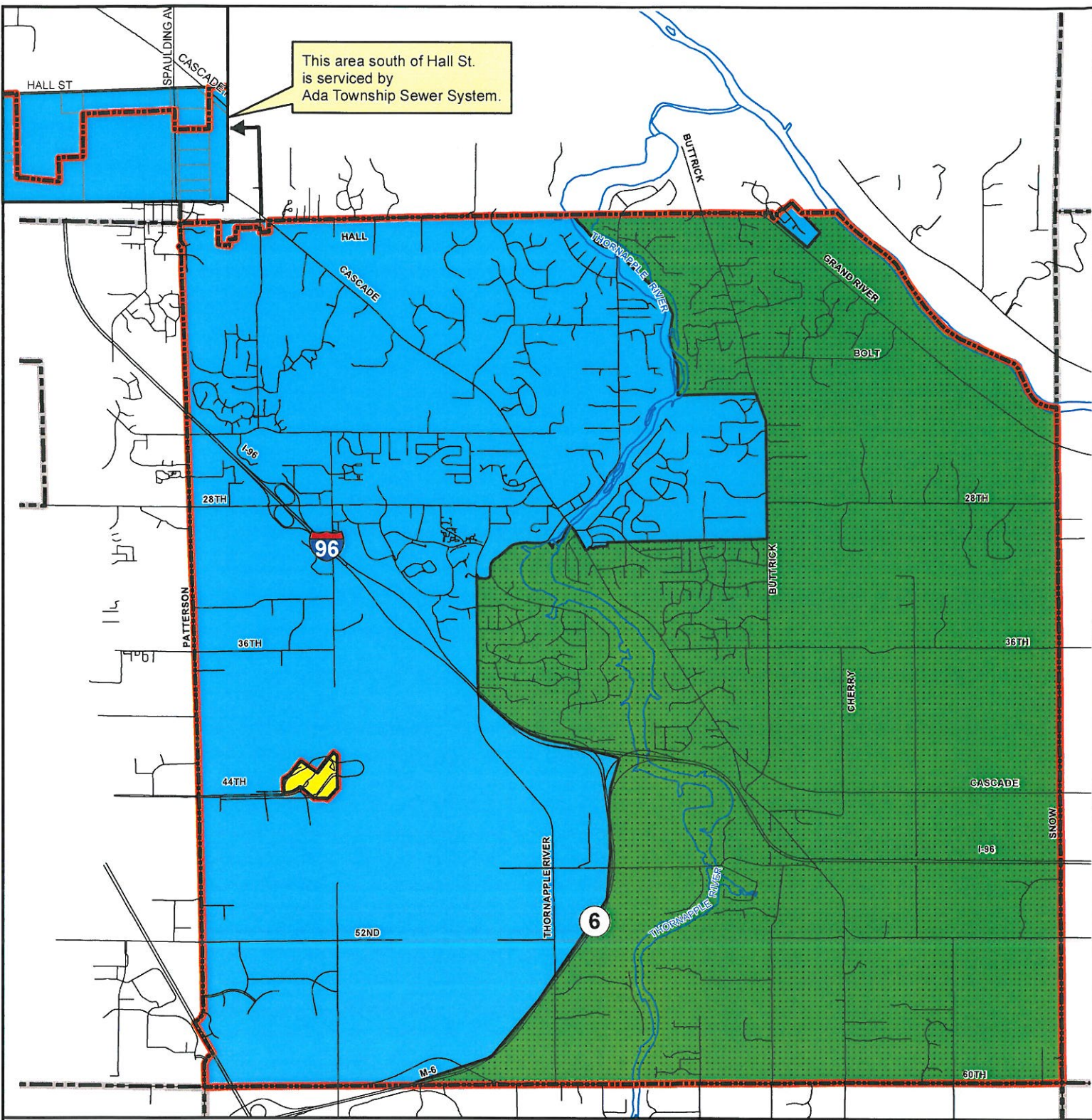
Manager  
949-1500

Planning  
949-0224

Treasurer  
949-6944

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PLOT INFO: N:\304058\GIS\MAP\_DOCUMENT\USD\_SEWER\_2015.MXD DATE: 07/28/2015 USER: MCL



This area south of Hall St. is serviced by Ada Township Sewer System.

## Sewer Service District Cascade Charter Township

Area of Utility Service District:  
16.19 square miles

- CITY OF GRAND RAPIDS
- UTILITY SERVICES DISTRICT
- URBAN UTILITY BOUNDARY

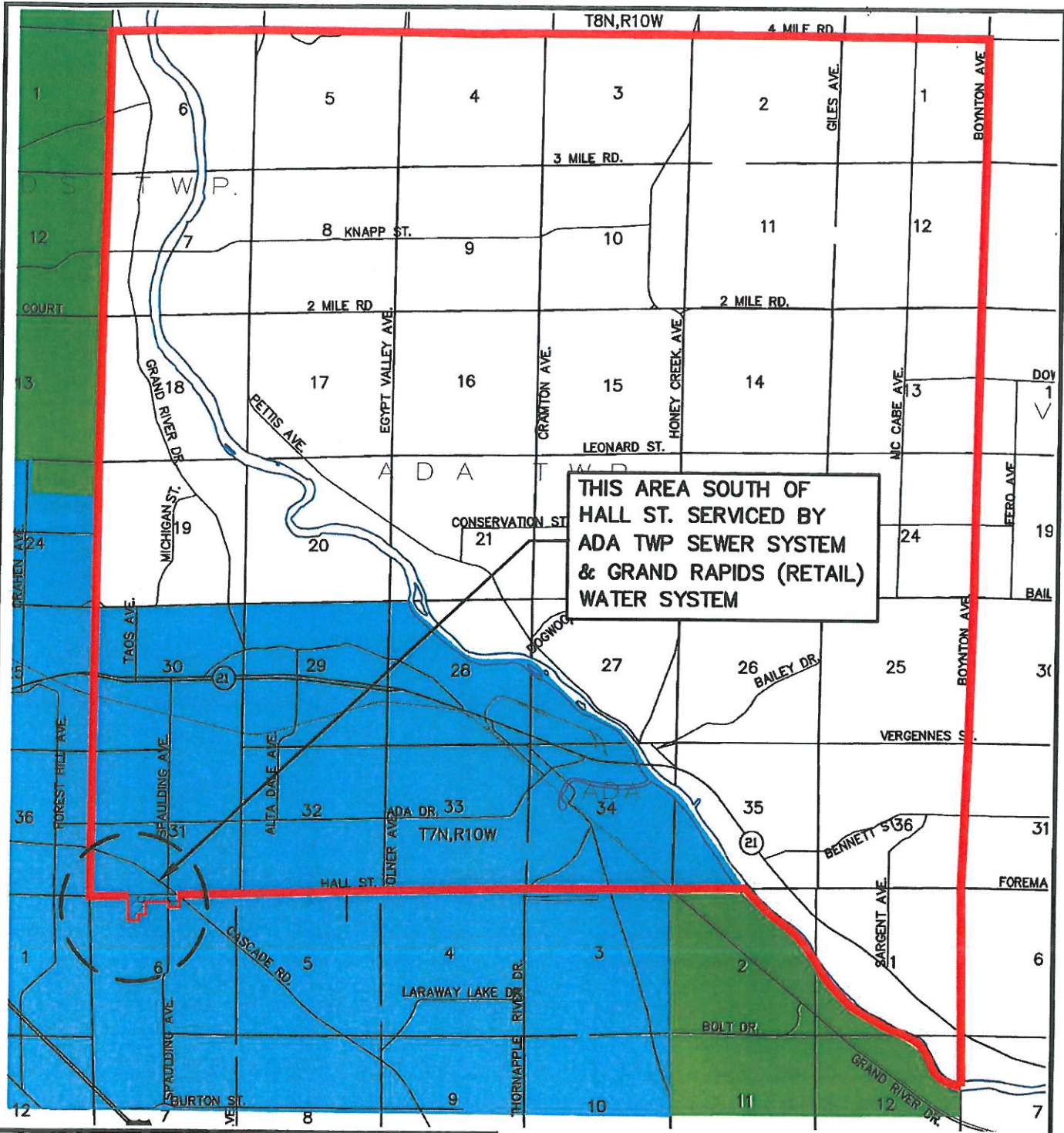
Approved By: Cascade Charter Township



Benjamin Swayze \_\_\_\_\_ Date \_\_\_\_\_

NOTE: DISTRICT TO BE 300 FT OFF CENTERLINE OF ROADS, SECTION LINE, OR OTHER LAND DIVISION LINES WHERE POSSIBLE WITHOUT ENTERING NEIGHBORING GOVERNMENT BOUNDARY.





# Sewer Service District Ada Township

UTILITY SERVICES DISTRICT  
 URBAN UTILITY BOUNDARY

NOTE: DISTRICT TO BE 300' OF ROADS, SECTION LINE, OR OTHER LAND DIVISION LINES WHERE POSSIBLE, WITHOUT ENTERING NEIGHBORING GOVERNMENT BOUNDARY.



**MOORE & BRUGGINK, INC.**  
 Consulting Engineers  
 2018 Victor Avenue S.E.  
 Grand Rapids, Michigan 49505-4218  
 Phone: (616) 342-0981

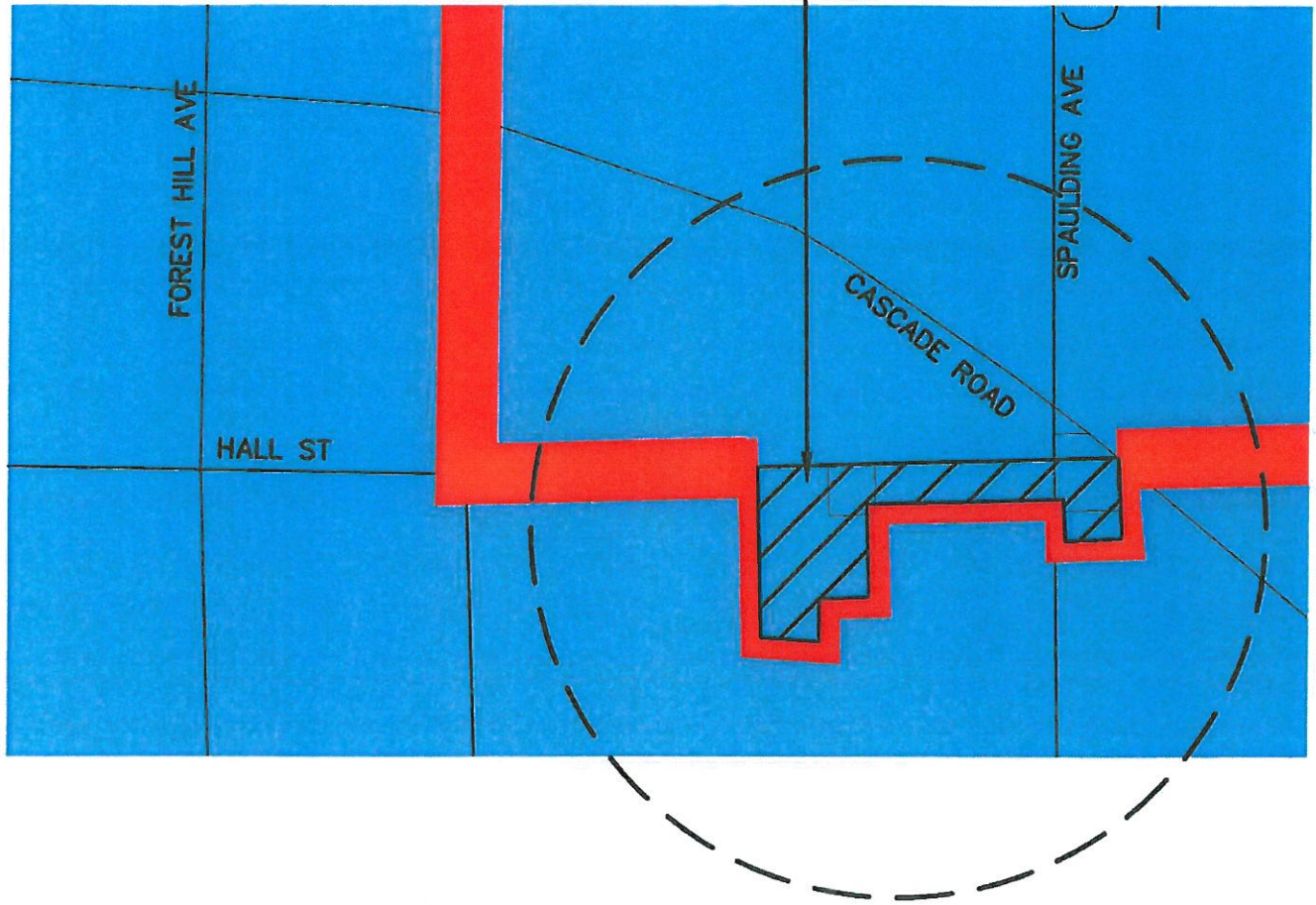
Area of Utility Service District:  
 7.17 square miles (Sewer)  
 7.15 square miles (Water)

APPROVED BY: ADA TOWNSHIP




George Haga, Supervisor

Date

THIS AREA IS FOR  
SANITARY SEWER ONLY



# Sewer Service District Ada Township

-  ADDITIONAL PROPOSED AREA FROM CASCADE TO ADA
-  CURRENT SERVICES DISTRICT
-  URBAN UTILITY BOUNDARY

Area of Utility Service District:  
7.17 square miles (Sewer)  
7.15 square miles (Water)

APPROVED BY: ADA TOWNSHIP

NOTE: DISTRICT TO BE 300' OFF  
½ OF ROADS, SECTION LINE, OR OTHER  
LAND DIVISION LINES WHERE POSSIBLE  
WITHOUT ENTERING NEIGHBORING  
GOVERNMENT BOUNDARY.

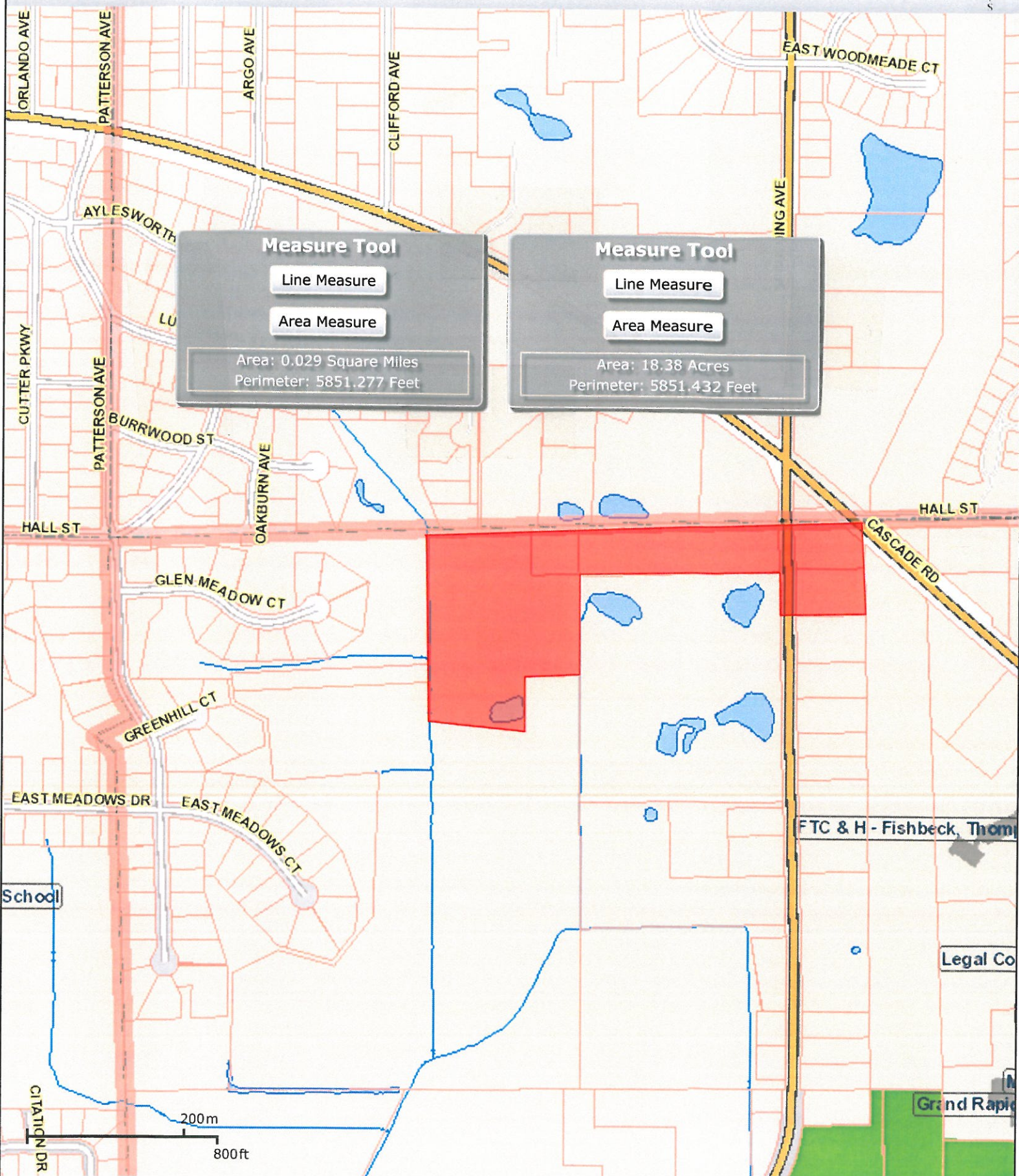


**MOORE & BRUGGINK, INC.**  
Civil Engineering  
2018 Moore Street, N.W.  
Cedar Rapids, IA 52405  
Phone: (515) 261-3631

George Haga, Supervisor

Date

# Ada/Cascade USD - Sewer



**Measure Tool**

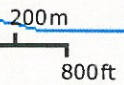
- Line Measure
- Area Measure

Area: 0.029 Square Miles  
Perimeter: 5851.277 Feet

**Measure Tool**

- Line Measure
- Area Measure

Area: 18.38 Acres  
Perimeter: 5851.432 Feet



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Printed 8/11/2015 11:15:42 AM



# MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 13, 2015  
TO: UAB Members  
FROM: Mike Lunn, ESD Manager

**SUBJECT: Draft NPDES Permit 2015**

On July 7, 2015 a copy of revised draft NPDES Permit was received. The most significant changes are the Wet Weather Correction Program- Project Performance Certification on page 10 and the addition of Asset Management on page 13.

The draft permit states “The permittee has completed all combined sewer separation projects in conjunction with its Long-term CSO Control Program.”. The language is now related to the December 27, 2002 DEQ Sanitary Sewer Overflow (SSO) Policy, 2003 SSO Clarification Statement, and other applicable State and Federal requirements (collectively termed, SSO requirements). It requires demonstrating that the entire system (all pipes) transport and total system storage and secondary treatment capacity of the Grand Rapids collection system and Wastewater Treatment Plant (WWTP) can adequately handle wet weather flows generated as the result of the DEQ defined remedial design standard (RDS), equivalent to a 25-year, 24-hour storm (3.9” in 24 hours) event using growth conditions (April 1 – November 1) normal soil moisture, and acceptable rainfall distribution (SCS Type II, Bratter-Sherrill, or equivalent).

There have been about 100 active sewer flow monitors in the system for the last two years. Over the last nine (9) months, a sewer model has been developed and calibrated for wet weather. The evaluation report and certification is due to the Michigan Department of Environmental Quality on or before October 1, 2017. If the evaluation demonstrates the system cannot be certified to the required level, a schedule for undertaking, in a timely manner, the corrective action necessary to bring the system into compliance with the SSO Policy.

Asset Management Program Requirements are consistent with those found in many of the recently issued permits. On or before April 1, 2016, an Asset Management Plan must be submitted to the MDEQ. There are requirements for implementation and annual reporting related to Asset Management activities.

It must also be noted on page 11 - Untreated or Partially Treated Sewage Discharge Reporting and Testing Requirements includes the following statement at the end of the section “Permittees accepting sanitary or municipal sewage from other sewage collection systems are encouraged to notify the owners of those systems of the above reporting and testing requirements.”.

There were some minor changes requested to the draft permit which included;

Page 3 – Final Effluent Limits - Minimum pH Daily Limit increased from 6.0 to 6.5.  
This is the first version which this requirement has changed. The City prefers the 6.0 which has been in all permits.

Section A.1.b – The North and South plant flows do not combine until after disinfection so a representative sample cannot be obtained prior to disinfection.

Section A.2 – The 400 for fecal coliform is in the Daily Column instead of the weekly column.

Section A.2.a - Effluent sampling shall be by flow proportioned samples collected every two (2) hours for the first eight (8) hours of discharge and every four (4) hours thereafter for the duration of the discharge. The average of all discrete sample results shall be calculated for each calendar day of discharge. We are configured to perform flow portioned samples, yet the text reads discrete.

Section A.2.b – Please add the following;

“When the Grand River is at or above an elevation of 601.00 feet based on USGS Gage 9-1377-1609, the permittee may maintain one (1) foot of water in the retention treatment basin for each foot the Grand River is above 601.00 feet in order to protect the structural integrity of the basin (e.g., at a USGS gage reading of 603.00 feet, two feet of water is allowable).”

Section A.9.a.4.b – The rates must also be sufficient to provide bond coverage, our attorney has suggested this change. The concern is that all improvements must be cash and not bonds. We use bonds so that the users using the improvement pay for it.

“The ultimate goal of the Asset Management Program is to ensure sufficient revenues including proceeds from capital debt to cover OM&R expenses.”

PERMIT NO. MI0026069

**STATE OF MICHIGAN**  
**DEPARTMENT OF ENVIRONMENTAL QUALITY**



**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*, as amended; the "Federal Act"); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2011-1,

**City of Grand Rapids**  
300 Monroe Avenue NW  
Grand Rapids, Michigan 49503

is authorized to discharge from the **Grand Rapids Wastewater Treatment Plant** located at

1300 Market Avenue, SW  
Grand Rapids, Michigan 49503

designated as **Grand Rapids WWTP**

to the receiving water named the Grand River, in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit is based on a complete application submitted on March 24, 2010.

**This permit takes effect on October 1, 2015.** The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0026069, expiring October 1, 2010.

This permit and the authorization to discharge shall expire at midnight, **October 1, 2020**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information, forms, and fees as are required by the Department of Environmental Quality (Department) by **April 4, 2019**.

Issued \_\_\_\_\_

DRAFT – July 7, 2015

Philip Argiroff, Chief  
Permits Section  
Water Resources Division

## PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the NREPA, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by January 15 for notices mailed by December 1. The fee is due no later than 45 days after receiving the notice for notices mailed after December 1.

**Annual Permit Fee Classification:** Municipal Major, 50 MGD to less than 500 MGD (IP)

In accordance with Section 324.3132 of the NREPA, the permittee shall make payment of an annual biosolids land application fee to the Department if the permittee land applies biosolids. In response to the Department's annual notice, the permittee shall submit the fee, which shall be postmarked no later than January 31 of each year.

## CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Grand Rapids District Supervisor of the Water Resources Division. The Grand Rapids District Office is located at the State Office Building, Fifth Floor, 350 Ottawa N.W., Unit 10, Grand Rapids, Michigan 49503-2341, Telephone: 616-356-0500, Fax: 616-356-0202.

## CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 001A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge treated municipal wastewater from Monitoring Point 001A through Outfall 001. Outfall 001 discharges to the Grand River. Such discharge shall be limited and monitored by the permittee as specified below.

Parameter	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Monitoring Frequency	Sample Type
	Monthly	7-Day	Daily	Units	Monthly	7-Day	Daily	Units		
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> )										
June 1 – Sept. 30	8,200	9,700	---	lbs/day	16	---	21	mg/l	Daily	24-Hr Composite
Oct. 1 – May 31	12,000	19,000	---	lbs/day	23	38	---	mg/l	Daily	24-Hr Composite
Total Suspended Solids										
	15,000	22,000	---	lbs/day	29	44	---	mg/l	Daily	24-Hr Composite
Ammonia Nitrogen (as N)										
June 1 - Sept. 30	---	4,600	---	lbs/day	---	---	8.5	mg/l	Daily	24-Hr Composite
Oct. 1 – May 31	---	9,200	---	lbs/day	---	---	18	mg/l	Daily	24-Hr Composite
Total Phosphorus (as P)										
	510	---	---	lbs/day	1.0	---	---	mg/l	Daily	24-Hr Composite
Fecal Coliform Bacteria	---	---	---	---	200	400	---	ct/100 ml	Daily	Grab
Acute Toxicity										
fathead minnow	---	---	---	---	---	---	1.0	TU <sub>A</sub>	Annual	24-Hr Composite
<i>Ceriodaphnia dubia</i>	---	---	---	---	---	---	1.0	TU <sub>A</sub>	Quarterly	24-Hr Composite
Chronic Toxicity										
fathead minnow	---	---	---	---	3.2	---	---	TU <sub>C</sub>	Annual	24-Hr Composite
<i>Ceriodaphnia dubia</i>	---	---	---	---	3.2	---	---	TU <sub>C</sub>	Quarterly	24-Hr Composite
Total Mercury										
– Corrected	(report)	---	---	lbs/day	(report)	---	---	ng/l	Quarterly	Calculation
– Uncorrected	(report)	---	---	lbs/day	(report)	---	---	ng/l	Quarterly	Grab
– Field Duplicate	---	---	---	---	(report)	---	---	ng/l	Quarterly	Grab
– Field Blank	---	---	---	---	(report)	---	---	ng/l	Quarterly	Preparation
– Laboratory Method Blank	---	---	---	---	(report)	---	---	ng/l	Quarterly	Preparation
Total Mercury										
	<u>12-Month Rolling Average</u>	---	---	lbs/day	<u>12-Month Rolling Average</u>	---	---	ng/l	Quarterly	Calculation
	0.002	---	---		3.0	---	---			
pH										
	---	---	---	---	<u>Minimum Daily</u>	---	<u>Maximum Daily</u>	S.U.	Daily	Grab
					6.5		9.0			
Dissolved Oxygen										
	---	---	---	---	5.0	---	---	mg/l	Daily	Grab

## PART I

### Section A. Limitations and Monitoring Requirements

The following design flow was used in determining the above limitations, but is not to be considered a limitation or actual capacity: 61.1 MGD

- a. **Narrative Standard**  
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.
- b. **Sampling Locations**  
Samples for CBOD<sub>5</sub>, Total Suspended Solids, Ammonia Nitrogen and Total Phosphorus shall be taken prior to disinfection. Samples for Dissolved Oxygen, Fecal Coliform Bacteria, and pH shall be taken after disinfection. The Department may approve alternate sampling locations which are demonstrated by the permittee to be representative of the effluent.
- c. **Quarterly Monitoring**  
Quarterly samples shall be taken during the months of January, April, July, and October. If the facility does not discharge during these months, the permittee shall sample the next discharge occurring during that quarter. If the facility does not discharge during a quarter, a sample is not required for that quarter. For any month in which a sample is not taken, the permittee shall enter “\*G” on the Discharge Monitoring Report.
- d. **Ultraviolet Disinfection**  
It is understood that ultraviolet light will be used to achieve compliance with the fecal coliform limitations. If disinfection other than ultraviolet light will be used, the permittee shall notify the Department in accordance with Part II.C.12. - Changes in Facility Operations.
- e. **Final Effluent Limitation for Total Mercury**  
The final limit for total mercury is the Discharge Specific Level Currently Achievable (LCA) based on a multiple discharger variance from the water quality-based effluent limit of 1.3 ng/l, pursuant to Rule 323.1103(9) of the Water Quality Standards. Compliance with the LCA shall be determined as a 12-month rolling average, the calculation of which may be done using blank-corrected sample results. The 12-month rolling average shall be determined by adding the present monthly average result to the preceding 11 monthly average results then dividing the sum by 12. For facilities with quarterly monitoring requirements for total mercury, quarterly monitoring shall be equivalent to 3 months of monitoring in calculating the 12-month rolling average. Facilities that monitor more frequently than monthly for total mercury must determine the monthly average result, which is the sum of the results of all data obtained in a given month divided by the total number of samples taken, in order to calculate the 12-month rolling average. If the 12-month rolling average for any quarter is less than or equal to the LCA, the permittee will be considered to be in compliance for total mercury for that quarter, provided the permittee is also in full compliance with the Pollutant Minimization Program for Total Mercury, set forth in Part I.A.4.
- f. **Total Mercury Testing and Additional Reporting Requirements**  
The analytical protocol for total mercury shall be in accordance with EPA Method 1631, Revision E, “Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry,” EPA-821-R-02-019, August 2002. The quantification level for total mercury shall be 0.5 ng/l, unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Department within 30 days of such determination.

The use of clean technique sampling procedures is required unless the permittee can demonstrate to the Department that an alternative sampling procedure is representative of the discharge. Guidance for clean technique sampling is contained in EPA Method 1669, “Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels,” EPA-821-R96-001, July 1996. Information and data documenting the permittee's sampling and analytical protocols and data acceptability shall be submitted to the Department upon request.

## PART I

### Section A. Limitations and Monitoring Requirements

In order to demonstrate compliance with EPA Method 1631E and EPA Method 1669, the permittee shall report, on the daily sheet, the analytical results of all field blanks and field duplicates collected in conjunction with each sampling event, as well as laboratory method blanks when used for blank correction. The permittee shall collect at least one (1) field blank and at least one (1) field duplicate per sampling event. If more than ten (10) samples are collected during a sampling event, the permittee shall collect at least one (1) additional field blank AND field duplicate for every ten (10) samples collected. Only field blanks or laboratory method blanks may be used to calculate a concentration lower than the actual sample analytical results (i.e. a blank correction). Only one (1) blank (field OR laboratory method) may be used for blank correction of a given sample result, and only if the blank meets the quality control acceptance criteria. If blank correction is not performed on a given sample analytical result, the permittee shall report under 'Total Mercury – Corrected' the same value reported under 'Total Mercury – Uncorrected.' The field duplicate is for quality control purposes only; its analytical result shall not be averaged with the sample result.

g. Whole Effluent Toxicity Final Requirements

Test species shall include fathead minnow **and** *Ceriodaphnia dubia*. Testing and reporting procedures shall follow procedures contained in EPA/600/4-91/002, "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Fourth Edition)." When the effluent ammonia nitrogen (as N) concentration is greater than 3 mg/l, the pH of the toxicity test shall be maintained at a pH of 8 Standard Units. The acute toxic unit value (TU<sub>A</sub>) and chronic toxic unit value (TU<sub>C</sub>) for **each species tested** shall be reported on the Discharge Monitoring Report (DMR). If multiple chronic toxicity tests for the same species are performed during the month, the maximum TU<sub>A</sub> value and monthly average TU<sub>C</sub> value for the species shall be reported. For **each species not tested**, the permittee shall enter "**\*W**" on the DMR. Completed toxicity test reports for each test conducted shall be retained by the permittee in accordance with the requirements of Part II.B.5. of this permit and shall be available for review by the department upon request.

After twenty-four (24) months of toxicity testing and upon approval from the Department, the monitoring frequency may be reduced if the test data indicate that the toxicity requirements of Rule 323.1219 of the Michigan Administrative Code are consistently being met. After one (1) year of toxicity testing and upon approval from the Department, the chronic toxicity tests may be performed using the more sensitive species identified in the chronic toxicity database. If a more sensitive species cannot be identified, the chronic toxicity tests shall be performed with both species. Toxicity test data acceptability is contingent upon validation of the test method by the testing laboratory. Such validation shall be submitted to the Department upon request.

1) When monitoring shows persistent exceedance of the 3.2 TU<sub>C</sub> limit or the 1.0 TU<sub>A</sub> limit for effluent toxicity, the Department will determine whether the permittee must implement the toxicity control program requirements specified in 2) below.

2) Upon written notification by the Department, the following conditions apply. Within 90 days of the notification, the permittee shall implement a Toxicity Reduction Evaluation (TRE). The objective of the TRE shall be to reduce the toxicity of the final effluent from monitoring point 001A to  $\leq 3.2$  TU<sub>C</sub> and  $\leq 1.0$  TU<sub>A</sub>. The following documents are available as guidance to reduce toxicity to acceptable levels: Phase I, EPA/600/6-91/005F (chronic), EPA/600/6-91/003 (acute); Phase II, EPA/600/R-92/080 (acute and chronic); Phase III, EPA/600/R-92/081 (acute and chronic); and Publicly Owned Treatment Works (POTWs), EPA/833B-99/002. Annual reports shall be submitted to the Department within 30 days of the completion of the last test of each annual cycle.

**PART I**

**Section A. Limitations and Monitoring Requirements**

**2. Retention Treatment Basin Discharge Authorization, Monitoring Point 003A**

During the period beginning on the effective date of this permit and lasting until the wet weather correction program (Part I.A.5.) is positively certified, the permittee is authorized to discharge treated combined sewage from the retention basin(s) from Monitoring Point 003A through Outfall 003 when the basin is full and flows exceed the maximum Wastewater Treatment Plant capacity of 78 MGD. Outfall 003 discharges to the Grand River. Such discharge shall be limited and monitored by the permittee as specified below:

<u>Influent Characteristics</u>	<u>Maximum Limits for Quantity or Loading</u>				<u>Maximum Limits for Quality or Concentration</u>				<u>Monitoring Sample</u>	
	<u>Monthly</u>	<u>7-Day</u>	<u>Daily</u>	<u>Units</u>	<u>Monthly</u>	<u>7-Day</u>	<u>Daily</u>	<u>Units</u>	<u>Frequency</u>	<u>Type</u>
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
<b>Effluent Characteristics</b>										
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Biochemical Oxygen Demand (BOD <sub>5</sub> )	---	---	---	---	(report)	---	(report)	mg/l	Daily	Flow Proportioned
Total Suspended Solids	---	---	---	---	(report)	---	(report)	mg/l	Daily	Flow Proportioned
Ammonia Nitrogen (as N)	---	---	---	---	(report)	---	(report)	mg/l	Daily	Flow Proportioned
Total Phosphorus (as P)	---	---	---	---	(report)	---	(report)	mg/l	Daily	Flow Proportioned
Fecal Coliform Bacteria	---	---	---	---	200	---	400	cts/100 ml	Daily	Grab
Total Residual Chlorine	---	---	---	---	---	---	(report)	mg/l	Daily	Grab

a. Retention Basin Monitoring and Reporting

The permittee shall monitor retention basin performance and report the monitoring consistent with the requirements of Part II.C.2. of this permit. The permittee shall supply the results of each sample taken during each discharge period. Influent reporting is required only when the basin has discharged.

**Influent flow** shall be reported for all wet weather events where combined sewage is discharged into the facility. Influent flow reporting shall also indicate the component of the total influent flow that is dewatered to the interceptor from the facility during an event and shall be reported in the comment section of the monthly Discharge Monitoring Reports (DMR). Alternate procedures may be approved by the Department.

**Effluent flow** shall be reported for all events that cause discharge from the facility to the receiving waters.

**Effluent sampling** shall be by flow proportioned samples collected every two (2) hours for the first eight (8) hours of discharge and every four (4) hours thereafter for the duration of the discharge. The average of all discrete sample results shall be calculated for each calendar day of discharge. The highest daily average for the calendar month shall be reported as the maximum daily concentration. The average of the daily averages shall be reported as the monthly concentration.



## PART I

### Section A. Limitations and Monitoring Requirements

For Fecal Coliform Bacteria, the “daily maximum” shall be the geometric mean of all samples on any discharge day, provided that three (3) or more samples are collected. The Fecal Coliform Bacteria “monthly average” shall be the geometric mean of all samples collected during the month, provided that five (5) or more samples are collected. The goal of the effluent sampling program is to collect at least three samples during each discharge event, and samples shall be collected at shorter intervals at the onset of the event, if the permittee estimates that the event duration may be less than six hours.

For purposes of reporting on a discharge event which lasts less than 24 hours, but occurs during two calendar days, the pollutant loadings and concentrations for the event shall be reported as daily values on the day when the majority of the discharge occurred.

- b. **Retention Treatment Basin Dewatering**  
The retention treatment basin shall be promptly dewatered as soon as possible following the need to divert flow to the basin and shall be maintained in readiness for use. The discharge of sludge or residual accumulations from the basin to the surface waters is prohibited. These sludges shall be promptly removed and disposed in accordance with procedures approved by the Department.
- c. **Narrative Standard**  
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.
- d. **Total Residual Chlorine**  
The permittee shall minimize the discharge of Total Residual Chlorine, with the goal of achieving a daily average of 1 mg/l.
- e. **Discharge Notification**  
In the event of a retention treatment basin discharge, the permittee shall, in accordance with notification procedures approved by the Department, notify the Department, the local health departments, a daily newspaper of general circulation in the county in which the permittee is located, and a daily newspaper of general circulation in the county or counties in which the municipalities whose waters may be affected by the discharge are located. Notification that the discharge is occurring shall be made promptly after the discharge begins. After the conclusion of the discharge, the permittee shall provide written notification to the above parties of the following:
  - 1) the amount of discharge as measured in accordance with the procedures approved by the Department,
  - 2) the reason for the discharge,
  - 3) the time the discharge began and ended as measured in accordance with the procedures approved by the Department, and
  - 4) verification that the permittee is in compliance with the retention treatment basin requirements of this permit. If such verification cannot be made, an explanation shall be provided detailing the reasons why the permittee is not in compliance with the combined sewer overflow requirements of this permit.

The permittee shall also annually contact municipalities whose waters may be affected by the permittee's discharge of combined sewage, and if those municipalities wish to be notified in the same manner as specified above, the permittee shall provide such notification. Such notification shall also include a daily newspaper in the county of the affected municipality.

**PART I****Section A. Limitations and Monitoring Requirements**

- f. **Operation and Maintenance Plan**  
The permittee shall assure that discharges only occur in response to rainfall (or snowmelt) events and cease soon thereafter. Any rehabilitation and maintenance needs shall be addressed to ensure adequate sewer capacity and functionality. This may be accomplished through continued implementation of the approved Operation and Maintenance Plan.
- g. **Testing for Escherichia coli**  
Each time a combined sewer overflow discharge occurs, the permittee shall test the affected waters for Escherichia coli to assess the risk to the public health as a result of the discharge and shall provide the test results to the affected local county health departments and to the Department. The testing shall be done at locations specified by each affected local county health department but shall not exceed 10 tests for each separate discharge event. The affected local county health department may waive this testing requirement if it determines that such testing is not needed to assess the risk to the public health as a result of the discharge event.
- h. **Disconnection of Eaves Troughs and Roof Downspouts**  
Direct connections of eaves troughs and roof downspouts to the sewer system throughout the service area tributary to the combined sewer overflow outfalls are prohibited. This requirement does not apply if the permittee has demonstrated that the disconnection of eaves troughs and roof downspouts is not a cost-effective means of reducing the frequency or duration of overflows or of maintaining compliance with this permit. Such a demonstration and supporting documentation shall be submitted to the Department for approval.
- i. **New Wastewater Flows**  
Increased levels of discharge of sanitary sewage from the retention treatment basin are prohibited unless:
- 1) these increased discharges are the result of new sanitary wastewater flows which, on the basis of sound professional judgment, are within design peak dry weather transportation capacity; or
  - 2) the permittee has officially adopted and is timely implementing a definite program, satisfactory to the Department, leading to the construction and operation of necessary collection, transportation or treatment devices.

## PART I

## Section A. Limitations and Monitoring Requirements

## 3. Additional Monitoring Requirements

As a condition of this permit, the permittee shall monitor the discharge from Monitoring Point 001A for the constituents identified below. This monitoring is an application requirement of 40 CFR 122.21(j), effective December 2, 1999. Testing shall be conducted in October 2016, May 2017, March 2018, and August 2019. Grab samples shall be collected for total mercury, available cyanide, total phenols, and the Volatile Organic Compounds identified below. For all other parameters, 24-hour composite samples shall be collected.

The results of such additional monitoring shall be submitted with the application for reissuance (see the cover page of this permit for the application due date). The permittee shall notify the Department within 14 days of completing the monitoring for each month specified above in accordance with Part II.C.5. Additional reporting requirements are specified in Part II.C.11. The permittee shall report to the Department any whole effluent toxicity test results greater than 1.0 TU<sub>A</sub> or 1.0 TU<sub>C</sub> within five (5) days of becoming aware of the result. If, upon review of the analysis, it is determined that additional requirements are needed to protect the receiving waters in accordance with applicable water quality standards, the permit may then be modified by the Department in accordance with applicable laws and rules.

Hardness

calcium carbonate

Metals (Total Recoverable), Cyanide and Total Phenols (Quantification levels in parentheses)

antimony (1 µg/l)	arsenic (1 µg/l)	available cyanide (2 µg/l) using Method OIA – 1677	
barium (5 µg/l)	beryllium (1 µg/l)	boron (20 µg/l)	cadmium (0.2 µg/l)
chromium (10 µg/l)	copper (1 µg/l)	lead (1 µg/l)	nickel (5 µg/l)
selenium (1 µg/l)	silver (0.5 µg/l)	thallium (1 µg/l)	zinc (10 µg/l)
total phenolic compounds			

Volatile Organic Compounds

acrolein	acrylonitrile	benzene	bromoform
carbon tetrachloride	chlorobenzene	chlorodibromomethane	chloroethane
2-chloroethylvinyl ether	chloroform	dichlorobromomethane	1,1-dichloroethane
1,2-dichloroethane	trans-1,2-dichloroethylene	1,1-dichloroethylene	1,2-dichloropropane
1,3-dichloropropylene	ethylbenzene	methyl bromide	methyl chloride
methylene chloride	1,1,2,2,-tetrachloroethane	tetrachloroethylene	toluene
1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	vinyl chloride

Acid-Extractable Compounds

p-chloro-m-cresol	2-chlorophenol	2,4-dichlorophenol	2,4-dimethylphenol
4,6-dinitro-o-cresol	2,4-dinitrophenol	2-nitrophenol	4-nitrophenol
Pentachlorophenol	phenol	2,4,6-trichlorophenol	

Base/Neutral Compounds

acenaphthene	acenaphthylene	anthracene	benzidine
benzo(a)anthracene	benzo(a)pyrene	3,4-benzofluoranthene	benzo(ghi)perylene
benzo(k)fluoranthene	bis(2-chloroethoxy)methane	bis(2-chloroethyl)ether	bis(2-chloroisopropyl)ether
bis(2-ethylhexyl)phthalate	4-bromophenyl phenyl ether	butyl benzyl phthalate	2-chloronaphthalene
4-chlorophenyl phenyl ether	chrysene	di-n-butyl phthalate	di-n-octyl phthalate
dibenzo(a,h)anthracene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene
3,3'-dichlorobenzidine	diethyl phthalate	dimethyl phthalate	2,4-dinitrotoluene
2,6-dinitrotoluene	1,2-diphenylhydrazine	fluoranthene	fluorene
Hexachlorobenzene	hexachlorobutadiene	hexachlorocyclo-pentadiene	hexachloroethane
indeno(1,2,3-cd)pyrene	isophorone	naphthalene	nitrobenzene
n-nitrosodi-n-propylamine	n-nitrosodimethylamine	n-nitrosodiphenylamine	phenanthrene
pyrene	1,2,4-trichlorobenzene		

## PART I

### Section A. Limitations and Monitoring Requirements

#### 4. Pollutant Minimization Program for Total Mercury

The goal of the Pollutant Minimization Program is to maintain the effluent concentration of total mercury at or below 1.3 ng/l. The permittee shall continue to implement the Pollutant Minimization Program approved on February 1, 1998, and modifications thereto, to proceed toward the goal. The Pollutant Minimization Program includes the following:

- a. an annual review and semi-annual monitoring of potential sources of mercury entering the wastewater collection system;
- b. a program for quarterly monitoring of influent and periodic monitoring of sludge for mercury; and
- c. implementation of reasonable cost-effective control measures when sources of mercury are discovered. Factors to be considered include significance of sources, economic considerations, and technical and treatability considerations.

On or before March 31 of each year, the permittee shall submit a status report for the previous calendar year to the Department that includes 1) the monitoring results for the previous year, 2) an updated list of potential mercury sources, and 3) a summary of all actions taken to reduce or eliminate identified sources of mercury.

Any information generated as a result of the Pollutant Minimization Program set forth in this permit may be used to support a request to modify the approved program or to demonstrate that the Pollutant Minimization Program requirement has been completed satisfactorily.

A request for modification of the approved program and supporting documentation shall be submitted in writing to the Department for review and approval. The Department may approve modifications to the approved program (approval of a program modification does not require a permit modification), including a reduction in the frequency of the requirements under items a. and b.

This permit may be modified in accordance with applicable laws and rules to include additional mercury conditions and/or limitations as necessary.

#### 5. Wet Weather Correction Program- Project Performance Certification

The permittee has completed all combined sewer separation projects in conjunction with its Long-term CSO Control Program. The permittee shall perform a Wet Weather Correction Program Project Performance Certification (PPC) with the goal of certifying that the entire system meets the December 27, 2002 DEQ Sanitary Sewer Overflow (SSO) Policy, 2003 SSO Clarification Statement, and other applicable State and Federal requirements (collectively termed, SSO requirements). This includes demonstrating that the transport and total system storage and secondary treatment capacity of the Grand Rapids collection system and Wastewater Treatment Plant (WWTP) can adequately handle wet weather flows generated as the result of the DEQ defined remedial design standard (RDS), equivalent to a 25-year, 24-hour storm (3.9" in 24 hours) event using growth conditions (April 1 – November 1) normal soil moisture, and acceptable rainfall distribution (SCS Type II, Bratter-Sherrill, or equivalent). Among the requirements, there shall be no discharge from Outfall 003 resulting from this event.

- a. On or before April 1, 2016, the permittee shall submit an approvable PPC work plan which details the schedule and activities associated (including but not limited to flow monitoring, modeling, and evaluation of WWTP compliance) with conducting an evaluation aimed at determining whether the collection, storage and treatment systems meet applicable SSO requirements.
- b. On or before June 1, 2016, the permittee shall commence the data collection period of the PPC Program in accordance with the approved work plan.

## PART I

### Section A. Limitations and Monitoring Requirements

- c. On or before July 1, 2017, the permittee shall complete the data collection tasks associated with PPC Program
- d. On or before October 1, 2017, the permittee shall submit to the Department an approvable PPC Letter and Evaluation Report which present the findings of the Final PPC for the overall Wet Weather Correction Program, conducted in accordance with the approved PPC work plan.
- e. If the permittee is unable to certify that system can transport, store and treat wet weather flows generated by the RDS, on or before December 1, 2017, the permittee shall submit to the Department, for approval, a Corrective Action Program (CAP) Work Plan Report that contains the following information:
  - 1) An analysis of the cause of the system's inability to meet the applicable SSO requirements. The report should include estimates of the nature, scope, and cost of the CAP necessary to bring the project into compliance (this report shall be consistent with the evaluation report, and the proposed corrective actions must be appropriate for the design life of the project); and,
  - 2) A schedule for undertaking in a timely manner the corrective action necessary to bring the system into compliance including a date for certifying that the project is capable of meeting applicable SSO requirements.

### 6. Untreated or Partially Treated Sewage Discharge Reporting and Testing Requirements

In accordance with Section 324.3112a of the NREPA, if untreated sewage, including sanitary sewer overflows (SSO) and combined sewer overflows (CSO), or partially treated sewage is directly or indirectly discharged from a sewer system onto land or into the waters of the state, the entity responsible for the sewer system shall immediately, but not more than 24 hours after the discharge begins, notify, by telephone, the Department, local health departments, a daily newspaper of general circulation in the county in which the permittee is located, and a daily newspaper of general circulation in the county or counties in which the municipalities whose waters may be affected by the discharge are located that the discharge is occurring.

The permittee shall also annually contact municipalities, including the superintendent of a public drinking water supply with potentially affected intakes, whose waters may be affected by the permittee's discharge of combined sewage, and if those municipalities wish to be notified in the same manner as specified above, the permittee shall provide such notification. Such notification shall also include a daily newspaper in the county of the affected municipality.

At the conclusion of the discharge, written notification shall be submitted in accordance with and on the "Report of Discharge Form" available via the internet at: <http://www.deq.state.mi.us/csosso/>, or, alternatively for combined sewer overflow discharges, in accordance with notification procedures approved by the Department.

In addition, in accordance with Section 324.3112a of the NREPA, each time a discharge of untreated sewage or partially treated sewage occurs, the permittee shall test the affected waters for *Escherichia coli* to assess the risk to the public health as a result of the discharge and shall provide the test results to the affected local county health departments and to the Department. The testing shall be done at locations specified by each affected local county health department but shall not exceed 10 tests for each separate discharge event. The affected local county health department may waive this testing requirement, if it determines that such testing is not needed to assess the risk to the public health as a result of the discharge event. The results of this testing shall be submitted with the written notification required above, or, if the results are not yet available, submit them as soon as they become available. This testing is not required, if the testing has been waived by the local health department, or if the discharge(s) did not affect surface waters.

Permittees accepting sanitary or municipal sewage from other sewage collection systems are encouraged to notify the owners of those systems of the above reporting and testing requirements.

## PART I

### Section A. Limitations and Monitoring Requirements

#### 7. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

- a. The facility contact shall be (or a duly authorized representative of this person):
  - for a corporation, a principal executive officer of at least the level of vice president; or a designated representative if the representative is responsible for the overall operation of the facility from which the discharge originates, as described in the permit application or other NPDES form,
  - for a partnership, a general partner,
  - for a sole proprietorship, the proprietor, or
  - for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.
- b. A person is a duly authorized representative only if:
  - the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
  - the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

#### 8. Monthly Operating Reports

Part 41 of Act 451 of 1994 as amended, specifically Section 324.4106 and associated R 299.2953, requires that the permittee file with the Department, on forms prescribed by the Department, reports showing the effectiveness of the treatment facility operation and the quantity and quality of liquid wastes discharged into waters of the state.

Since this permit includes modifications to the monitoring requirements in the previously-issued permit, the previously approved treatment facility monitoring program shall be revised. Within thirty (30) days of the effective date of this permit, the permittee shall submit to the Department a revised treatment facility monitoring program to meet this requirement. Upon approval by the Department the permittee shall implement the revised treatment facility monitoring program. The reporting forms and guidance are available on the DEQ web site at [http://www.michigan.gov/deq/0,1607,7-135-3313\\_44117---,00.html](http://www.michigan.gov/deq/0,1607,7-135-3313_44117---,00.html). The permittee may use alternative operating forms if they are consistent with the approved monitoring program. These forms shall be maintained on site and shall be provided to the Department for review upon request. These treatment facility monitoring records shall be maintained for a minimum of three years.

## PART I

### Section A. Limitations and Monitoring Requirements

#### 9. Asset Management

The permittee shall at all times properly operate and maintain all facilities (i.e., the sewer system and treatment works as defined in Part 41 of the NREPA), and control systems installed or used by the permittee to operate the sewer system and treatment works and achieve and maintain compliance with the conditions of this permit (also see Part II.D.3 of this permit). The requirements of an Asset Management Program function to achieve the goals of effective performance, adequate funding, and adequate operator staffing and training. Asset management is a planning process for ensuring that optimum value is gained for each asset and that financial resources are available to rehabilitate and replace those assets when necessary. Asset management is centered on a framework of five (5) core elements: the current state of the assets; the required sustainable level of service; the assets critical to sustained performance; the minimum life-cycle costs; and the best long-term funding strategy.

a. Asset Management Program Requirements

On or before April 1, 2016, the permittee shall submit to the Department an Asset Management Plan for review and approval. An approvable Asset Management Plan shall contain a schedule for the development and implementation of an Asset Management Program that meets the requirements outlined below in 1) – 4). A copy of any Asset Management Program requirements already completed by the permittee should be submitted as part of the Asset Management Plan. Upon approval by the Department the permittee shall implement the Asset Management Plan. (The permittee may choose to include the Operation and Maintenance Manual required under Part II.C.14. of this permit as part of their Asset Management Program).

1) *Maintenance Staff.* The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. The level of staffing needed shall be determined by taking into account the work involved in operating the sewer system and treatment works, planning for and conducting maintenance, and complying with this permit.

2) *Collection System Map.* The permittee shall complete a map of the sewer collection system it owns and operates. The map shall be of sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions and shall be kept up-to-date and available for review by the Department. **Note: Items below referencing combined sewer systems are not applicable to separate sewer systems.** Such map(s) shall include but not be limited to the following:

- a) all sanitary sewer lines and related manholes;
- b) all combined sewer lines, related manholes, catch basins and CSO regulators;
- c) all known or suspected connections between the sanitary sewer or combined sewer and storm drain systems;
- d) all outfalls, including the treatment plant outfall(s), combined sewer treatment facility outfalls, untreated CSOs, and any known SSOs;
- e) all pump stations and force mains;
- f) the wastewater treatment facility(ies), including all treatment processes;
- g) all surface waters (labeled);
- h) other major appurtenances such as inverted siphons and air release valves;
- i) a numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;

**PART I****Section A. Limitations and Monitoring Requirements**

- j) the scale and a north arrow;
  - k) the pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow; and
  - l) the manhole interior material, rim elevation (optional), and invert elevations.
- 3) *Inventory and assessment of fixed assets.* The permittee shall certify that it has an inventory and assessment of operations-related fixed assets. Fixed assets are assets that are normally stationary (e.g., pumps, blowers, and buildings). The inventory and assessment shall be based on current conditions and shall be kept up-to-date and available for review by the Department.
- a) The fixed asset inventory shall include the following:
    - (1) a brief description of the fixed asset, its design capacity (e.g., pump: 120 gallons per minute), its level of redundancy, and its tag number if applicable;
    - (2) the location of the fixed asset;
    - (3) the year the fixed asset was installed;
    - (4) the present condition of the fixed asset (e.g., excellent, good, fair, poor);
    - (5) the depreciated value of the fixed asset in dollars for year specified in accordance with approved schedules; and
    - (6) the current fixed asset (replacement) cost in dollars for year specified in accordance with approved schedules;
  - b) The fixed asset assessment shall include an approvable "Business Risk Evaluation" that combines the probability of failure of the fixed asset and the criticality of the fixed asset, appropriate for that asset class.
- 4) *Operations, Maintenance & Replacement (OM&R) Budget and Rate Sufficiency for the Sewer System and Treatment Works.* The permittee shall complete an assessment of its user rates and replacement fund, including the following:
- a) An electronic link to the Water/Sewer Preliminary Rate Study no later December 15 of each year and a link to the Water/Sewer Final Rate Study within eight weeks of adoption by the City of Grand Rapids Commission.
  - b) A rate calculation demonstrating sufficient revenues to cover OM&R expenses. If the rate calculation shows there are insufficient revenues to cover OM&R expenses, the permittee shall document, within three (3) fiscal years after submittal of the Asset Management Plan, that there is at least one rate adjustment that reduces the revenue gap by at least 10 percent. The ultimate goal of the Asset Management Program is to ensure sufficient revenues to cover OM&R expenses.



## PART I

### Section A. Limitations and Monitoring Requirements

b. Reporting

On or before October 1 of each year, the permittee shall develop an annual written report that summarizes asset management activities completed during the previous calendar year and planned for the upcoming year. The written report shall be submitted to the Department with the Water/Sewer Final Rate Study. The written report shall include:

- 1) a description of the staffing levels maintained during the year;
- 2) a description of inspections and maintenance activities conducted and corrective actions taken during the previous year;
- 3) a summary of expenditures for collection system maintenance of replacement activities, treatment works maintenance activities, corrective actions, and capital improvement during the previous year;
- 4) a summary of assets/areas identified for inspection/action (including capital improvement) in the upcoming year based on the Asset Management Plan and the Business Risk Factors; and
- 5) a certification statement that the asset inventory has been maintained and updated;

### Section B. Storm Water Pollution Prevention

Section B. Storm Water Pollution Prevention is not required for this permit.

**PART I****Section C. Industrial Waste Pretreatment Program****1. Federal Industrial Pretreatment Program**

- a. The permittee shall implement the Federal Industrial Pretreatment Program approved on April 10, 1986, and any subsequent modifications approved up to the issuance of this permit. Approval of substantial program modifications after the issuance of this permit shall be incorporated into this permit by minor modification in accordance with 40 CFR 122.63.
- b. The permittee shall comply with R 323.2301 through R 323.2317 of the Michigan Administrative Code (Part 23 Rules), the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403), and the approved Federal Industrial Pretreatment Program.
- c. The permittee shall have the legal authority and necessary interjurisdictional agreements that provide the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program throughout the service area. The legal authority and necessary interjurisdictional agreements shall include, at a minimum, the authority to carry out the activities specified in R 323.2306(a).
- d. The permittee shall develop procedures which describe, in sufficient detail, program commitments which enable implementation of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with R 323.2306(c).
- e. The permittee shall establish an interjurisdictional agreement (or comparable document) with all tributary governmental jurisdictions. Each interjurisdictional agreement shall contain, at a minimum, the following:
  - 1) identification of the agency responsible for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries; and
  - 2) the provision of the legal authority which provides the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries.
- f. The permittee shall prohibit discharges that:
  - 1) cause, in whole or in part, the permittee's failure to comply with any condition of this permit or the NREPA;
  - 2) restrict, in whole or in part, the permittee's management of biosolids;
  - 3) cause, in whole or in part, operational problems at the treatment facility or in its collection system;
  - 4) violate any of the general or specific prohibitions identified in R 323.2303(1) and (2);
  - 5) violate categorical standards identified in R 323.2311; and
  - 6) violate local limits established in accordance with R 323.2303(4).
- g. The permittee shall maintain a list of its nondomestic users that meet the criteria of a significant industrial user as identified in R 323.2302(cc).
- h. The permittee shall develop an enforcement response plan which describes, in sufficient detail, program commitments which will enable the enforcement of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with R 323.2306(g).

**PART I****Section C. Industrial Waste Pretreatment Program**

- i. The Department may require modifications to the approved Federal Industrial Pretreatment Program which are necessary to ensure compliance with 40 CFR Part 403 and the Part 23 Rules in accordance with R 323.2309.
- j. The permittee shall not implement changes or modifications to the approved Federal Industrial Pretreatment Program without notification to the Department. Any substantial modification shall be subject to Department public noticing and approval in accordance with R 323.2309.
- k. The permittee shall maintain an adequate revenue structure and staffing level for effective implementation of the approved Federal Industrial Pretreatment Program.
- l. The permittee shall develop and maintain, for a minimum of three (3) years, all records and information necessary to determine nondomestic user compliance with 40 CFR Part 403, Part 23 Rules and the approved Federal Industrial Pretreatment Program. This period of retention shall be extended during the course of any unresolved enforcement action or litigation regarding a nondomestic user or when requested by the Department or the United States Environmental Protection Agency. All of the aforementioned records and information shall be made available upon request for inspection and copying by the Department and the United States Environmental Protection Agency.
- m. The permittee shall evaluate the approved Federal Industrial Pretreatment Program for compliance with the 40 CFR Part 403, Part 23 Rules and the prohibitions stated in item f. (above). Based upon this evaluation, the permittee shall propose to the Department all necessary changes or modifications to the approved Federal Industrial Pretreatment Program no later than the next Industrial Pretreatment Program Annual Report due date (see item o. below).
- n. The permittee shall develop and enforce local limits to implement the prohibitions listed in item f above. Local limits shall be based upon data representative of actual conditions demonstrated in a maximum allowable headworks loading analysis. An evaluation of whether the existing local limits need to be revised shall be submitted to the Department by October 1, 2016. The submittal shall provide a technical evaluation of the basis upon which this determination was made which includes information regarding the maximum allowable headworks loading, collection system protection criteria, and worker health and safety, based upon data collected since the last local limits review.

The following pollutants shall be evaluated:

- 1) Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Silver, and Zinc;
  - 2) Pollutants that are subject to limits or monitoring in this permit;
  - 3) Pollutants that have an existing local limit; and,
  - 4) Other pollutants of concern which would reasonably be expected to be discharged or transported by truck or rail or otherwise introduced into the POTW.
- o. On or before April 1st of each year, the permittee shall submit to the Department, as required by R 323.2310(8), an Industrial Pretreatment Program Annual Report on the status of program implementation and enforcement activities. The reporting period shall begin on January 1st and end on December 31st. At a minimum, the Industrial Pretreatment Program Annual Report shall contain the following items:
- 1) additions, deletions, and any other modifications to the permittee's previously submitted nondomestic user inventory (R 323.2306(c)(i));
  - 2) additions, deletions, and any other modifications to the permittee's approved Significant Industrial User List (R 323.2306(h));

**PART I****Section C. Industrial Waste Pretreatment Program**

- 3) a listing of the names of Significant Industrial Users not inspected by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;
- 4) a listing of the names of Significant Industrial Users not sampled for all required pollutants by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;
- 5) a listing of the names of Significant Industrial Users without a permit at any time during the reporting period;
- 6) a listing of the names of nondomestic industrial users in significant noncompliance for each of the criteria as defined in R 323.2302(dd)(i)-(viii);
- 7) proof of publication of all nondomestic users in significant noncompliance in the largest daily newspaper in the permittee's area;
- 8) a summary of the enforcement activities by the permittee during the report period. This Summary shall include:
  - a) a listing of the names of nondomestic users which were the subject of an enforcement action;
  - b) the enforcement action taken and the date the action was taken; and
  - c) whether the nondomestic user returned to compliance by the end of the reporting period (include date nondomestic user returned to compliance).
- 9) a listing of the names of Significant Industrial Users who did not submit pretreatment reports in accordance with requirements specified in their permit during the reporting period;
- 10) a listing of the names of Significant Industrial Users who did not self-monitor in accordance with requirements specified in their permit during the reporting period;
- 11) a summary of results of all the sampling and analyses performed of the wastewater treatment plant's influent, effluent, and biosolids conducted in accordance with approved methods during the reporting period. The summary shall include the monthly average, daily maximum, quantification level, and number of samples analyzed for each pollutant. At a minimum, the results of analyses for all locally limited parameters for at least one monitoring event that tests influent, effluent and biosolids during the reporting period shall be submitted with each report, unless otherwise required by the Department. Sample collection shall be at intervals sufficient to provide pollutant removal rates, unless the pollutant is not measurable; and
- 12) any other relevant information as requested by the Department.

**PART I****Section D. Residuals Management Program****1. Residuals Management Program for Land Application of Biosolids**

The permittee is authorized to land-apply bulk biosolids or prepare bulk biosolids for land application in accordance with the permittee's approved Residuals Management Program (RMP) approved on October 9, 2000, and approved modifications thereto in accordance with the requirements established in R 323.2401 through R 323.2418 of the Michigan Administrative Code (Part 24 Rules). The approved RMP, and any approved modifications thereto, are enforceable requirements of this permit. Incineration, landfilling and other residual disposal activities shall be conducted in accordance with Part II.D.7. of this permit. The Part 24 Rules can be obtained via the internet (<http://www.michigan.gov/deq/> and on the left side of the screen click on Water, Biosolids & Industrial Pretreatment, Biosolids then click on Biosolids laws and Rules Information which is under the Laws & Rules banner in the center of the screen).

**a. Annual Report**

On or before October 30 of each year, the permittee shall submit to the Biosolids Program, Water Resources Division, Department of Environmental Quality, P.O. Box 30458, Lansing, MI 48909-7958 for the previous fiscal year of October 1 through September 30. At a minimum, the report shall contain:

1) a certification that current residuals management practices are in accordance with the approved RMP, or a proposal for modification to the approved RMP; and

2) a completed Biosolids Annual Report Form which can be obtained via the internet (<http://www.michigan.gov/deq/> and on the left side of the screen click on Water, Biosolids & Industrial Pretreatment, Biosolids then click on Biosolids Annual Report Form which is under the Downloads banner in the center of the screen) or from the Department.

**b. Modifications to the Approved RMP**

Prior to implementation of modifications to the RMP, the permittee shall submit proposed modifications to the Department for approval. The approved modification shall become effective upon the date of approval. Upon written notification, the Department may impose additional requirements and/or limitations to the approved RMP as necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids.

**c. Record Keeping**

Records required by the Part 24 Rules shall be kept for a minimum of five years. However, the records documenting cumulative loading for sites subject to cumulative pollutant loading rates shall be kept as long as the site receives biosolids.

**d. Contact Information**

RMP related submittals to the Department shall be to the Grand Rapids District Supervisor of the Water Resources Division. The Grand Rapids District Office is located at State Office Building, Fifth Floor, 350 Ottawa N.W., Unit 10, Grand Rapids Michigan, 49503-2341 Telephone: 616-356-0500, Fax: 616-356-0202.

## PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

### Section A. Definitions

**Acute toxic unit (TU<sub>A</sub>)** means  $100/LC_{50}$  where the  $LC_{50}$  is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

**Annual monitoring frequency** refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Authorized public agency** means a state, local, or county agency that is designated pursuant to the provisions of section 9110 of Part 91 of the NREPA to implement soil erosion and sedimentation control requirements with regard to construction activities undertaken by that agency.

**Best management practices (BMPs)** means structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water, to direct the flow of storm water, or to treat polluted storm water.

**Bioaccumulative chemical of concern (BCC)** means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

**Biosolids** are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

**Bulk biosolids** means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

**Certificate of Coverage (COC)** is a document, issued by the Department, which authorizes a discharge under a general permit.

**Chronic toxic unit (TU<sub>C</sub>)** means  $100/MATC$  or  $100/IC_{25}$ , where the maximum acceptable toxicant concentration (MATC) and  $IC_{25}$  are expressed as a percent effluent in the test medium.

**Class B biosolids** refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

**Combined sewer system** is a sewer system in which storm water runoff is combined with sanitary wastes.

## PART II

### Section A. Definitions

**Daily concentration** is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations (except for pH and dissolved oxygen). When required by the permit, report the maximum calculated daily concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the Discharge Monitoring Reports (DMRs).

For pH, report the maximum value of any *individual* sample taken during the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs and the minimum value of any *individual* sample taken during the month in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. For dissolved oxygen, report the minimum concentration of any *individual* sample in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

**Daily loading** is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

**Daily monitoring frequency** refers to a 24-hour day. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Department** means the Michigan Department of Environmental Quality.

**Detection level** means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

**Discharge** means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

**EC<sub>50</sub>** means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

#### **Fecal coliform bacteria monthly**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a discharge event. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR. If the period in which the discharge event occurred was partially in each of two months, the calculated monthly value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a reporting month. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

## PART II

### Section A. Definitions

#### **Fecal coliform bacteria 7-day**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days of discharge during a discharge event. If the number of daily concentrations determined during the discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean value for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMRs. If the 7-day period was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days in a reporting month. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMRs. The first calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

**Flow-proportioned sample** is a composite sample with the sample volume proportional to the effluent flow.

**General permit** means a National Pollutant Discharge Elimination System permit issued authorizing a category of similar discharges.

**Geometric mean** is the average of the logarithmic values of a base 10 data set, converted back to a base 10 number.

**Grab sample** is a single sample taken at neither a set time nor flow.

**IC<sub>25</sub>** means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

**Illicit connection** means a physical connection to a municipal separate storm sewer system that primarily conveys non-storm water discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

**Illicit discharge** means any discharge to, or seepage into, a municipal separate storm sewer system that is not composed entirely of storm water or uncontaminated groundwater. Illicit discharges include non-storm water discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.

**Individual permit** means a site-specific NPDES permit.

**Inlet** means a catch basin, roof drain, conduit, drain tile, retention pond riser pipe, sump pump, or other point where storm water or wastewater enters into a closed conveyance system prior to discharge off site or into waters of the state.



## PART II

### Section A. Definitions

**Interference** is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference].

**Land application** means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

**LC<sub>50</sub>** means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

**Maximum acceptable toxicant concentration (MATC)** means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

**Maximum extent practicable** means implementation of best management practices by a public body to comply with an approved storm water management program as required by a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.

**MGD** means million gallons per day.

**Monthly concentration** is the sum of the daily concentrations determined during a reporting period divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

**Monthly loading** is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during a reporting period. The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMR.

**Monthly monitoring frequency** refers to a calendar month. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Municipal separate storm sewer** means a conveyance or system of conveyances designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a publicly-owned treatment works as defined in the Code of Federal Regulations at 40 CFR 122.2.

## PART II

### Section A. Definitions

**Municipal separate storm sewer system (MS4)** means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Federal Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

**National Pretreatment Standards** are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

**No observed adverse effect level (NOAEL)** means the highest tested dose or concentration of a substance which results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

**Noncontact cooling water** is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

**Nondomestic user** is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

**Outfall** is the location at which a point source discharge enters the surface waters of the state.

**Part 91 agency** means an agency that is designated by a county board of commissioners pursuant to the provisions of section 9105 of Part 91 of the NREPA; an agency that is designated by a city, village, or township in accordance with the provisions of section 9106 of Part 91 of the NREPA; or the Department for soil erosion and sedimentation activities under Part 615, Part 631, or Part 632 pursuant to the provisions of section 9115 of Part 91 of the NREPA.

**Part 91 permit** means a soil erosion and sedimentation control permit issued by a Part 91 agency pursuant to the provisions of Part 91 of the NREPA.

**Partially treated sewage** is any sewage, sewage and storm water, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's National Pollutant Discharge Elimination System permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

**Point of discharge** is the location of a point source discharge where storm water is discharged directly into a separate storm sewer system.

**Point source discharge** means a discharge from any discernible, confined, discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock. Changing the surface of land or establishing grading patterns on land will result in a point source discharge where the runoff from the site is ultimately discharged to waters of the state.

**Polluting material** means any material, in solid or liquid form, identified as a polluting material under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

**POTW** is a publicly owned treatment work.

**Pretreatment** is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

## PART II

### Section A. Definitions

**Public** (as used in the MS4 individual permit) means all persons who potentially could affect the authorized storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

**Public body** means the United States; the state of Michigan; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other body which is created by federal or state statute or law.

**Qualified Personnel** means an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Storm Water Certified Operator to collect the storm water sample.

**Qualifying storm event** means a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that also caused greater than 0.1 inch of rainfall. Upon request, the Department may approve an alternate definition meeting the condition of a qualifying storm event.

**Quantification level** means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

**Quarterly monitoring frequency** refers to a three month period, defined as January through March, April through June, July through September, and October through December. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**Regional Administrator** is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

**Regulated area** means the permittee's urbanized area, where urbanized area is defined as a place and its adjacent densely-populated territory that together have a minimum population of 50,000 people as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

**Secondary containment structure** means a unit, other than the primary container, in which significant materials are packaged or held, which is required by State or Federal law to prevent the escape of significant materials by gravity into sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface or ground waters of this state.

**Separate storm sewer system** means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which is not a combined sewer where storm water mixes with sanitary wastes, and is not part of a POTW.

**Significant industrial user** is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

## PART II

### Section A. Definitions

**Significant materials** Significant Materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111 of the NREPA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

**Significant spills and significant leaks** means any release of a polluting material reportable under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

**Special-use area** means secondary containment structures required by state or federal law; lands on Michigan's List of Sites of Environmental Contamination pursuant to Part 201, Environmental Remediation, of the NREPA; and/or areas with other activities that may contribute pollutants to the storm water for which the Department determines monitoring is needed.

**Stoichiometric** means the quantity of a reagent calculated to be necessary and sufficient for a given chemical reaction.

**Storm water** means storm water runoff, snow melt runoff, surface runoff and drainage, and non-storm water included under the conditions of this permit.

**Storm water discharge point** is the location where the point source discharge of storm water is directed to surface waters of the state or to a separate storm sewer. It includes the location of all point source discharges where storm water exits the facility, including *outfalls* which discharge directly to surface waters of the state, and *points of discharge* which discharge directly into separate storm sewer systems.

**SWPPP** means the Storm Water Pollution Prevention Plan prepared in accordance with this permit.

**Tier I value** means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

**Tier II value** means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

**Total maximum daily loads (TMDLs)** are required by the Federal Act for waterbodies that do not meet water quality standards. TMDLs represent the maximum daily load of a pollutant that a waterbody can assimilate and meet water quality standards, and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

**Toxicity reduction evaluation (TRE)** means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

**Water Quality Standards** means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of the NREPA, being R 323.1041 through R 323.1117 of the Michigan Administrative Code.

**Weekly monitoring frequency** refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

**WWSL** is a wastewater stabilization lagoon.

**WWSL discharge event** is a discrete occurrence during which effluent is discharged to the surface water up to 10 days of a consecutive 14 day period.

## PART II

### Section A. Definitions

**3-portion composite sample** is a sample consisting of three equal-volume grab samples collected at equal intervals over an 8-hour period.

#### **7-day concentration**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily concentrations determined. If the number of daily concentrations determined during the WWSL discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the WWSL discharge event in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations in the reporting month. When required by the permit, report the maximum calculated 7-day concentration for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

#### **7-day loading**

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily loadings determined. If the number of daily loadings determined during the WWSL discharge event is less than 7 days, the number of actual daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the WWSL discharge event in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred

FOR ALL OTHER DISCHARGES – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days in a reporting month divided by the number of daily loadings determined. If the number of daily loadings determined is less than 7, the actual number of daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations in the reporting month. When required by the permit, report the maximum calculated 7-day loading for the month in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

**24-hour composite sample** is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period. A time-proportioned composite sample may be used upon approval of the Department if the permittee demonstrates it is representative of the discharge.

## PART II

### Section B. Monitoring Procedures

#### 1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

#### 2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations.** Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Permits Section, Water Resources Division, Michigan Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

#### 3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

#### 4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

#### 5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

## PART II

### Section C. Reporting Requirements

#### 1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

#### 2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring" the permittee shall submit self-monitoring data via the Department's Electronic Environmental Discharge Monitoring Reporting (e2-DMR) system.

The permittee shall utilize the information provided on the e2-Reporting website at <https://secure1.state.mi.us/e2rs/> to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the 20<sup>th</sup> day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

#### 3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th (April 1st for animal feeding operation facilities) of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

#### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

## PART II

### Section C. Reporting Requirements

#### 5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a *written* notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

#### 6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. 24-Hour Reporting  
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.
- b. Other Reporting  
The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

#### 7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if the notice is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from **out-of-state** dial 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventative measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.



## PART II

### Section C. Reporting Requirements

#### 8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset, shall notify the Department by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that an upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation); and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

#### 9. Bypass Prohibition and Notification

- a. Bypass Prohibition  
Bypass is prohibited, and the Department may take an enforcement action, unless:
  - 1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - 2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and
  - 3) the permittee submitted notices as required under 9.b. or 9.c. below.
- b. Notice of Anticipated Bypass  
If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.
- c. Notice of Unanticipated Bypass  
The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated on the second page of this permit (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

## PART II

### Section C. Reporting Requirements

- d. **Written Report of Bypass**  
A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.
- e. **Bypass Not Exceeding Limitations**  
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.
- f. **Definitions**
- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
  - 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

### 10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

### 11. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, as soon as possible but no later than 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

## PART II

### Section C. Reporting Requirements

#### 12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such notice, the permit or, if applicable, the facility's COC may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

#### 13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

#### 14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted sixty days prior to start-up of any substantial improvements or modifications made to an existing wastewater treatment facility.

## PART II

### Section C. Reporting Requirements

#### 15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Federal Act and the NREPA.

The Federal Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

#### 16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically all such reports or notifications as required by this permit.

## PART II

### Section D. Management Responsibilities

#### 1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Federal Act and constitutes grounds for enforcement action; for permit or Certificate of Coverage (COC) termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

#### 2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the NREPA.

#### 3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

#### 4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or
- b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

#### 5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

## PART II

### Section D. Management Responsibilities

#### 6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a Publicly Owned Treatment Work (POTW), these facilities shall be approved under Part 41 of the NREPA.

#### 7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

#### 8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

- a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

#### 9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit, shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

#### 10. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

## PART II

### Section E. Activities Not Authorized by This Permit

#### 1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

#### 2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

#### 3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

#### 4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

#### 5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

#### 6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environmental Quality permits, or approvals from other units of government as may be required by law.

# Concentrated Waste – Plant Modeling Update

## Model to Model Comparison

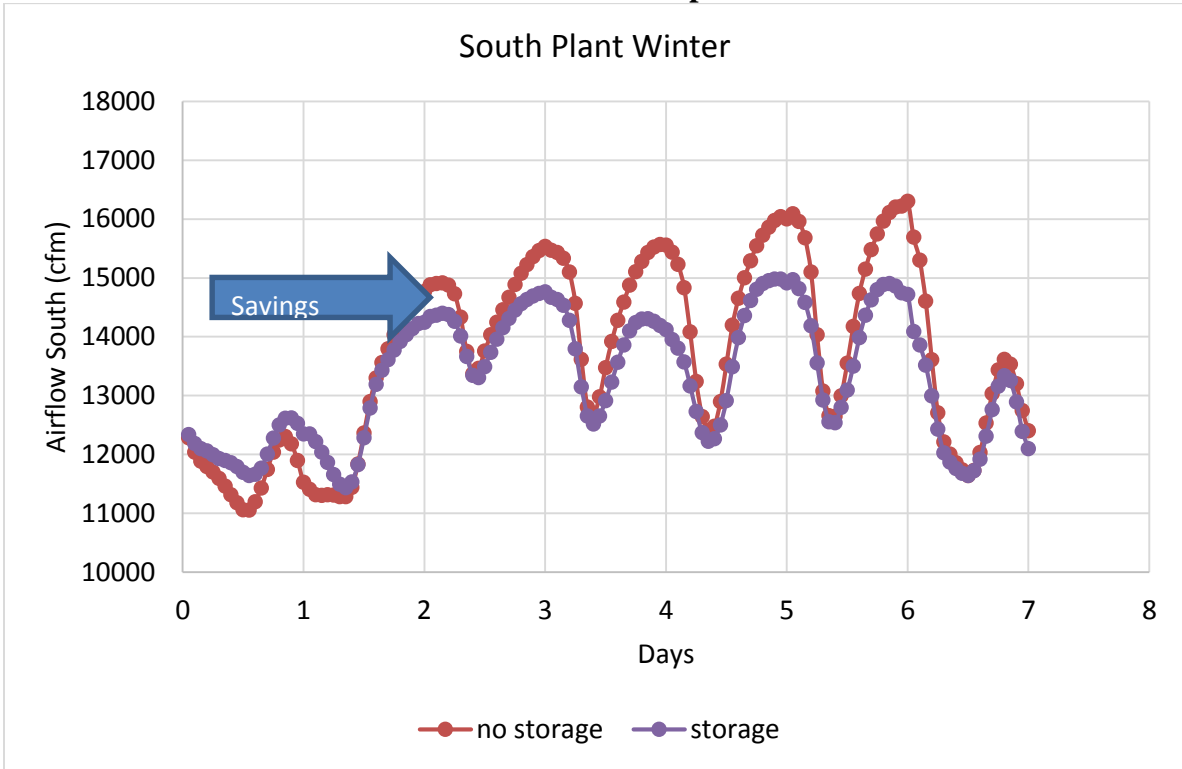


Figure 4. Airflow comparison with and without CWST – South Plant, winter.

## Model to Model Comparison

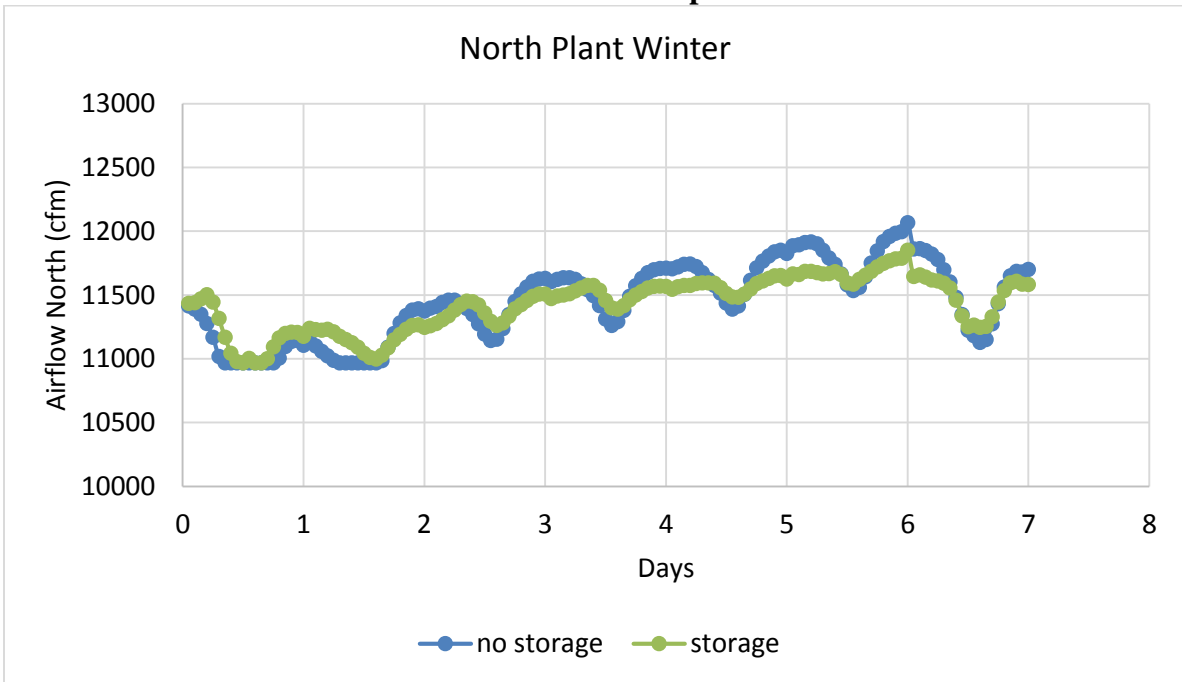


Figure 5. Airflow comparison with and without CWST – North Plant, winter.



### Model to Model Comparison

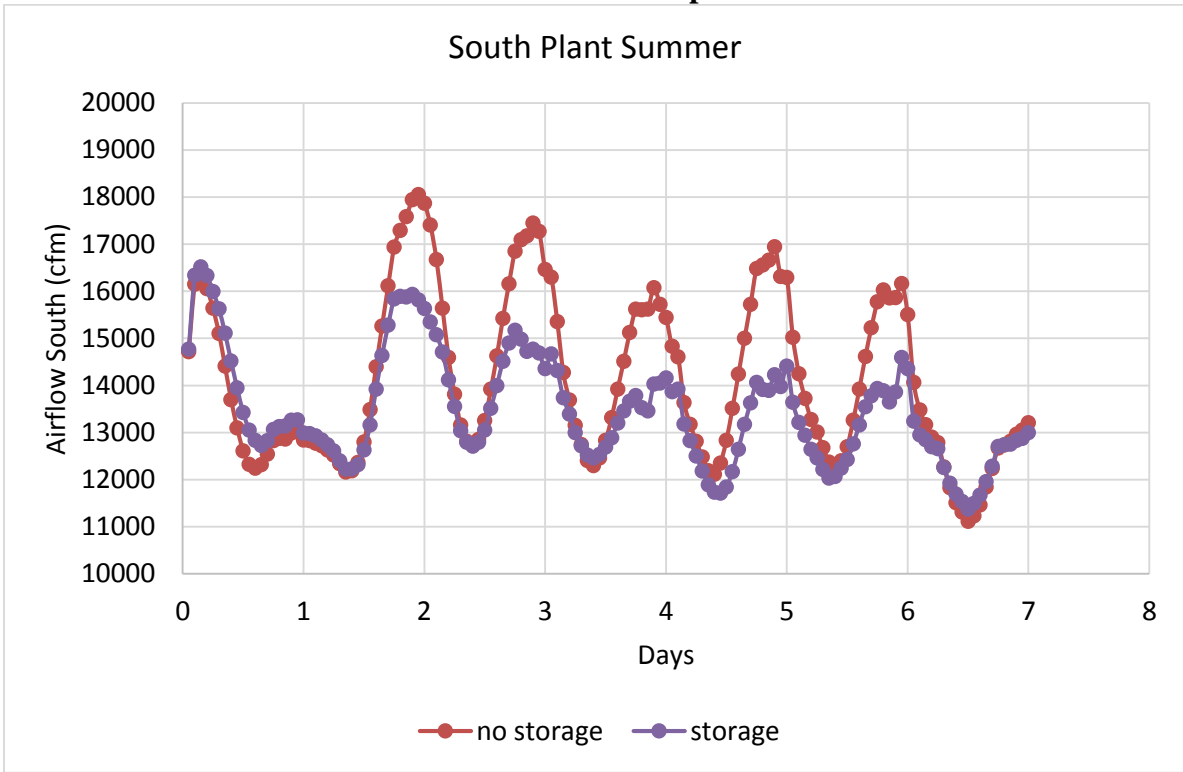
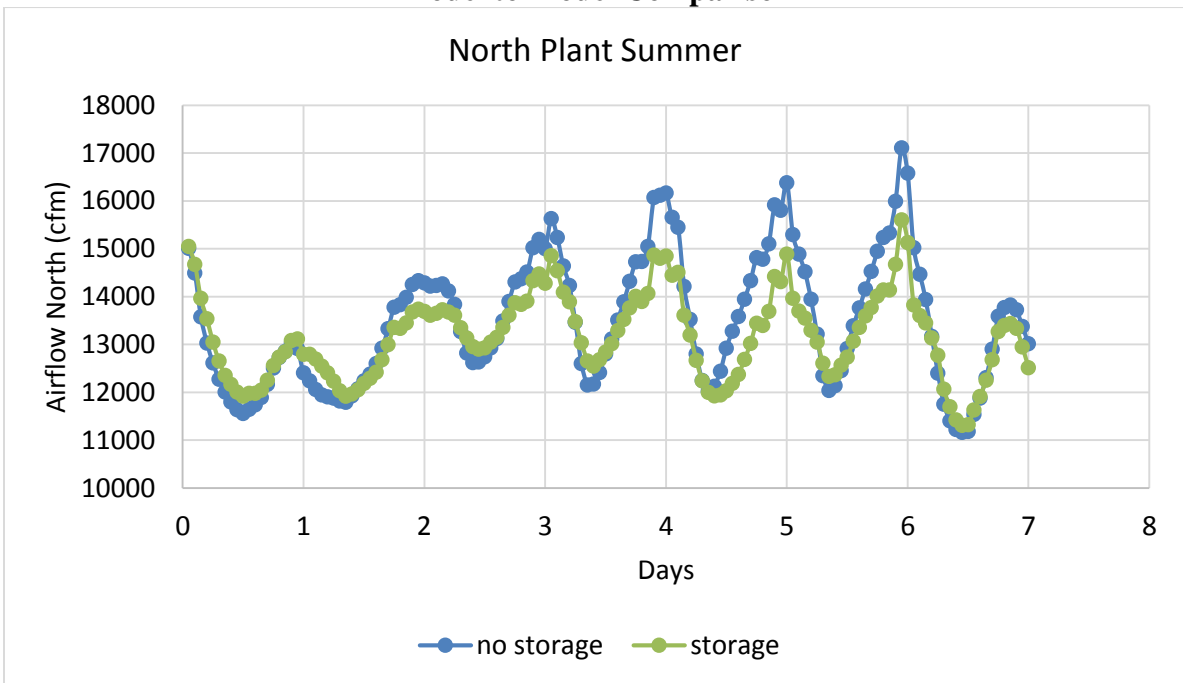


Figure 6. Airflow comparison with and without CWST – South Plant, summer.

### Model to Model Comparison



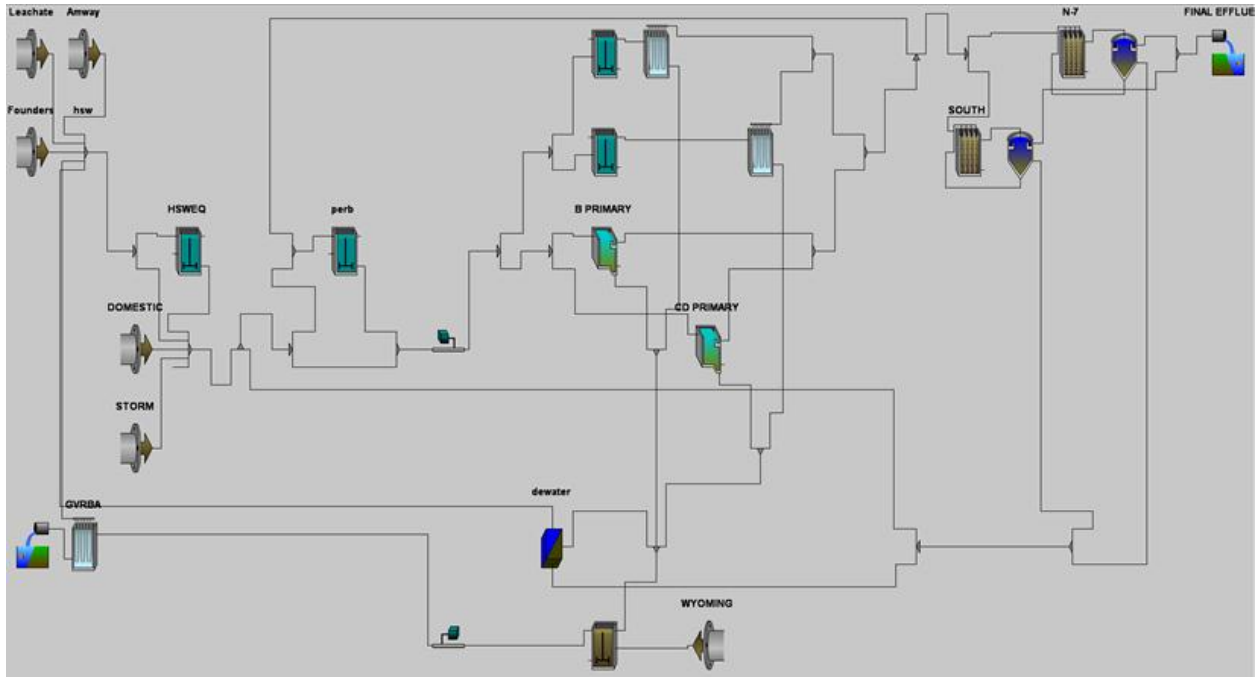


Figure 1. Plant model layout

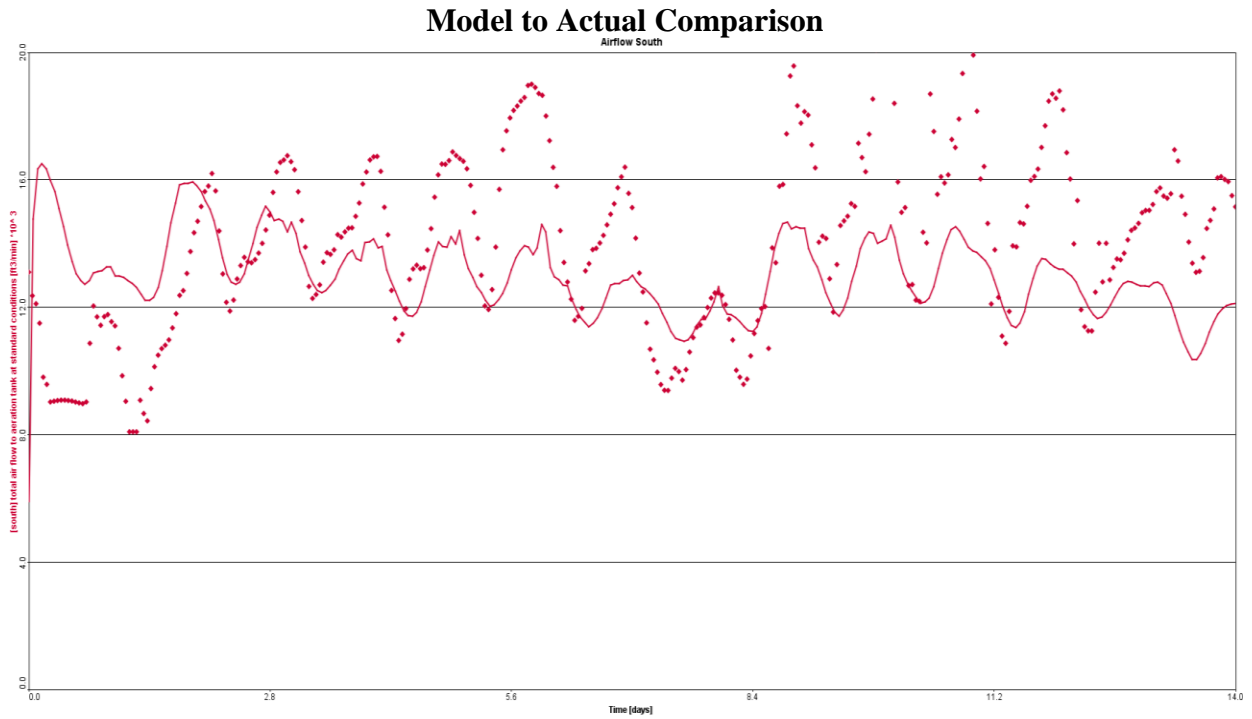


Figure 9. Comparison of airflow measured (current operations) and predicted (with the CWST on line). South plant - summer. Dots are plant data and solid line model prediction.

**City of Grand Rapids, Michigan**  
**Work Program Task Schedule for 2015 Annual Water/Sewer Rate Study**

<b>Task</b>	<b>Description</b>	<b>Due Date</b>	<b>Responsible</b>
1	Report inventory system additions and abandonments during FY15 in each retail service area	07/10/15	Postma
2	Report cost of inventory system additions and abandonments during FY15 in each retail service area	07/10/15	Postma
3	Report funding source of inventory system additions during FY15 in each retail service area	07/10/15	Postma
6	Report estimated lift station flows for FY15	07/17/15	Lunn
13	Report wastewater flow and overflow data	07/17/15	Lunn
13	Report sewer billed flow by specific zoned location	07/17/15	Pasch
14	Update zoned maps	08/14/15	Jernberg/Schroeder
6	Determine volumes and revenues by customer community for FY15, including adjustments for volume, revenue, and customer base	08/31/15	Eastman
11	Accumulate fixed assets, accumulated depreciation, and depreciation expense by classification for FY15	08/31/15	Lueders/Eastman
13	Prepare wastewater I/I and flow apportionment schedule	08/31/15	Eastman
15a	Calculate CPI percent increase, set new integrated connection fees, and prepare integrated connection fee schedules	08/31/15	Eastman
16	Determine CSO debt service revenue requirements for continued funding of the CSO Master Plan capital costs according to the series of calculations developed in the 1992 Sewer Rate Study	08/31/15	Eastman
17	Update senior debt service schedule for bonds and other long-term debt outstanding at fiscal year end and compile annual interest cost thereon	08/31/15	Eastman
28	Review construction costs and set new front foot charges	08/31/15	DeVries
29	Review construction costs and set new water service charges and sewer lateral charges	08/31/15	DeVries
32	Determine water main and service main oversizing costs	08/31/15	Postma
4	Accumulate operating costs for FY15 by organization	09/11/15	Eastman
4	Report energy costs by pumping station for FY15	09/11/15	Roerig
4	Report operations and maintenance costs by lift station for FY15	09/11/15	Lunn
8	Determine changes in operating levels to take effect by calendar year end and adjust operating costs accordingly	09/11/15	Thompson/Lunn
9	Determine changes in operating revenues to take effect by calendar year end and adjust operating revenues accordingly	09/11/15	Thompson/Lunn
12	Determine working capital needs for materials and supplies, prepayment of operating costs, and operating costs	09/11/15	Eastman
30	Evaluate and set miscellaneous rates and charges within the Water System Rules & Regulations	09/11/15	Pasch/Jernberg
30	Review WWTP allocation of FY15 operating costs by major cost center and cost component allocations for high-strength wastewater surcharges	09/11/15	Anderson/Lunn
31	Determine permit, analytical, and laboratory fees for Industrial Pretreatment Program (IPP) permit holders	09/11/15	Anderson/Lunn
33	Update USD area sizes/maps for additions, reductions, and/or new communities (signed & dated)	09/11/15	Meyer
34	Determine penalty fee value for circuit breaker [individual circuit breaker (ICB) and City and Customer Community Circuit Breaker (CCCCB)]	09/11/15	Eastman
35	Determine footing drain disconnect (FDD) opt-out charge	09/11/15	Lunn
7	Determine other operating revenues for FY15	09/18/15	Eastman
7	Determine estimated Individual Circuit Breaker (ICB) funding credit available from previous year	09/18/15	Eastman

Task	Description	Due Date	Responsible
23	Assign other operating revenues to each customer community	09/21/15	Eastman
5	Determine and make known adjustments to FY15 operating costs, including adjustments for GVRBA & Cayenta Utilities CIS	09/30/15	Saindon/Thompson/ Lunn/Eastman
19	Calculate 52-week average bond buyer's index of municipal bonds for the previous twelve month period ending 09/30/14 and set rate of return on system equity (must use data through at least August 31)	09/30/15	Eastman
10	Determine major system additions and abandonments to be in service by calendar year end	10/09/15	Postma/Schroeder/Jernberg
16	Provide updated project cost estimates of significant budgeted non-integrated system improvements anticipated to be in service after calendar year end	10/09/15	Jernberg/Schroeder
13	Review joint use facilities and zoned water/service mains, update length/cost factors for usage changes, and make appropriate annual adjustments	10/12/15	Jernberg/Schroeder
15	Compute construction cost rate base (depreciated plant and system, plus working capital, less amortized contributions)	10/13/15	Eastman
21	Assign each rate base item by customer community and compute rate of return on rate base by customer community	10/13/15	Eastman
22	Assign each operating cost item and allocate overhead to each customer community	10/13/15	Eastman
24	Assign depreciation expense to each customer community	10/13/15	Eastman
30	Set sewage disposal system surcharges for BOD, TSS, phosphorus, and ammonia.	10/15/15	Eastman
18	Determine system equity in construction cost rate base by subtracting outstanding debt from total construction cost rate base	10/16/15	Eastman
20	Determine return on investment (\$) and calculate composite rate of return (%) on construction cost rate base	10/16/15	Eastman
25	Accumulate initial revenue requirements by customer community, without application of circuit breaker	10/23/15	Eastman
25	Adjust revenue requirements for application of circuit breaker, if applicable	10/23/15	Eastman
26	Determine initial revenue requirements and the increase/decrease in revenue levels for each customer community	10/23/15	Eastman
26	Adjust revenue requirements for application of circuit breaker, if applicable	10/23/15	Eastman
27	Determine initial rate schedule for each customer community, including monthly fire service charge	10/23/15	Eastman
27	Adjust rate schedule for application of circuit breaker, if applicable	10/23/15	Eastman
25a	Review the revenue requirements to assure compliance with master bond ordinance provisions	10/30/15	Eastman
36	Present preliminary rate study to customer communities (beginning of 30 day comment period)	11/12/15	Eastman/DeLong
37	Present proposed rate ordinances to City Commission	11/17/15	DeLong/Eastman
38	Hold public hearing on proposed rates and fees to be effective in 2016 (if required)	12/01/15	DeLong/Eastman
39	Adopt final rate ordinances for Grand Rapids rates and fees to be effective in 2016	12/15/15	DeLong/Eastman
40	Approve resolution for customer community rates and fees to be effective in 2016	12/15/15	DeLong/Eastman
41	Notify customer communities of City Commission's approval of rates and fees to be effective in 2016	12/28/15	O'Neal/Scheneman

<b>WATER SUPPLY SYSTEM</b>				Fund:	WSS - WATER SUPPLY SYSTEM	
<b>FINANCIAL REPORT</b>				Subfund:	500 - RECEIVING/OPERATIONS	
<b>QUARTER ENDING 06/30/15</b>						
<i>Description</i>	<i>Group</i>	<i>FY14 Final</i>	<i>ADOPTED FY15 BUDGET</i>	<i>Q4FYTD-FY14</i>	<i>Q4FYTD-FY15</i>	<i>FY15/FY14 VARIANCE</i>
Retail Service Charges	1	\$ 33,935,923	\$ 35,760,430	\$ 33,935,923	\$ 33,449,731	\$ (486,192)
Wholesale Service Charges	2	\$ 3,565,337	\$ 3,638,678	\$ 3,565,337	\$ 3,341,428	\$ (223,909)
Front Footage Fees	3	\$ 91,780	\$ 80,616	\$ 91,780	\$ 217,172	\$ 125,392
Integrated Connection Fees	4	\$ 864,349	\$ 819,121	\$ 864,349	\$ 941,160	\$ 76,812
Sewage Disposal Fund-Customer Service	5	\$ 2,080,651	\$ 2,156,684	\$ 2,080,651	\$ 2,156,684	\$ 76,033
Penalties	6	\$ 1,336,935	\$ 1,213,742	\$ 1,336,935	\$ 1,255,751	\$ (81,184)
Miscellaneous	7/8/9	\$ 2,242,381	\$ 1,562,920	\$ 2,242,381	\$ 1,819,412	\$ (422,969)
Total Revenue		\$ 44,117,356	\$ 45,232,191	\$ 44,117,356	\$ 43,181,338	\$ (936,018)
Personal Services	700	\$ 11,402,597	\$ 12,702,997	\$ 11,402,597	\$ 11,182,956	\$ (219,641)
Supplies	726	\$ 703,295	\$ 1,360,973	\$ 703,295	\$ 1,537,637	\$ 834,342
Other Services and Charges	800	\$ 11,693,346	\$ 9,084,255	\$ 11,693,346	\$ 10,135,674	\$ (1,557,672)
Capital Outlay	970	\$ 107,645	\$ 248,930	\$ 107,645	\$ 60,092	\$ (47,553)
Appropriation Lapse	996	\$ -	\$ (1,010,000)	\$ -	\$ -	\$ -
Transfers Out	999	\$ 1,022,957	\$ 2,264,714	\$ 1,022,957	\$ 509,166	\$ (513,791)
Total Expenses		\$ 24,929,839	\$ 24,651,869	\$ 24,929,839	\$ 23,425,525	\$ (1,504,315)
<b>Net Income (Loss)</b>		<b>\$ 19,187,517</b>	<b>\$ 20,580,322</b>	<b>\$ 19,187,517</b>	<b>\$ 19,755,813</b>	<b>\$ 568,296</b>

WATER SUPPLY SYSTEM					Fund:	WSS - WATER SUPPLY SYSTEM		
FINANCIAL REPORT					Subfund:	500 - RECEIVING/OPERATIONS		
QUARTER ENDING 06/30/15								
GPFM OL3	Group	Description	FY14 Final	FY15 Budget	Q4FYTD-FY14	Q4FYTD-FY15	FY15/FY14 VARIANCE	
451006	7	CONTRACTOR UNDERGROUND LICENSE	\$ 7,200	\$ 7,000	\$ 7,200	\$ 7,560	\$ 360	
476012	7	TAPPING PERMITS	\$ 15,005	\$ 7,000	\$ 15,005	\$ 24,175	\$ 9,170	
539701	7	MI DEPT OF ENVIRONMNTL QUALITY	\$ 553,694	\$ -	\$ 553,694	\$ -	\$ (553,694)	
607001	7	MISCELLANEOUS SERVICE FEES	\$ 497,710	\$ 502,976	\$ 497,710	\$ 465,365	\$ (32,345)	
607003	7	MONTHLY STATEMENT SERVICE FEES	\$ -	\$ -	\$ -	\$ -	\$ -	
607007	7	MATERIAL - SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	
607031	7	PRELIM/DESIGN/CONSTR ENGINEERIN	\$ -	\$ -	\$ -	\$ (3,832)	\$ (3,832)	
607033	9	SERVICES FOR CONTRACTORS	\$ 19,506	\$ 91,120	\$ 19,506	\$ 85,651	\$ 66,144	
607050	7	INSPECTION FEES - UTILITIES	\$ 41,589	\$ 58,884	\$ 41,589	\$ 42,396	\$ 807	
607051	3	FRONT FOOTAGE	\$ 91,780	\$ 80,616	\$ 91,780	\$ 217,172	\$ 125,392	
607052	7	METER SETTING FEES	\$ 27,269	\$ 38,362	\$ 27,269	\$ 29,975	\$ 2,706	
607053	4	INTEGRATED CONNECTION FEES	\$ 864,349	\$ 819,121	\$ 864,349	\$ 941,160	\$ 76,812	
607111	1	FIRE HYDRANT BILLINGS	\$ 135,576	\$ 62,693	\$ 135,576	\$ 39,874	\$ (95,702)	
642009	9	SALE OF SCRAP MATERIAL	\$ 131,759	\$ 26,118	\$ 131,759	\$ 20	\$ (131,739)	
642011	1	RETAIL METERED WATER SALES	\$ 33,793,707	\$ 35,683,535	\$ 33,793,707	\$ 33,406,996	\$ (386,711)	
642012	2	WHOLESALE WATER SALES	\$ 3,565,337	\$ 3,638,678	\$ 3,565,337	\$ 3,341,428	\$ (223,909)	
642013	1	WYOMING WATER SALES	\$ 6,640	\$ 14,202	\$ 6,640	\$ 2,861	\$ (3,779)	
642019	7	INVENTORY WITHDRAWALS (SALES)	\$ (103,444)	\$ -	\$ (103,444)	\$ 2,040	\$ 105,483	
642024	7	UNMETERED WATER SALES	\$ 94,933	\$ 115,031	\$ 94,933	\$ 98,126	\$ 3,193	
659002	6	WATER PENALTIES	\$ 1,336,935	\$ 1,213,742	\$ 1,336,935	\$ 1,255,751	\$ (81,184)	
665001	8	INTEREST ON INVESTMENT	\$ 228,314	\$ 140,000	\$ 228,314	\$ 219,509	\$ (8,805)	
665002	8	OTHER INTEREST INCOME	\$ -	\$ -	\$ -	\$ -	\$ -	
667002	9	RENTALS - OTHER	\$ 360	\$ -	\$ 360	\$ -	\$ (360)	
667003	9	RENTALS - FACILITIES	\$ 648,323	\$ 561,000	\$ 648,323	\$ 672,124	\$ 23,802	
672002	8	INTEREST/PENALTIES ON SPEC ASSM	\$ 21,467	\$ 15,429	\$ 21,467	\$ 8,535	\$ (12,932)	
675003	10	CONTRIBUTED CAPITAL	\$ 1,292,055	\$ -	\$ 1,292,055	\$ -	\$ (1,292,055)	
676001	9	REFUNDS - EXPENDITURES	\$ -	\$ -	\$ -	\$ 50	\$ 50	
676007	9	EXPENDITURE - REIMBURSEMENT	\$ -	\$ -	\$ -	\$ 148,193	\$ 148,193	
676017	9	REIMB.FOR PERSONAL USE OF CITY	\$ -	\$ -	\$ -	\$ -	\$ -	
680001	11	BABS-Income-Federal	\$ -	\$ -	\$ -	\$ 27,086	\$ 27,086	
694002	9	CASH - OVER/UNDER	\$ 228	\$ -	\$ 228	\$ 2,277	\$ 2,049	
694004	9	CLAIMS/DAMAGE BILLINGS	\$ 45,472	\$ -	\$ 45,472	\$ 4,507	\$ (40,965)	
694012	9	NON-SUFFICIENT FUNDS CHECK CHG	\$ 12,730	\$ -	\$ 12,730	\$ 12,450	\$ (280)	
694014	9	MISCELLANEOUS OTHER	\$ 265	\$ -	\$ 265	\$ 290	\$ 25	
698001	12	BOND PROCEEDS	\$ (1,532,480)	\$ -	\$ (1,532,480)	\$ (5,667,194)	\$ (4,134,714)	
699001	5	OPERATING TRANSFERS IN-SUBSIDY	\$ 2,080,651	\$ 2,156,684	\$ 2,080,651	\$ 2,156,684	\$ 76,033	
699005	13	OPERATING TRANSFERS-MISC	\$ 276,651	\$ -	\$ 276,651	\$ -	\$ (276,651)	
		REVENUE TOTAL	\$ 44,153,582	\$ 45,232,191	\$ 44,153,582	\$ 37,541,230	\$ (6,612,351)	
7020	700	PERMANENT EMPLOYEES	\$ 6,518,738	\$ 7,216,679	\$ 6,518,738	\$ 6,278,453	\$ (240,285)	
7025	700	ACT.ASSIGNMENT	\$ 12,225	\$ 11,600	\$ 12,225	\$ 8,251	\$ (3,974)	
7040	700	TEMPORARY EMPLOYEES	\$ 86,862	\$ 97,529	\$ 86,862	\$ 67,184	\$ (19,678)	
7050	700	REGULAR HOURLY RATE	\$ 3,503	\$ 7,000	\$ 3,503	\$ 4,451	\$ 947	
7055	700	TIME & ONE-HALF	\$ 364,028	\$ 354,227	\$ 364,028	\$ 467,671	\$ 103,643	
7105	700	EMPLOYERS SOCIAL SECURITY	\$ 507,427	\$ 583,937	\$ 507,427	\$ 490,563	\$ (16,864)	
7110	700	HOSPITALIZATION INSURANCE	\$ 1,533,367	\$ 1,678,270	\$ 1,533,367	\$ 1,512,304	\$ (21,063)	
7115	700	RETIREE HEALTH CARE	\$ 965,398	\$ 887,651	\$ 965,398	\$ 759,046	\$ (206,351)	
7120	700	RETIREMENT FUND CONTRIBUTION	\$ 1,318,226	\$ 1,823,030	\$ 1,318,226	\$ 1,566,298	\$ 248,072	
7125	700	SPECIAL PENSION BENEFITS	\$ 16,764	\$ 9,493	\$ 16,764	\$ 389	\$ (16,375)	
7135	700	UNEMPLOYMENT COMPENSATION	\$ 12,418	\$ 11,104	\$ 12,418	\$ 11,306	\$ (1,112)	
7150	700	LONGEVITY PAY	\$ 67,542	\$ -	\$ 67,542	\$ -	\$ (67,542)	
7165	700	SHIFT DIFFERENTIAL	\$ 18,650	\$ 22,477	\$ 18,650	\$ 17,040	\$ (1,611)	
7175	700	FOOD/CLEAN/CAR ALLOWANCE	\$ -	\$ -	\$ -	\$ -	\$ -	
7199	700	DEFAULT PAYROLL	\$ (22,552)	\$ -	\$ (22,552)	\$ -	\$ 22,552	
7260	726	SUPPLIES	\$ 801,813	\$ 1,356,123	\$ 801,813	\$ 1,530,119	\$ 728,306	
7300	726	POSTAGE	\$ 2,021	\$ 1,850	\$ 2,021	\$ 4,038	\$ 2,016	
7680	726	CLOTHING	\$ 2,904	\$ 3,000	\$ 2,904	\$ 1,620	\$ (1,284)	
7710	726	INVENTORY	\$ -	\$ -	\$ -	\$ -	\$ -	
7800	726	INVENTORY - COST OF GOODS SOLD	\$ (103,444)	\$ -	\$ (103,444)	\$ 1,860	\$ 105,303	
8140	800	COMPUTER SERVICES	\$ 704,328	\$ 694,100	\$ 704,328	\$ 694,100	\$ (10,228)	
8142	800	Motor Equipment Charges	\$ -	\$ -	\$ -	\$ -	\$ -	
8150	800	311 Call Center Services	\$ 533,467	\$ 541,601	\$ 533,467	\$ 552,537	\$ 19,070	
8160	800	ENGINEERING SERVICES	\$ 30,959	\$ 57,217	\$ 30,959	\$ 16,358	\$ (14,601)	
8180	800	CONTRACTUAL SERVICES	\$ 1,574,041	\$ 1,691,951	\$ 1,574,041	\$ 1,343,541	\$ (230,501)	
8355	800	CLAIMS	\$ 295,410	\$ 281,273	\$ 295,410	\$ 281,273	\$ (14,137)	

<b>GPFM OL3</b>	<b>Group</b>	<b>Description</b>	<b>FY14 Final</b>	<b>FY15 Budget</b>	<b>Q4FYTD-FY14</b>	<b>Q4FYTD-FY15</b>	<b>FY15/FY14 VARIANCE</b>
8360	800	MEDICAL/SUPPORTIVE CHARGES	\$ -	\$ -	\$ -	\$ -	\$ -
8450	800	INSURANCE PREMIUMS	\$ 159,964	\$ 167,913	\$ 159,964	\$ -	\$ (159,964)
8500	800	TELEPHONE	\$ 76,134	\$ 61,168	\$ 76,134	\$ 90,208	\$ 14,074
8510	800	Employee Phone Reimbursement	\$ 583	\$ 2,854	\$ 583	\$ 1,215	\$ 632
8800	800	COMMUNITY PROMOTION	\$ 294	\$ 3,206	\$ 294	\$ 202	\$ (92)
8850	800	ADVERTISING - ANY MEDIA	\$ -	\$ -	\$ -	\$ -	\$ -
9000	800	PRINTING & PUBLISHING	\$ 3,156	\$ 5,118	\$ 3,156	\$ 7,480	\$ 4,324
9210	800	ELECTRICITY	\$ 3,209,163	\$ 3,235,000	\$ 3,209,163	\$ 3,194,454	\$ (14,709)
9220	800	WATER	\$ 4,351	\$ 4,850	\$ 4,351	\$ 3,855	\$ (495)
9230	800	NATURAL GAS	\$ 352,050	\$ 350,000	\$ 352,050	\$ 316,231	\$ (35,818)
9300	800	MAINTENANCE SERVICE	\$ 1,498,128	\$ 845,589	\$ 1,498,128	\$ 376,824	\$ (1,121,304)
9330	800	PAVEMENT REPAIR	\$ 1,421,521	\$ 1,321,000	\$ 1,421,521	\$ 1,603,241	\$ 181,720
9410	800	BUILDINGS RENTALS OR LEASE	\$ 7,520	\$ 7,894	\$ 7,520	\$ 7,894	\$ 374
9420	800	EQUIPMENT RENTALS OR LEASE	\$ 1,102,484	\$ 1,286,330	\$ 1,102,484	\$ 1,168,662	\$ 66,178
9430	800	LAND RENTAL OR LEASE	\$ 2,793	\$ 2,500	\$ 2,793	\$ 2,683	\$ (109)
9440	800	VEHICLE USAGE/CAR MILEAGE	\$ 38,352	\$ 60,667	\$ 38,352	\$ 43,278	\$ 4,926
9550	800	PROFESSIONAL DEVELOPMENT	\$ 3,273	\$ 16,442	\$ 3,273	\$ 8,172	\$ 4,899
9552	800	OTHER TRAVEL & TRAINING	\$ 36,160	\$ 24,000	\$ 36,160	\$ 26,473	\$ (9,688)
9554	800	LOCAL BUSINESS EXPENSE	\$ 245	\$ 1,306	\$ 245	\$ 499	\$ 255
9556	800	MEMBERSHIPS	\$ 21,004	\$ 46,077	\$ 21,004	\$ 18,461	\$ (2,543)
9558	800	SUBSCRIPTIONS AND PUBLICATIONS	\$ 4,045	\$ 3,206	\$ 4,045	\$ -	\$ (4,045)
9610	800	FEES	\$ 345,956	\$ 72,000	\$ 345,956	\$ 268,914	\$ (77,042)
9616	800	ADMINISTRATIVE SERVICES	\$ 148,743	\$ 160,000	\$ 148,743	\$ 83,559	\$ (65,185)
9617	800	Late Fees-Utilities	\$ 3,200	\$ -	\$ 3,200	\$ 297	\$ (2,903)
9620	800	BAD DEBT WRITE-OFFS	\$ 112,597	\$ -	\$ 112,597	\$ 22,537	\$ (90,060)
9622	800	REFUSE COLLECTION CHARGES	\$ 3,425	\$ 4,100	\$ 3,425	\$ 2,728	\$ (696)
9624	800	PROPERTY TAXES	\$ -	\$ -	\$ -	\$ -	\$ -
9630	800	CAPITAL CONTRIBUTIONS	\$ (8,074,510)	\$ -	\$ (8,074,510)	\$ -	\$ 8,074,510
9680	800	DEPRECIATION	\$ 8,376,548	\$ -	\$ 8,376,548	\$ -	\$ (8,376,548)
9735	970	BUILDING ADDITIONS/IMPROVEMENTS	\$ -	\$ -	\$ -	\$ -	\$ -
9740	970	BOOKS/OTHER MATERIALS/ARTIFACTS	\$ -	\$ -	\$ -	\$ -	\$ -
9750	970	FURNITURE	\$ -	\$ 5,000	\$ -	\$ -	\$ -
9760	970	EQUIPMENT	\$ 98,089	\$ 237,330	\$ 98,089	\$ 61,981	\$ (36,107)
9765	970	SOFTWARE	\$ 9,556	\$ 6,600	\$ 9,556	\$ 9,110	\$ (446)
9775	970	VEHICLES	\$ -	\$ -	\$ -	\$ -	\$ -
9800	970	CONSTRUCTION IN PROGRESS	\$ -	\$ -	\$ -	\$ (11,000)	\$ (11,000)
9920	990	PMT TO REFUND BONDS- ESCROW AC	\$ -	\$ -	\$ -	\$ -	\$ -
9950	990	INTEREST & PAYING AGENT FEES	\$ 5,441,217	\$ 4,927,514	\$ 5,441,217	\$ 4,868,572	\$ (572,645)
9952	990	Amortization Expense	\$ (89,194)	\$ -	\$ (89,194)	\$ (141,352)	\$ (52,158)
9960	996	APPROPRIATION LAPSE	\$ -	\$ (1,010,000)	\$ -	\$ -	\$ -
9980	999	Special Items	\$ -	\$ -	\$ -	\$ -	\$ -
9990	999	OPERATING TRANS OUT-SUBSIDIES	\$ -	\$ -	\$ -	\$ -	\$ -
9992	999	OPERATING TRANSFERS-A87 COST	\$ 1,000,266	\$ 485,910	\$ 1,000,266	\$ 485,910	\$ (514,356)
9993	999	OPERATING TRANS-CAPT PROJECTS	\$ 5,072,000	\$ 5,971,000	\$ 5,072,000	\$ 8,025,548	\$ 2,953,548
9994	999	OPERATING TRANS-DEV CENTER	\$ 22,691	\$ 23,256	\$ 22,691	\$ 23,256	\$ 565
9995	999	OPERATING TRANS-MISC	\$ -	\$ 1,755,548	\$ -	\$ -	\$ -
		EXPENDITURE TOTAL	\$ 35,655,901	\$ 37,413,491	\$ 35,655,901	\$ 36,178,293	\$ 522,391
		NET INCOME (LOSS)	\$ 8,497,680	\$ 7,818,700	\$ 8,497,680	\$ 1,362,938	\$ (7,134,743)

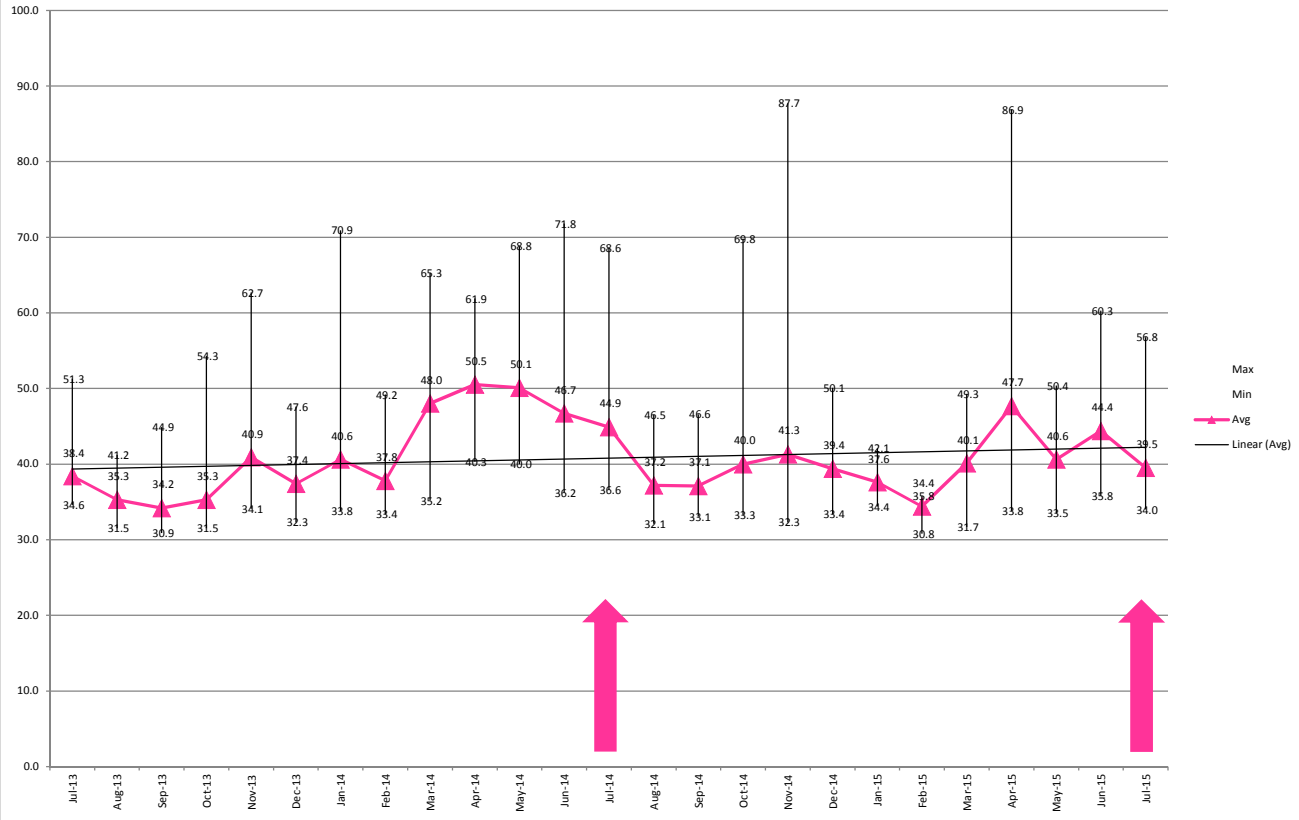
<b>SEWAGE DISPOSAL SYSTEM</b>				<b>Fund: SDS - SEWAGE DISPOSAL SYSTEM</b>		
<b>FINANCIAL REPORT</b>				<b>Subfund: 500 - RECEIVING/OPERATIONS</b>		
<b>QUARTER ENDING 06/30/15</b>						
<i>Description</i>	<i>Group</i>	<i>FY14 Final</i>	<i>ADOPTED FY15 BUDGET</i>	<i>Q4FYTD-FY14</i>	<i>Q4FYTD-FY15</i>	<i>FY15/FY14 VARIANCE</i>
Retail Service Charges	1	\$ 44,237,652	\$ 47,743,334	\$ 44,237,652	\$ 46,224,554	\$ 1,986,902
Wholesale Service Charges	2	\$ 1,781,579	\$ 1,868,241	\$ 1,781,579	\$ 1,930,465	\$ 148,887
Sewer Surcharges	3	\$ 1,751,793	\$ 2,015,265	\$ 1,751,793	\$ 1,680,387	\$ (71,406)
Front Footage Fees	4	\$ 106,570	\$ 45,900	\$ 106,570	\$ 120,265	\$ 13,695
Integrated Connection Fees	5	\$ 838,054	\$ 673,200	\$ 838,054	\$ 929,275	\$ 91,222
Miscellaneous	6/7/8	\$ 1,723,205	\$ 1,154,600	\$ 1,723,205	\$ 1,607,769	\$ (115,436)
Total Revenue		\$ 50,438,851	\$ 53,500,540	\$ 50,438,851	\$ 52,492,716	\$ 2,053,864
Personal Services	700	\$ 8,924,119	\$ 9,992,435	\$ 8,924,119	\$ 9,043,248	\$ 119,129
Supplies	726	\$ 1,250,322	\$ 1,193,470	\$ 1,250,322	\$ 1,268,529	\$ 18,206
Other Services and Charges	800	\$ 10,923,448	\$ 12,541,378	\$ 11,148,351	\$ 11,427,261	\$ 278,909
Capital Outlay	970	\$ 188,351	\$ 264,062	\$ 188,351	\$ 224,175	\$ 35,824
Appropriation Lapse	996	\$ -	\$ (1,080,000)	\$ -	\$ -	\$ -
Transfers Out	999	\$ 2,716,022	\$ 2,917,535	\$ 2,716,022	\$ 2,917,535	\$ 201,513
Total Expenses		\$ 24,002,263	\$ 25,828,880	\$ 24,227,166	\$ 24,880,747	\$ 653,582
<b>Net Income (Loss)</b>		<b>\$ 26,436,589</b>	<b>\$ 27,671,660</b>	<b>\$ 26,211,686</b>	<b>\$ 27,611,968</b>	<b>\$ 1,400,282</b>



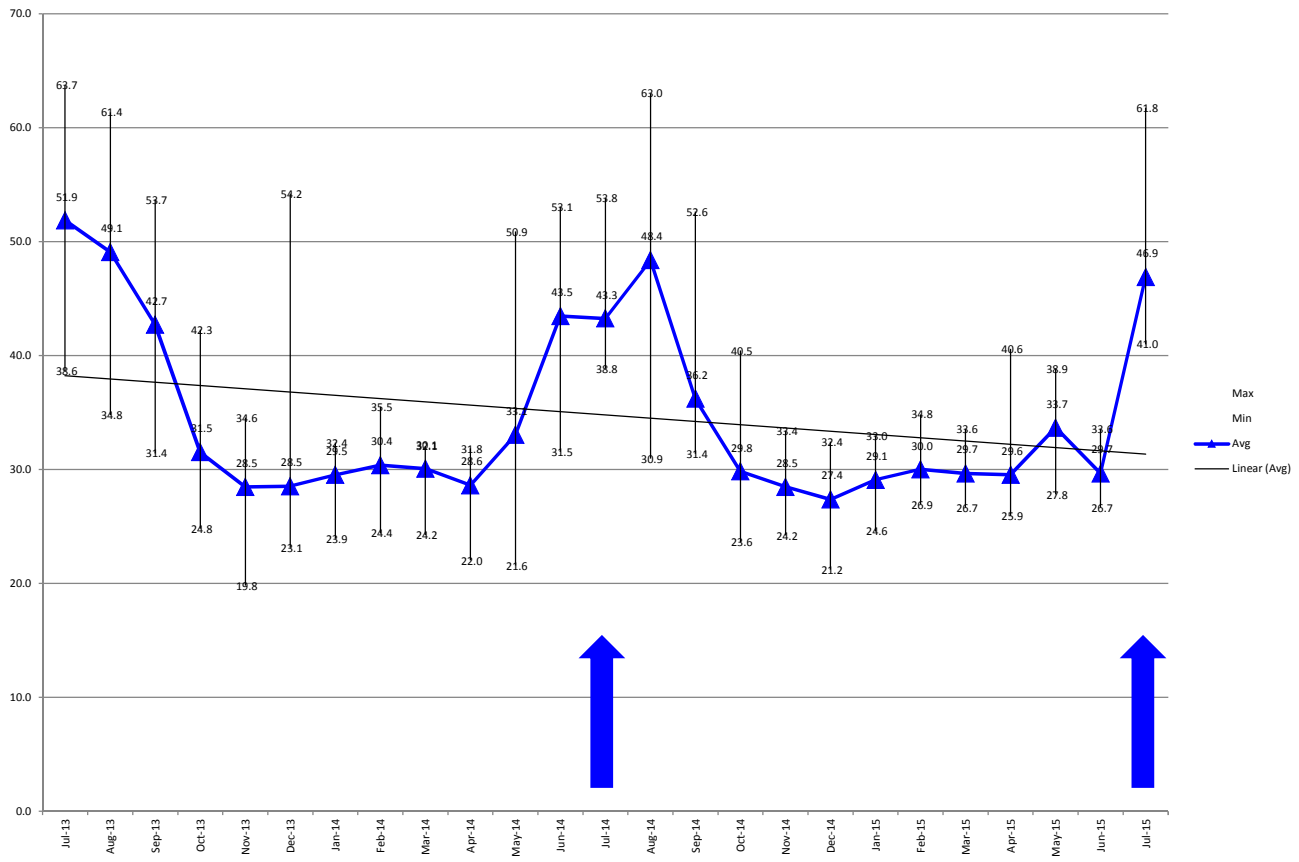
SEWAGE DISPOSAL SYSTEM					Fund:	SDS - SEWAGE DISPOSAL SYSTEM		
FINANCIAL REPORT					Subfund:	500 - RECEIVING/OPERATIONS		
QUARTER ENDING 06/30/15								
GPFM OL3	Group	Description	FY14 Final	FY15 Budget	Q4FYTD-FY14	Q4FYTD-FY15	FY15/FY14 VARIANCE	
476009	7	INDUSTRIAL PRETREATMENT PERMITS	\$ 55,853	\$ 68,900	\$ 55,853	\$ 48,932	\$ (6,921)	
501902	8	FEDERAL EMERGENCY MGMT-PASS THR	\$ 44,429	\$ -	\$ 44,429	\$ 515,583	\$ 471,154	
539701	8	MI DEPT OF ENVIRONMNTL QUALITY	\$ 446,297	\$ -	\$ 446,297	\$ -	\$ (446,297)	
607001	8	MISCELLANEOUS SERVICE FEES	\$ 7,763	\$ 3,000	\$ 7,763	\$ 11,839	\$ 4,076	
607009	8	PHOTOCOPY FEES	\$ -	\$ -	\$ -	\$ -	\$ -	
607031	8	PRELIM/DESIGN/CONSTR ENGINEERIN	\$ -	\$ -	\$ -	\$ (3,832)	\$ (3,832)	
607050	8	INSPECTION FEES - UTILITIES	\$ 40,331	\$ 20,400	\$ 40,331	\$ 33,271	\$ (7,060)	
607051	4	FRONT FOOTAGE	\$ 106,570	\$ 45,900	\$ 106,570	\$ 120,265	\$ 13,695	
607053	5	INTEGRATED CONNECTION FEES	\$ 838,054	\$ 673,200	\$ 838,054	\$ 929,275	\$ 91,222	
607055	1	RETAIL SEWAGE SERVICE	\$ 44,165,651	\$ 47,651,534	\$ 44,165,651	\$ 46,155,255	\$ 1,989,604	
607056	1	WYOMING SEWAGE SERVICE	\$ 72,001	\$ 91,800	\$ 72,001	\$ 69,299	\$ (2,701)	
607057	8	INDUSTRIAL DISCHARGE AUTHORIZAT	\$ 1,600	\$ 24,800	\$ 1,600	\$ 900	\$ (700)	
607059	5	SEWAGE CONNECTION FEES	\$ -	\$ -	\$ -	\$ -	\$ -	
607060	2	WHOLESALE SEWAGE SERVICE	\$ 1,781,579	\$ 1,868,241	\$ 1,781,579	\$ 1,930,465	\$ 148,887	
607061	4	SEWAGE FRONT FOOTAGE	\$ -	\$ -	\$ -	\$ -	\$ -	
607074	3	SEWAGE SURCHARGE	\$ 1,751,793	\$ 2,015,265	\$ 1,751,793	\$ 1,680,387	\$ (71,406)	
642003	8	SALES - OTHER	\$ 349	\$ -	\$ 349	\$ 343	\$ (7)	
642009	8	SALE OF SCRAP MATERIAL	\$ 1,809	\$ -	\$ 1,809	\$ 711	\$ (1,098)	
642019	8	INVENTORY WITHDRAWALS (SALES)	\$ 33,892	\$ 42,500	\$ 33,892	\$ 42,338	\$ 8,446	
642024	8	UNMETERED WATER SALES	\$ -	\$ -	\$ -	\$ -	\$ -	
665001	7	INTEREST ON INVESTMENT	\$ 229,542	\$ 150,000	\$ 229,542	\$ 248,103	\$ 18,561	
665002	7	OTHER INTEREST INCOME	\$ -	\$ -	\$ -	\$ -	\$ -	
672002	7	INTEREST/PENALTIES ON SPEC ASSM	\$ 11,730	\$ 10,000	\$ 11,730	\$ 2,958	\$ (8,772)	
675003	9	CONTRIBUTED CAPITAL	\$ 490,912	\$ -	\$ 490,912	\$ -	\$ (490,912)	
676001	8	REFUNDS - EXPENDITURES	\$ 643,485	\$ 5,000	\$ 643,485	\$ 196,631	\$ (446,855)	
676007	8	EXPENDITURE - REIMBURSEMENT	\$ 198,560	\$ 810,000	\$ 198,560	\$ 508,856	\$ 310,296	
676017	8	REIMB.FOR PERSONAL USE OF CITY	\$ -	\$ -	\$ -	\$ -	\$ -	
680001	10	BABS-Income-Federal	\$ 464,274	\$ -	\$ 464,274	\$ 465,323	\$ 1,049	
694004	8	CLAIMS/DAMAGE BILLINGS	\$ -	\$ -	\$ -	\$ 612	\$ 612	
694012	8	NON-SUFFICIENT FUNDS CHECK CHG	\$ -	\$ -	\$ -	\$ -	\$ -	
694014	8	MISCELLANEOUS OTHER	\$ 7,564	\$ 20,000	\$ 7,564	\$ 524	\$ (7,040)	
698001	11	BOND PROCEEDS	\$ (1,297,414)	\$ -	\$ (1,297,414)	\$ (1,910,446)	\$ (613,032)	
699001	12	OPERATING TRANSFERS IN-SUBSIDY	\$ -	\$ -	\$ -	\$ (284,267)	\$ (284,267)	
699005	13	OPERATING TRANSFERS-MISC	\$ -	\$ -	\$ -	\$ -	\$ -	
		REVENUE TOTAL	\$ 50,096,623	\$ 53,500,540	\$ 50,096,623	\$ 50,763,326	\$ 666,703	
7020	700	PERMANENT EMPLOYEES	\$ 5,193,441	\$ 5,840,393	\$ 5,193,441	\$ 5,212,036	\$ 18,595	
7025	700	ACT.ASSIGNMENT	\$ 37,397	\$ 13,000	\$ 37,397	\$ 13,786	\$ (23,611)	
7040	700	TEMPORARY EMPLOYEES	\$ 45,373	\$ -	\$ 45,373	\$ 23,358	\$ (22,015)	
7050	700	REGULAR HOURLY RATE	\$ 3,137	\$ -	\$ 3,137	\$ 3,520	\$ 382	
7055	700	TIME & ONE-HALF	\$ 143,378	\$ 107,160	\$ 143,378	\$ 187,316	\$ 43,938	
7060	700	COMP PAY-OFF	\$ -	\$ -	\$ -	\$ -	\$ -	
7105	700	EMPLOYERS SOCIAL SECURITY	\$ 387,708	\$ 457,016	\$ 387,708	\$ 387,888	\$ 180	
7110	700	HOSPITALIZATION INSURANCE	\$ 1,221,960	\$ 1,350,051	\$ 1,221,960	\$ 1,254,244	\$ 32,285	
7115	700	RETIREE HEALTH CARE	\$ 778,634	\$ 718,405	\$ 778,634	\$ 632,631	\$ (146,002)	
7120	700	RETIREMENT FUND CONTRIBUTION	\$ 1,019,652	\$ 1,471,741	\$ 1,019,652	\$ 1,305,616	\$ 285,965	
7125	700	SPECIAL PENSION BENEFITS	\$ 21,718	\$ 9,493	\$ 21,718	\$ 250	\$ (21,468)	
7135	700	UNEMPLOYMENT COMPENSATION	\$ 7,753	\$ 8,177	\$ 7,753	\$ 8,174	\$ 421	
7150	700	LONGEVITY PAY	\$ 47,531	\$ -	\$ 47,531	\$ 77	\$ (47,454)	
7160	700	TEMPORARY	\$ 15	\$ -	\$ 15	\$ -	\$ (15)	
7165	700	SHIFT DIFFERENTIAL	\$ 13,557	\$ 17,000	\$ 13,557	\$ 14,352	\$ 795	
7175	700	FOOD/CLEAN/CAR ALLOWANCE	\$ -	\$ -	\$ -	\$ -	\$ -	
7199	700	DEFAULT PAYROLL	\$ 2,864	\$ -	\$ 2,864	\$ -	\$ (2,864)	
7260	726	SUPPLIES	\$ 1,194,174	\$ 1,138,079	\$ 1,194,174	\$ 1,208,298	\$ 14,124	
7300	726	POSTAGE	\$ 1,941	\$ 1,950	\$ 1,941	\$ 2,537	\$ 596	
7680	726	CLOTHING	\$ 20,315	\$ 23,441	\$ 20,315	\$ 15,359	\$ (4,956)	
7710	726	INVENTORY	\$ -	\$ -	\$ -	\$ -	\$ -	
7800	726	INVENTORY - COST OF GOODS SOLD	\$ 33,892	\$ 30,000	\$ 33,892	\$ 42,335	\$ 8,443	
8140	800	COMPUTER SERVICES	\$ 313,079	\$ 312,158	\$ 313,079	\$ 312,158	\$ (921)	
8142	800	Motor Equipment Charges	\$ -	\$ -	\$ -	\$ -	\$ -	
8150	800	311 Call Center Services	\$ 6,451	\$ 29,328	\$ 6,451	\$ 10,580	\$ 4,129	
8160	800	ENGINEERING SERVICES	\$ 47,107	\$ 60,653	\$ 47,107	\$ 19,571	\$ (27,536)	
8180	800	CONTRACTUAL SERVICES	\$ 5,699,959	\$ 6,517,200	\$ 5,699,959	\$ 6,506,805	\$ 806,846	
8355	800	CLAIMS	\$ 353,434	\$ 268,520	\$ 353,434	\$ 268,520	\$ (84,914)	
8450	800	INSURANCE PREMIUMS	\$ 191,323	\$ 203,321	\$ 191,323	\$ -	\$ (191,323)	

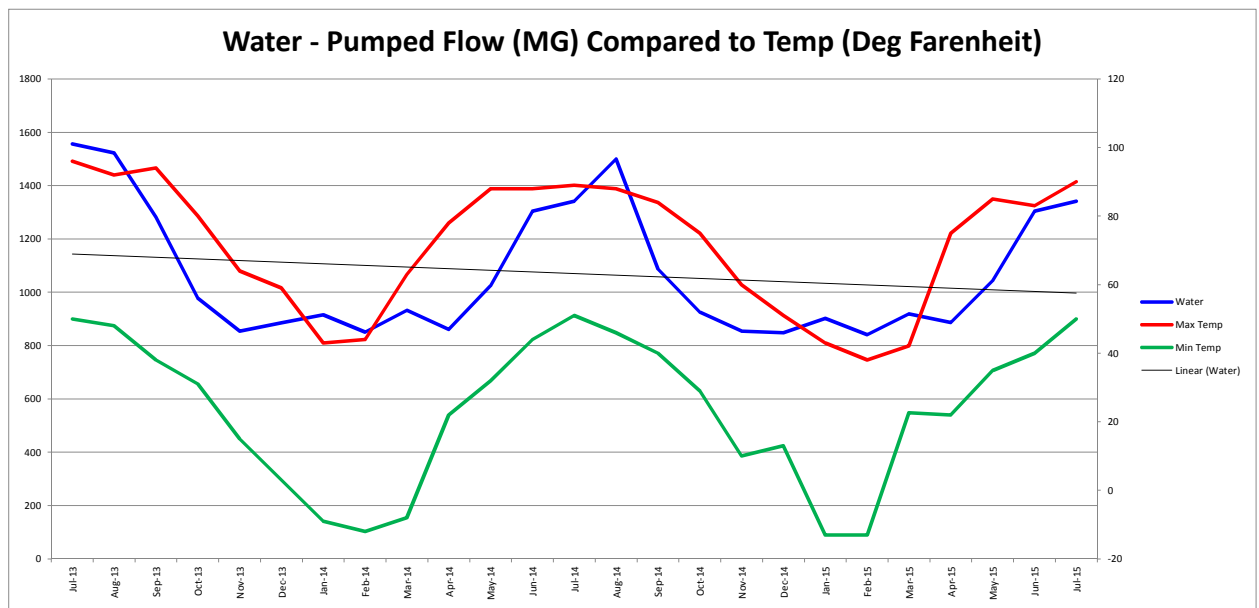
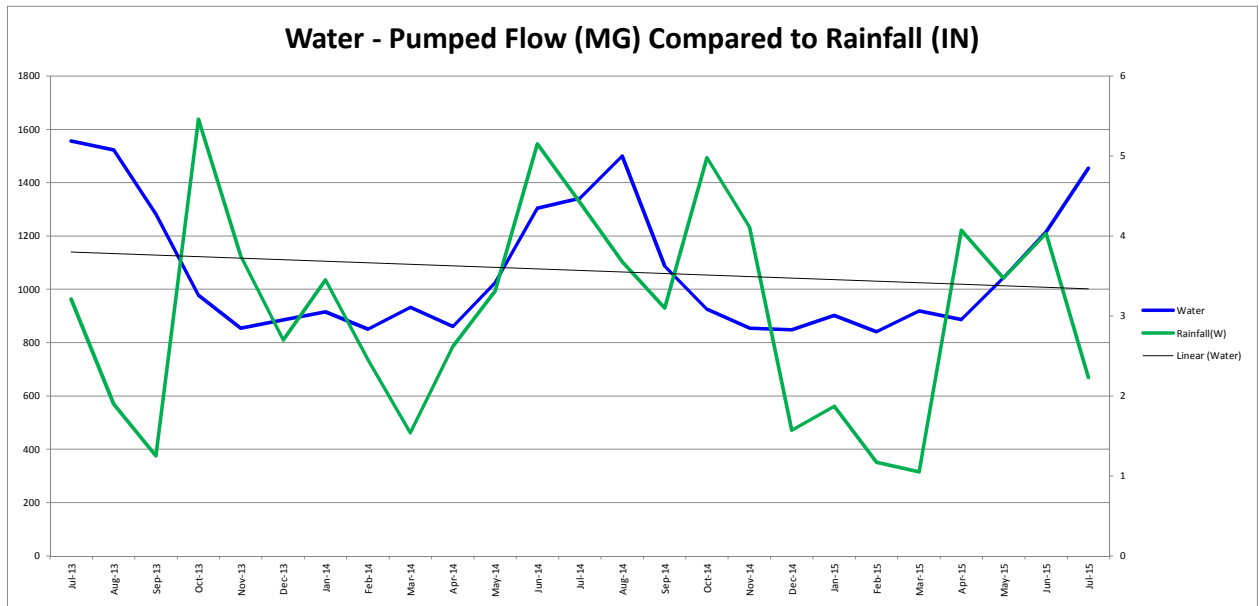
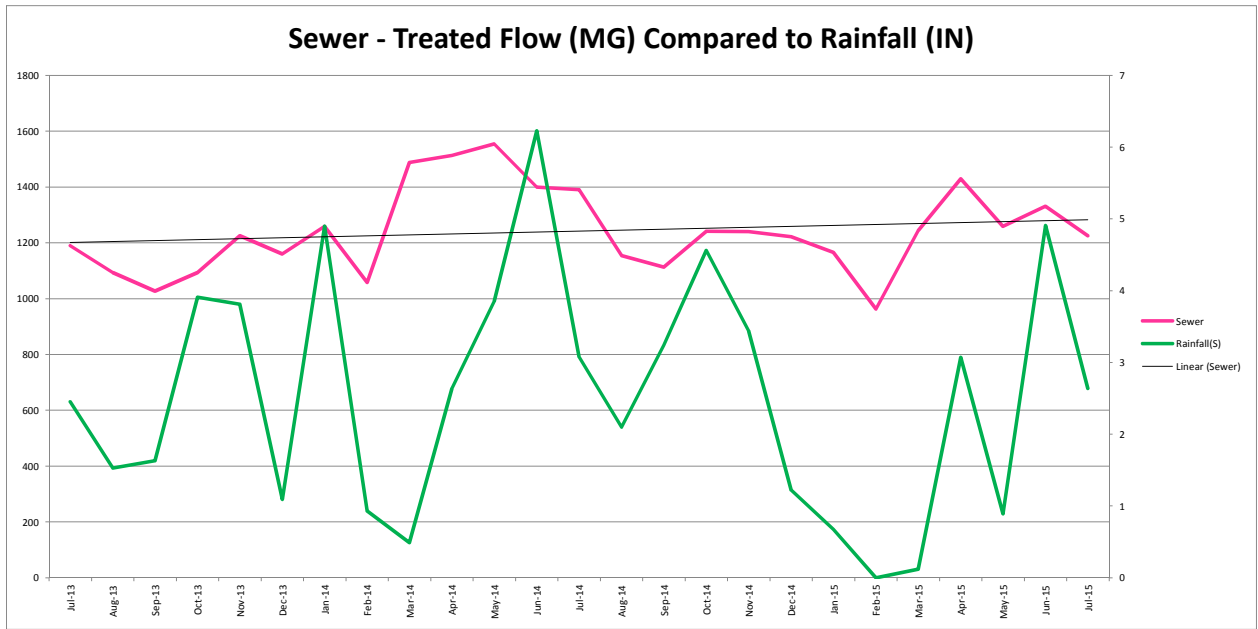
<b>GPFM OL3</b>	<b>Group</b>	<b>Description</b>	<b>FY14 Final</b>	<b>FY15 Budget</b>	<b>Q4FYTD-FY14</b>	<b>Q4FYTD-FY15</b>	<b>FY15/FY14 VARIANCE</b>
8500	800	TELEPHONE	\$ 73,681	\$ 58,770	\$ 73,681	\$ 65,434	\$ (8,247)
8510	800	Employee Phone Reimbursement	\$ 1,876	\$ 4,278	\$ 1,876	\$ 4,352	\$ 2,476
8800	800	COMMUNITY PROMOTION	\$ -	\$ 206	\$ -	\$ -	\$ -
9000	800	PRINTING & PUBLISHING	\$ 11,345	\$ 14,368	\$ 11,345	\$ 5,762	\$ (5,582)
9210	800	ELECTRICITY	\$ 2,291,745	\$ 2,451,980	\$ 2,291,745	\$ 2,266,717	\$ (25,028)
9220	800	WATER	\$ 32,797	\$ 37,394	\$ 32,797	\$ 46,379	\$ 13,582
9230	800	NATURAL GAS	\$ 270,480	\$ 258,829	\$ 270,480	\$ 211,755	\$ (58,725)
9300	800	MAINTENANCE SERVICE	\$ 20,147	\$ 485,709	\$ 20,147	\$ 84,721	\$ 64,574
9310	800	HOME REPAIR	\$ 172,015	\$ 150,000	\$ 172,015	\$ 60,961	\$ (111,054)
9330	800	PAVEMENT REPAIR	\$ 91,378	\$ -	\$ 91,378	\$ 93,009	\$ 1,631
9410	800	BUILDINGS RENTALS OR LEASE	\$ 21,347	\$ 22,407	\$ 21,347	\$ 22,407	\$ 1,060
9420	800	EQUIPMENT RENTALS OR LEASE	\$ 1,338,618	\$ 1,472,671	\$ 1,338,618	\$ 1,303,941	\$ (34,677)
9430	800	LAND RENTAL OR LEASE	\$ 3,115	\$ 7,500	\$ 3,115	\$ 4,166	\$ 1,051
9440	800	VEHICLE USAGE/CAR MILEAGE	\$ 11,580	\$ 12,917	\$ 11,580	\$ 12,017	\$ 436
9550	800	PROFESSIONAL DEVELOPMENT	\$ 12,223	\$ 27,697	\$ 12,223	\$ 9,369	\$ (2,854)
9552	800	OTHER TRAVEL & TRAINING	\$ 31,182	\$ 78,400	\$ 31,182	\$ 51,811	\$ 20,630
9554	800	LOCAL BUSINESS EXPENSE	\$ 5,270	\$ 5,806	\$ 5,270	\$ 9,901	\$ 4,631
9556	800	MEMBERSHIPS	\$ 9,363	\$ 18,025	\$ 9,363	\$ 9,921	\$ 558
9558	800	SUBSCRIPTIONS AND PUBLICATIONS	\$ -	\$ 4,806	\$ -	\$ 2,809	\$ 2,809
9610	800	FEES	\$ 49,021	\$ 26,575	\$ 49,021	\$ 26,472	\$ (22,549)
9617	800	Late Fees-Utilities	\$ 5	\$ -	\$ 5	\$ 538	\$ 533
9618	800	Late Fees-Other	\$ 52	\$ -	\$ 52	\$ -	\$ (52)
9620	800	BAD DEBT WRITE-OFFS	\$ 89,759	\$ -	\$ 89,759	\$ 17,184	\$ (72,575)
9622	800	REFUSE COLLECTION CHARGES	\$ -	\$ 11,860	\$ -	\$ -	\$ -
9630	800	CAPITAL CONTRIBUTIONS	\$ (14,507,751)	\$ -	\$ (14,507,751)	\$ -	\$ 14,507,751
9680	800	DEPRECIATION	\$ 13,644,126	\$ -	\$ 13,644,126	\$ -	\$ (13,644,126)
9735	970	BUILDING ADDITIONS/IMPROVEMENTS	\$ -	\$ -	\$ -	\$ -	\$ -
9740	970	BOOKS/OTHER MATERIALS/ARTIFACTS	\$ 928	\$ -	\$ 928	\$ -	\$ (928)
9750	970	FURNITURE	\$ 12	\$ 14,000	\$ 12	\$ -	\$ (12)
9760	970	EQUIPMENT	\$ 49,124	\$ 250,062	\$ 49,124	\$ 164,549	\$ 115,425
9765	970	SOFTWARE	\$ 138,287	\$ -	\$ 138,287	\$ 59,626	\$ (78,661)
9800	970	CONSTRUCTION IN PROGRESS	\$ -	\$ -	\$ -	\$ -	\$ -
9950	990	INTEREST & PAYING AGENT FEES	\$ 12,070,116	\$ 12,339,388	\$ 12,070,116	\$ 12,899,296	\$ 829,180
9952	990	Amortization Expense	\$ (282,942)	\$ -	\$ (282,942)	\$ (790,437)	\$ (507,494)
9960	996	APPROPRIATION LAPSE	\$ -	\$ (1,080,000)	\$ -	\$ -	\$ -
9990	999	OPERATING TRANS OUT-SUBSIDIES	\$ 2,080,651	\$ 2,156,684	\$ 2,080,651	\$ 2,156,684	\$ 76,033
9992	999	OPERATING TRANSFERS-A87 COST	\$ 635,371	\$ 760,851	\$ 635,371	\$ 760,851	\$ 125,480
9993	999	OPERATING TRANS-CAPT PROJECTS	\$ 60,000	\$ 4,799,000	\$ 60,000	\$ 4,799,000	\$ 4,739,000
9995	999	OPERATING TRANS-MISC	\$ -	\$ -	\$ -	\$ -	\$ -
		<b>EXPENDITURE TOTAL</b>	<b>\$ 35,210,714</b>	<b>\$ 42,967,268</b>	<b>\$ 35,210,714</b>	<b>\$ 41,788,607</b>	<b>\$ 6,577,892</b>
		<b>NET INCOME (LOSS)</b>	<b>\$ 14,885,909</b>	<b>\$ 10,533,272</b>	<b>\$ 14,885,909</b>	<b>\$ 8,974,719</b>	<b>\$ (5,911,190)</b>

### Sewer - Treated Flow (MGD)



### Water - Pumped Flow (MGD)

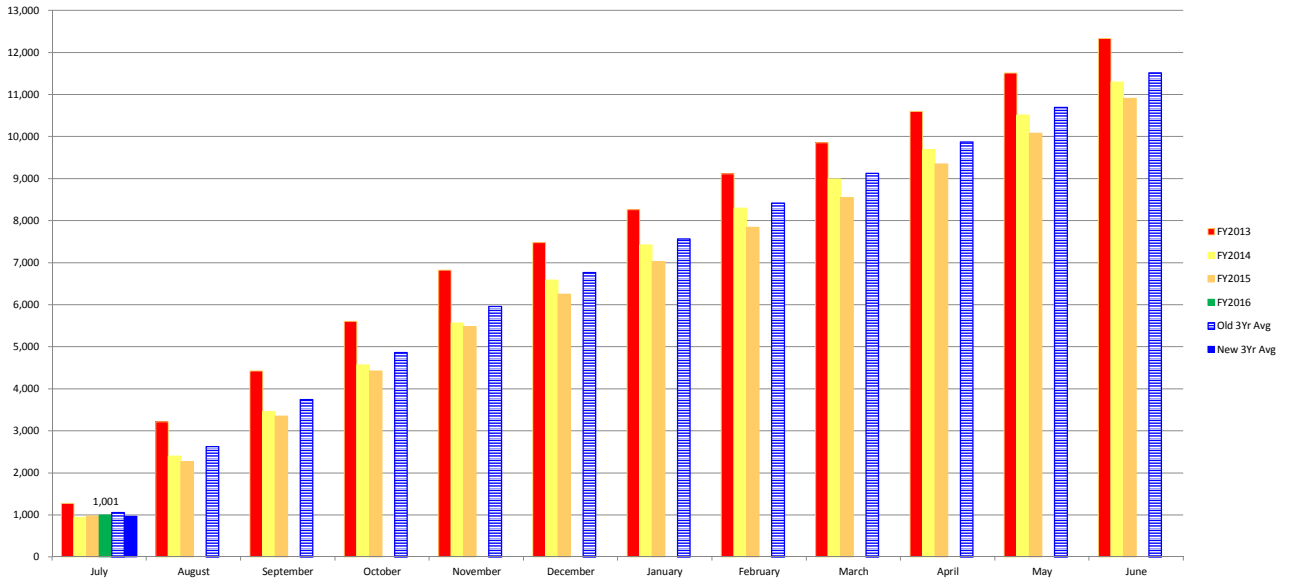


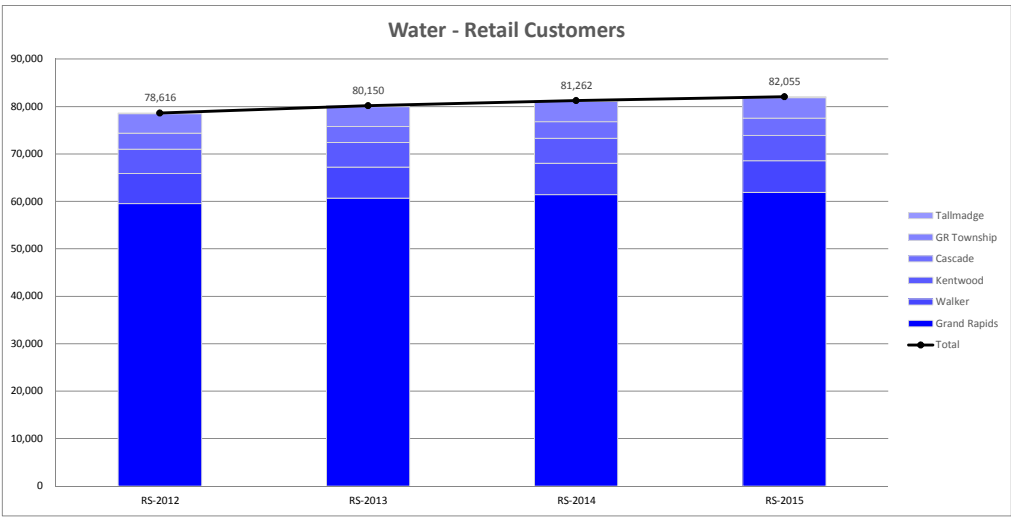


### Sewer - YTD Billed Flow (MG)



### Water - YTD Billed Flow (MG)





**Water/Sewer UAB Report  
July 2015**

Project Name	Contractor	Award Date	Substantial Completion Date	Final Completion Date	Water Fund Authorized NTE Amt	Sewer Fund Authorized NTE Amt	Est. Year for Rates	Integrated (Y/N)
As-Needed Professional Services for Roof Asset Management Planning for the City of Grand Rapids at Various Buildings-2015	Weatherproofing Technologies Inc. (WTI) dba Tremco	7/14/2015	NA	7/14/2018	\$ 47,566.05		2017	Integrated
Reconstruction of Bartlett Street from Market Avenue to Grandville Avenue, Finney Avenue from Wealthy Street to Williams Street and Williams Street from Market Avenue to Grandville Avenue in Connection with Founders Brewing Company Expansion (TEDF-A Grant) <b>(Increase in expenditures and scope of work)</b>	Diversco Construction Company Inc	4/28/2015	10/20/2015	5/31/2016	\$ 434,161.00	\$ 644,607.00	2016	Non-Integrated (GR)
Reconstruction of State Street from Jefferson Avenue to Lafayette Avenue and Reconstruction of Bostwick Avenue from Lyon Street to Crescent Street	Nagel Construction, Inc. (MDOT)	7/10/2015	10/15/2016	6/2/2017	\$ 245,672.00	\$ 339,879.00	2017	Non-Integrated (GR)



## **MEDIA RELEASE**

**For Immediate Release**  
July 28, 2015

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**MWEA also honors GRESD Manager with two prestigious awards**

### **Grand Rapids Environmental Services Department chemist receives MWEA's Educational Professional of the Year Award**



**GRAND RAPIDS, Mich.** – The Michigan Water Environment Association (MWEA) has awarded Grand Rapids Environmental Services Department chemist Sandra Buchner its 2015 Educational Professional of the Year Award recognizing her exemplary

professionalism and promotion of water resource learning.

“Ms. Buchner’s tireless efforts to increase awareness about the critical importance of protecting, preserving and enhancing our state’s water resources reflects a commitment to excellence and leadership that all Michigan residents can applaud,” said MWEA Executive Director Jerry Harte. “Grand Rapids is fortunate to have a public servant who is as skilled and dedicated to her craft and improving the quality of the Grand River as Ms. Buchner.”

In addition to her duties as a laboratory chemist at the city’s wastewater treatment plant, Buchner leads free weekly tours of the facility for Grand Rapids third-grade students and above as well as public tours for groups of city residents.



During her 10-year career with the department, city records show Buchner has provided environmental instruction to more than 12,000 tour patrons. In addition, Buchner serves on multiple water resources committees and works with the nonprofit FLUSH water education program that informs Michigan Boy Scouts and Girl Scouts about the value of maintaining fresh water resources.

Buchner has a biology degree from Michigan State University and graduated from the teacher certification program at Grand Valley State University. She previously served as a teacher at Grand Rapids Catholic Central High School where she coached the school's Science Olympiad team, and worked at the Michigan Department of Environmental Quality (DEQ) for eight years as a scientist who helped launch the DEQ's mobile laboratory program before joining the Grand Rapids Environmental Services Department in 2005.

"Sandy's work is essential to fulfilling our mission of developing environmental leaders in the classroom and in our community," said Grand Rapids Environmental Services Department Manager Mike Lunn.

"Her acceptance of the MWEA award is another example of how Grand Rapids is heralded nationally for embracing state-of-the-art technological innovation, environmental stewardship and smart investment in its wastewater treatment systems," Lunn said.

Established in 1925, the MWEA is one of Michigan's oldest organizations and represents more than 2,000 water quality professionals statewide. The MWEA is a member association of the Water Environment Federation (WEF), an international organization with more than 40,000 members worldwide.

The MWEA Awards Program offers recognition opportunities in 26 categories encompassing all of the various areas of interest in the water environment profession, while simultaneously creating meaningful awards that inspire and reflect outstanding character and performance. Boyne Mountain Resort in Boyne Falls, Mich. hosted the awards ceremony earlier this summer.

The MWEA also honored Lunn during the annual event with two awards. Lunn won his second James R. Rumsey Award for a research presentation he delivered in 2015 that highlighted Grand Rapids wastewater treatment plant's innovative energy-saving initiatives,

such as paper reduction, heat recovery and high-efficiency motors. Lunn also received the association's Willard F. Shephard Award, which recognizes individuals who have completed 20 years of membership in MWEA.

Lunn's discussion of Grand Rapids energy technology efficiencies received accolades based on his "effective communication of topics as well as technical content, practical application and overall enjoyment of his presentation," MWEA board member Jennifer Zelski said in bestowing him the Rumsey award. "Mike has established himself as an 'out-of-the-box,' creative thinker, problem solver and is a valuable contributor to our association and programs."

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### **Project to eliminate CSOs began in 1988**

## **Grand Rapids completes water quality project**

**GRAND RAPIDS, Mich.** – A significant public works and environmental upgrade, nearly 30 years in the making, is now complete. Grand Rapids Mayor George Heartwell today announced that the City has completed its combined sewer overflow (CSO) control program three years ahead of a state mandated deadline.

According to Grand Rapids officials, the State of Michigan issued a mandate to the City in 1988 to eliminate all CSOs by 2019. The mandate was necessary to upgrade a portion of the 100 year-old Grand Rapids sewer system that used a system of combined sewers with both storm water and sanitary sewage transported in a single pipeline. The CSO approach was common across the country at the time of construction. However, engineers over-time discovered that the antiquated CSO system did have serious drawbacks including prompting flooding during heavy rainfalls which caused basement backups and allowed untreated sewage to be discharged into area rivers.

“Reengineering and digging up our historic city over the past 30 years to install proper storm and sewerage system was no small feat,” Mayor Heartwell said. “Although it inconvenienced our residents with, what seemed to be, an unending series of construction projects that interrupted neighborhoods, we can positively say now that it was the right thing to do. The water quality improvements produced by this project are remarkable and are a generational bequest to the Grand River watershed.”

Design services for the city's CSO project began in 1987 with the construction of a 30 million gallon retention basin and then continued with engineering for separation of the City's combined sewers. At that time, the City' combined sewers carried approximately 1.96 billion gallons annually and encompassed a more than six-square-mile area. The enormous scope of work included eliminating 59 sewer overflow sites and discharges into the Grand River by separating and replacing storm and sanitary sewers and installing 119 miles of new pipelines. The City completed the first phase of the project on the west side of the city in 1999.

This month crews completed work at the intersection of Washington Street and Lafayette Avenue -- the last of the 59 original overflow sites.

Grand Rapids Deputy City Manager Eric DeLong says the project significantly enhanced the city's water quality and reduced the chance of localized flooding. "Although the project seemed overwhelming and a massive undertaking, Grand Rapids looked at the mandate as an opportunity to invest in rebuilding neighborhoods and business districts while achieving this critical environment outcome. Our CSO projects focused on each element of infrastructure that creates quality places."

As the project evolved over the past three decades, the City Engineer's Office and Environmental Services Department worked to incorporate new techniques focusing on green infrastructure and design components into projects. "These green techniques often created unique places throughout neighborhoods such as narrowing existing roadways where possible to increase grass parkways, said Mark DeClercq, city engineer.

Mike Lunn, environmental services manager, added that these public works improvements went a step further to decrease water flows on concrete and asphalt surfaces. "Additional green infrastructure improvements made during the CSO project also included installing rain gardens (bioswales) and hydrodynamic separators to remove sediments and porous pavement," he said.

DeLong said completion of the project ahead of schedule, "is a tribute to the City's partners who provided CSO services including Black & Veatch, Fishbeck Thompson, Carr and Huber--Materials Testing Consultants, and the great work of our construction industry partners. It is also a testament to our staff, Mayors and City Commissions and the will of

our residents and ratepayers to see this through. This was a total community effort and we cannot thank everyone enough.”

“Grand Rapids has been very proactive in addressing combined sewer overflows to the benefit of residents and the environment,” said Cindy Wallis-Lage, President of Black & Veatch’s water business. “Accomplishing this major project three years ahead of schedule is a credit to the city’s strong community leadership and public works team.”

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# **Solar to power City's Wastewater Treatment Plant, saving up to \$300,000 annually**



**GRAND RAPIDS, Mich.** – A new major Grand Rapids Solar Reuse Project promises to save the government agency \$200,000 or more in annual energy costs.

The Grand Rapids City Commission today authorized City staff to begin negotiations with American Capital Energy (ACE) for a long term power purchase agreement and land lease arrangement for a solar facility at the former Butterworth Acres landfill site.

In November 2013, the Environmental Protection Agency (EPA)-funded Solar Reuse Feasibility Study for the Butterworth Acres Superfund determined that it was feasible to utilize the site for solar energy. In the past two years, the City evaluated several options for utilizing the solar energy produced at the site before identifying the adjacent Wastewater Treatment site as the most cost effective option.

According to Dr. Haris Alibašić, *Grand Rapids' energy and sustainability director*, the Wastewater Treatment plant costs average .0883 per kilowatt hour (kWh). After reviewing other bids for similar solar installations the kWh cost for a power purchase agreement would likely be lower than the City's current average power costs, which could amount to \$200,000 - \$300,000 in electricity cost savings per year. There is no upfront cost to the City and there will be only minimal attributable staff and consulting services costs related to this project.

An evaluation team consisting of City staff, the EPA, Michigan Department of Environmental Quality (MDEQ) and the Butterworth Site Group (BSG) carefully evaluated six proposals received through an RFP process and rated ACE the highest overall due to their per kWh price, potential savings to the Wastewater Treatment plant, and their experience building similar facilities on former landfills.

Mike Lunn, environmental services manager with the City of Grand Rapids, said the Butterworth Solar project, “represents a fantastic opportunity to use renewable energy to reduce the cost of turning wastewater into clean water.”

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