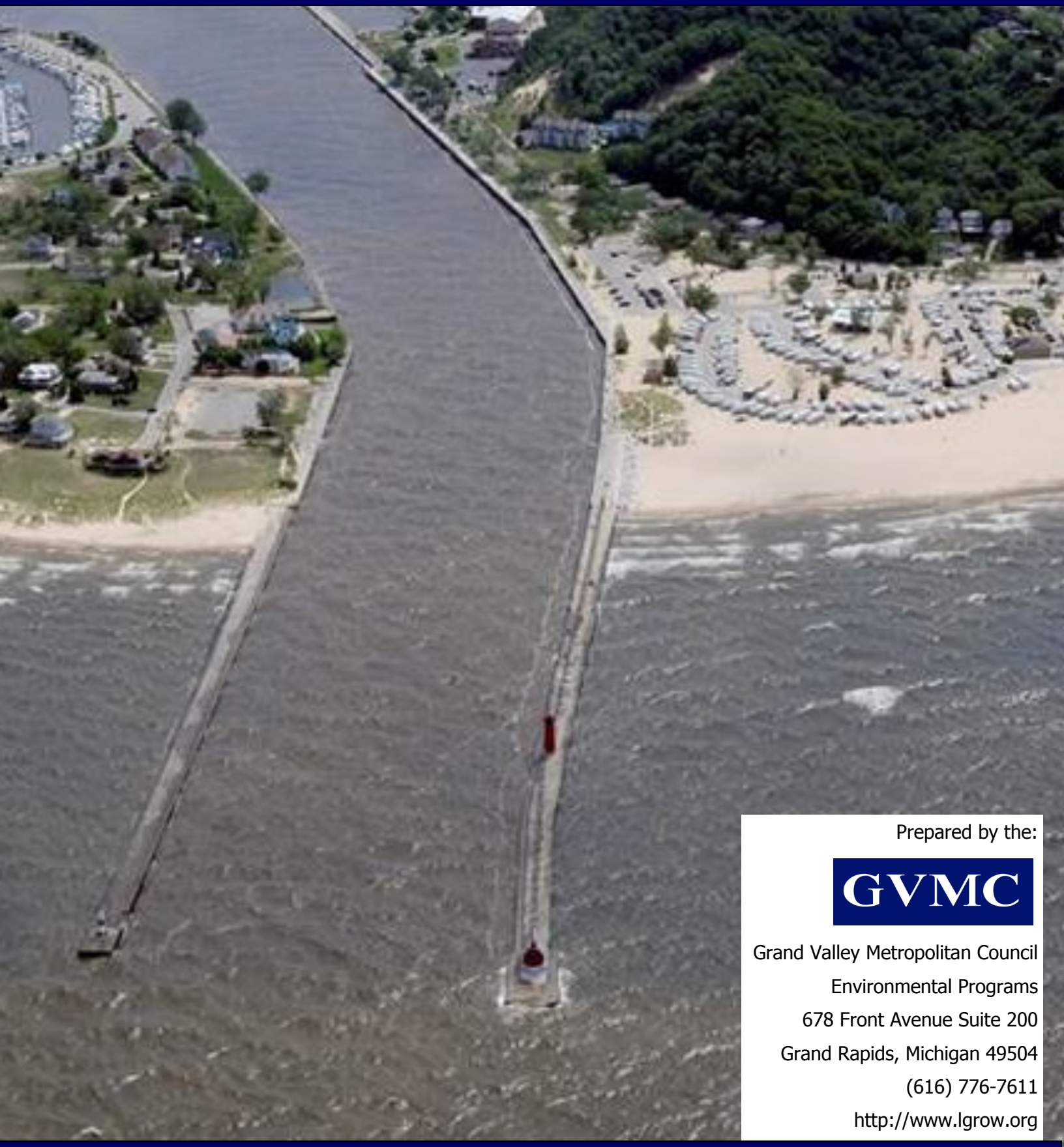
Lower Grand River Watershed Progress Report

City of Grand Rapids

Reporting Period: August 1, 2014– July 31, 2015



Prepared by the:

GVMC

Grand Valley Metropolitan Council

Environmental Programs

678 Front Avenue Suite 200

Grand Rapids, Michigan 49504

(616) 776-7611

http://www.lgrow.org

Contents

Tables

Figures

List of Abbreviations/Acronyms

AWRI	Annis Water Resources Institute
BMP	Best Management Practice
CES	Center for Environmental Study
CoC	Certificate of Coverage
DIP	Data, Information, and Procedures
DPW	Department of Public Works
GVMC	Grand Valley Metropolitan Council
HD	Health Department
ICMA	International City/Country Management Association
IDEP	Illicit Discharge Elimination Plan
I&E	Information and Education
KCDC	Kent County Drain Commissioner
KCRC	Kent County Road Commission
KIH	Kent Innovation High School
LGROW	Lower Grand River Organization of Watersheds
LGRW	Lower Grand River Watershed
LID	Low Impact Development
MACC	Macatawa Area Coordinating Council
MDEQ	Michigan Department of Environmental Quality
MGROW	Middle Grand River Organization of Watersheds
MS4	Municipal Separate Storm Sewer System
MSUE	Michigan State University Extension
NOAA	National Oceanic and Atmospheric Administration
NPS	Nonpoint Source
O&M	Operation and Maintenance
OCWRC	Ottawa County Water Resources Commissioner
PCC	Post-Construction Controls
PEP	Public Education Plan
POS	Point-of-Sale
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SWPPI	Stormwater Pollution Prevention Initiative
TSS	Total Suspended Solids
USEPA	U.S. Environmental Protection Agency
WMEAC	West Michigan Environmental Action Council
WMP	Watershed Management Plan
WMSECN	West Michigan Soil Erosion Control Network
WMSRDC	West Michigan Shoreline Regional Development Commission
WQI	Water Quality Index

Part 1 – Contact Information

Contact Information for Michigan Department of Environmental Quality (MDEQ):	
Please provide current contact information for MDEQ to use regarding stormwater issues.	
Permit Application Contact	
Name	Mike Lunn
Title	Environmental Services Department Manager
Address	1300 Market Avenue SW
City, State, Zip	Grand Rapids, MI 49503
Telephone (with area code)	616-456-3625
Fax (with area code)	616-456-3711
E-mail	mlunn@grcity.us
Stormwater Program Manager	
Name	Carrie Rivette
Title	Project Engineer
Address	1300 Market Avenue SW
City, State, Zip	Grand Rapids, MI 49503
Telephone (with area code)	616-456-3057
Fax (with area code)	616-456-3711
E-mail	crivette@grcity.us
Stormwater Permit Fee Billing Address	
Name	Mike Lunn
Title	Environmental Services Department Manager
Address	1300 Market Avenue SW
City, State, Zip	Grand Rapids, MI 49503
Telephone (with area code)	616-456-3625
Fax (with area code)	616-456-3711
E-mail	mlunn@grcity.us

Part 2 – Municipal Stormwater Pollution Prevention Initiatives (SWPPI) Commitments

Committees have been working to address different subject areas to make program implementation as efficient as possible. Every participating Municipal Separate Storm Sewer System (MS4) permittee has a representative on at least one committee. Committee meetings have also been used to update everyone on the progress of the other committees and the program in general. The committees are as follows:

- Stormwater Education Committee (PAM/PEP)
- Stormwater Ordinance Committee (SWOrd)
- Data, Information, and Procedures Committee (DIP)

The list of committee members who have served on the committees during this reporting period are indicated in Table 2 below. Communities denoted with an asterisk are permitted MS4s under the Lower Grand River Watershed Permit.

Table 1. LGRW Committee Membership List as of July 31, 2015

Community	Representative	PAM/PEP	Stormwater Ordinance	Data, Information & Procedures
Cascade Charter Township	Mr. Steve Peterson	X	X	
East Grand Rapids, City of	Mr. Joe Slonecki			X
Ferrysburg, City of	Mr. Craig Bessinger			X
Forest Hills Public Schools	Mrs. Lea Sevigny	X		
Georgetown Charter Township	Mr. Rod Weersing	X		
Nested: Jenison Public Schools	Ms. Kim Kiel	X		
Grand Haven, City of	Mr. Bill Hunter			
Grand Haven, City of	Ms. Cheryl Davidson	X		
Grand Rapids Charter Township	Mr. Bob Versluys		X	
Grand Rapids, City of	Mr. Chuck Schroeder			Alt
Grand Rapids, City of	Mr. Mike Lunn	Alt	X	Alt
Grand Rapids, City of	Ms. Carrie Rivette	X	X	
Grand Rapids, City of	Mr. Dan Taber			X

Table 1. LGRW Committee Membership List as of July 31, 2015				
Community	**Representative**	**PAM/PEP**	**Stormwater Ordinance**	**Data, Information & Procedures**
Grandville, City of	Mr. Ken Krombeen		X	
Grandville, City of	Mr. Ron Carr	X		
GVSU*	Mr. John Koches (Chair)			X
Hudsonville, City of	Ms. Amber Eckert-Howe	X		
KCDC	Mr. Bill Byl		X	
KCDC	Mr. Brad Boomstra		X	
KCDC	Mr. Doug Sporte		X	
KCDC	Ms. Angie Latvaitis			X
KCDC	Ms. Lani Brown	X		
KCRC	Mr. Dave Beck	X		
KCRC	Mr. Dave Bennett			
KCRC	Mr. Wayne Harrall		X	
Kent County Health Department*	Ms. Sarah Simmonds			X
Kent Resource Recovery*	Ms. Kristen Wieland	X		
Kentwood, City of	Mr. Jim Beke		X	X
Kentwood, City of	Mr. John Gorney	X		
Kentwood, City of	Mr. Dan VanderHeide		X	
MDEQ*	Ms. Amanda St. Amour	X	X	X
MDEQ*	Ms. Dana Strouse	X		X
OCWRC**	Mr. Dennis Cole		X	
OCWRC**	Ms. Linda Brown	X		
OCWRC	Ms. Angela Walachovic	X		
OCRC**	Mr. Jerry Olman		X	
Plainfield Charter Township	Mr. Rick Solle		X	
Plainfield Charter Township	Ms. Mary Trapp-Gunst	X		

Table 1. LGRW Committee Membership List as of July 31, 2015				
Community	**Representative**	**PAM/PEP**	**Stormwater Ordinance**	**Data, Information & Procedures**
Rockford, City of	Mr. Mike Bouwkamp	X		
Sparta, Village of	Mr. Miles Ring			
Spring Lake, Village of	Ms. Chris Burns	X		
Spring Lake, Village of	Mr. Roger Belknap			X
Walker, City of	Mr. Scott Conners		X	
Walker, City of	Ms. Rachell Nagorsen	X	X	X
Wyoming, City of	Mr. Aaron Vis	X		X
Wyoming, City of	Mr. Myron Erickson		X	

PAM/PEP Committee

The PAM/PEP Committee met on September 10, 2014, November 12, 2014, January 14, 2015, March 11 2015, May 13, 2015, and June 17, 2015 during the reporting period. Minutes and Agendas were posted to http://www.lgrow.org/MS4pampep. Throughout the reporting period, the group focused on implementation of the updated Public Education Plan (PEP) approved in February of 2013, which is available here: http://www.lgrow.org/uploads/files/PEP%20Master.pdf.

The PAM/PEP Committee has been functioning as a joint committee of the Lower Grand River Organization of Watersheds (LGROW) and the permitted Lower Grand MS4 communities since January of 2014. The goals of LGROW, the Lower Grand River Watershed Management Plan, and the MS4 Public Education Plan align closely, and through this joint committee's combined efforts, the result has been a larger group of involved stakeholders. This group shares the common goals of raising awareness about the Lower Grand River Watershed (LGRW) and improving the stormwater quality within that watershed. During this reporting period, the group focused on selecting outreach events and activities which provided access to the target audiences identified in the PEP and identifying activities that would result in a behavioral change on the part of those who participated. A detailed list of these events and the outreach conducted is provided in Part 3.

SWOrd Committee

The SWOrdCommittee met on August 25, 2014, September 29, 2014, October 27, 2014, November 24, 2014, December 15, 2014, January 26, 2015, February 23, 2015, and June 1, 2015 during the reporting period. Meetings were focused on researching and developing an alternative approach for the new post-construction stormwater control requirements outlined in the 2016 NPDES Permit Application. Minutes and agendas for the meetings are available at: http://www.lgrow.org/MS4pccord.

The committee drafted and submitted an alternative approach for the channel protection standard to address sites where it is not feasible or allowable to permanently retain stormwater as specified by the permit requirements. The alternative approach required prospective developers to proceed through a series of steps to evaluate the potential for each site to meet the channel protection requirement as laid out in the permit. Once requirements for site design and soil testing were met, developers would then be allowed to consider the use of extended detention with controlled release where barriers to infiltration exist. Three scenarios were reviewed for several sites of various sizes and soil conditions throughout the regulated areas of the watershed. The first scenario utilized the existing development requirements as they are in place today, the second scenario used permit specified development requirements, and the third used the alternative approach. The results showed that the alternative approach, as proposed, allowed for channel protection in a greater number of areas than the permit requirements as written.

DIP Committee

The DIP Committee met on August 20, 2014, October 15, 2014, December 17, 2014, and April 15, 2015 during this reporting period. Agendas and minutes from the meetings are available at the following site: http://www.lgrow.org/MS4dip. In January of 2014 the committee shifted its primary focus from the approval of the Illicit Discharge Elimination Plan (IDEP) and outfall screening to the development of a new focus detail document titled "Watershed Monitoring to Evaluate Effectiveness of Nonpoint Source Pollution and Municipal Stormwater Runoff Controls and Practices." During 2014, the group refined the DIP Committee focus detail and began working through the objectives set forth in the document. In 2015, the committee members focused on the development of a watershed monitoring manual to guide the collection, processing, and storage of data in the Lower Grand River Watershed. This manual will guide groups including the newly formed Buck Creek Friends group and the Lower Grand River TMDL monitoring, as required by the MS4 permit. As of the close of this reporting period, the committee is finalizing data collection and screening procedures and planning ahead for implementation for the TMDL

monitoring. This will require the committee to secure partners and funding to conduct the actual sampling.

Training

GVMC provides multiple training documents and DVDs for Permittee use and hosted or partnered on several training events during the reporting period including:

- Stormwater Information for Landscapers (brochure, updated)
- REGIS Outfall and Storm Sewer System Mapping In GIS
- West Michigan Green Infrastructure Conference & Grand Rapids Green Infrastructure Tour
- Soil Erosion & Sediment Control 101 Panel Discussion (West Michigan Soil Erosion Control Network)
- Soil Erosion Control Network Field Demonstration Day (West Michigan Soil Erosion Control Network)
- DVD from North Central Texas Council of Governments Municipal Employee Training Series: Preventing Stormwater Pollution: What We Can Do (includes the following videos)
    - Introduction: What We Can Do
    - Construction Activities and Land Disturbances
    - Fleet Maintenance and Material Handling
    - Streets and Drainage Maintenance
    - Parks and Grounds Maintenance
    - Solid Waste Management

Training Library

A lending library of training materials is housed at GVMC and is available to all watershed partners to assist with the Municipal Employee Training requirements of the discharge permit. The following materials are currently available:

DVD from Excal Visual, LLC

- IDDE – a grate concern: Illicit Discharge Detection & Elimination (14¼ Minutes)

DVD from Excal Visual, LLC

- Storm Watch - Municipal Stormwater Pollution Prevention (20 Minutes)

DVD from Excal Visual, LLC

- Stormwater Pollution Prevention - A Drop in the Bucket (16 Minutes)

DVD from Excal Visual, LLC

- Ground Control - Stormwater Pollution Prevention for Construction Sites (14.5 Minutes)

DVD from Excal Visual, LLC

- Spills & Skills - Non-Emergency HazMat Spill Response (18.5 Minutes)

DVD from Southeast Michigan Council of Governments (SEMCOG) and the Road Commission for Oakland County

- Keep An Eye On It! - Environmental Awareness for Gravel Road Maintenance (18.5 Minutes)

DVD from USEPA - Reduce Runoff: Slow It Down, Spread It Out, Soak It In (includes the following videos)

- Reduce Runoff: Slow It Down, Spread It Out, Soak It In 9 Minutes
- RiverSmart Homes: Getting Smart about Runoff 12 Minutes
- Building Green: A Success Story in Philadelphia 11 Minutes
- After the Storm 22 Minutes

FILLING THE GAPS: Environmental Protection Options for Local Governments, 2nd Edition, revised December 2010 (including appendices on CD) (90 Pages)

Each permitted community also conducted a detailed review of their current inspection and maintenance procedures for structural BMPs as well as a detailed review of operational BMPs in preparation for the submittal of the new individual MS4 permit application in April of 2015. Preparation of the BMP manuals, which were submitted, proved to be a valuable training tool for Permittees to ensure that their current procedures were updated and adequately protect stormwater.

Monitoring

The Grand River Water Quality Index (WQI) is used to show the trend of Grand River water quality downstream of Grand Rapids. A WQI of 71-90 indicates good water quality with high diversity of aquatic life and very few limits for recreational use. Grand Rapids has been monitoring the Grand River for forty years and all of the data are available upon request. A record of the WQI for Wealthy Street Bridge is provided as an example of improving water quality in the Grand River. An interactive map and data from recent sampling events can be viewed as follows:
http://grcity.us/enterprise-services/Environment-Services/Pages/Water-Quality-Index2.aspx

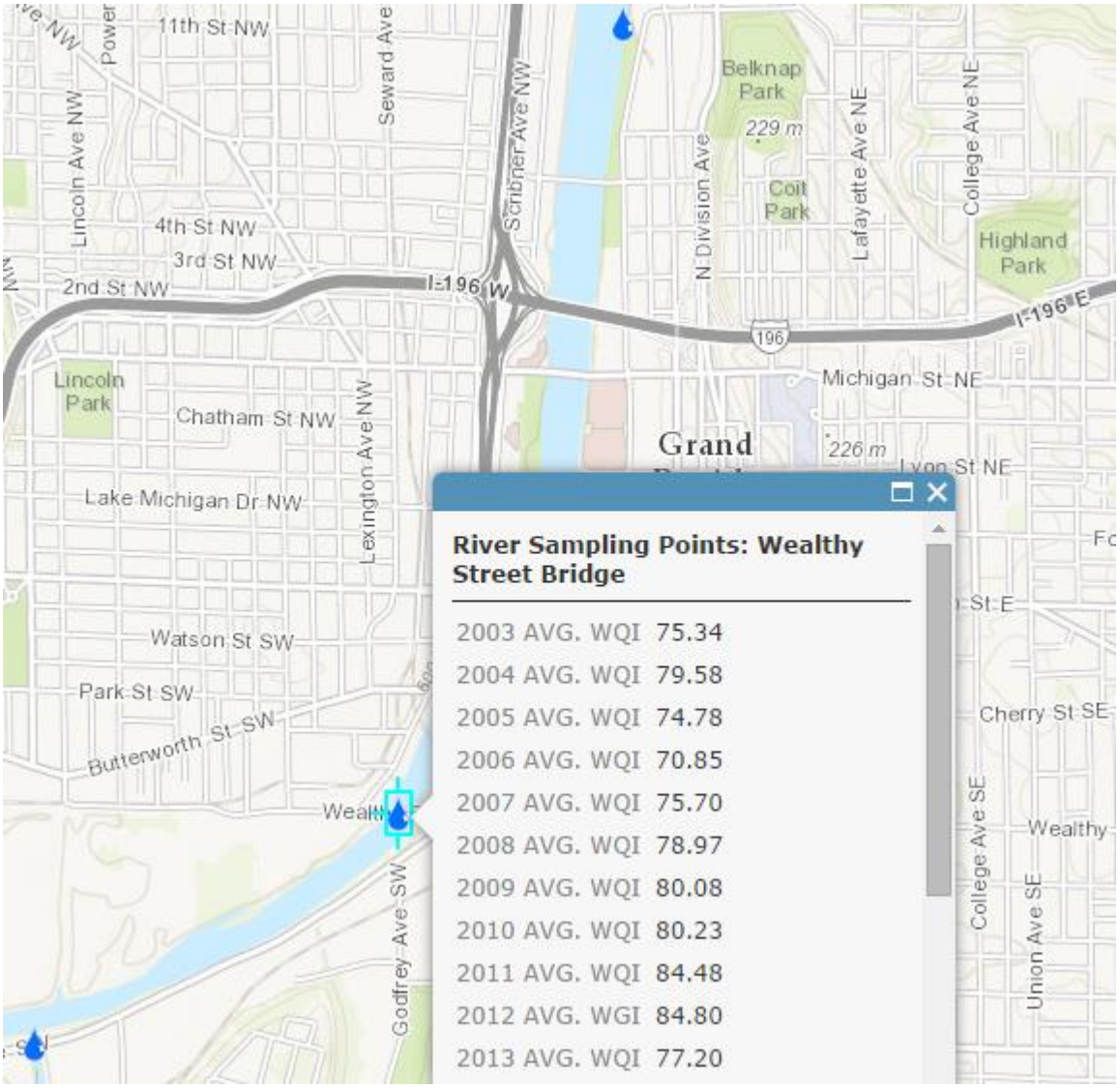


Figure 1.Grand Rapids Water Quality Index Web Interface

MDEQ Program Audits

MDEQ is expecting to perform MS4 Program Audits in all MS4 communities within 5 years. During this reporting period, MDEQ performed audits on the following LGRW communities:

September 16, 2014	City of Grand Rapids
January 28, 2015	Grand Rapids Charter Township
July 23, 2015	City of East Grand Rapids
August 18, 2015	Village of Spring Lake

GVMC assisted the communities in preparing for the audits, participating in the audits, and in addressing any deficiencies identified by MDEQ.

Part 2A - Lower Grand River Watershed Management Plan Prioritized Objectives: Regional Participation for August 1, 2014 - July 31, 2015

Encouraging proper septic tank maintenance

Each year a portion of the public education materials distributed address proper septic tank maintenance. Detailed information regarding the nature of these materials is included in Part 3 - PEP of the progress report. Additionally, communities in both Kent and Ottawa Counties work collaboratively with their respective Health Departments to report and ensure correction of failing or failed septic systems. Individual communities track this data in Part 4 – IDEP of the progress report.

Encouraging septage ordinance

The Ottawa County Health Department presently has an ordinance in place requiring point of sale inspections. The permitted communities located within Ottawa County collaborate with and rely on the Ottawa County Health Department for ongoing enforcement of the ordinance.

Kent County has not passed an ordinance requiring point of sale septic system inspections. The permitted entities within Kent County rely on implementation of the IDEP and reporting/enforcement through their stormwater ordinances and the Kent County Health Department to follow up on failing or failed septic systems. In the case of a failed septic system, a connection to sanitary is typically required if a sanitary sewer connection is available within 250 feet.

Implement vegetative buffering practices and restore and protect the stream buffer and canopy

Several communities including the City of East Grand Rapids and the City of Grand Rapids have or have evaluated the potential for buffer ordinances during the reporting period. The Cities of Hudsonville and Rockford have included buffer provisions within their zoning ordinances. Many other communities have adopted mowing buffer procedures on the properties they own and maintain. These procedures are identified in Appendix 2C.

Implement Michigan Department of Natural Resources wildlife population management practices

Three communities are working with the Michigan Department of Natural Resources on supervised programs to control populations of Canada Geese. These programs include Egg Destruction (East Grand Rapids) Goose Relocation (Kent County Drain Commissioner) and Targeted Goose hunts for population reduction (Plainfield Charter Township). Communities throughout the watershed are utilizing signage to

discourage the feeding of waterfowl and are either actively installing goose deterrents or instituting procedures for a no-mow buffer adjacent to streams and ponds to function as a natural deterrent. The City of Hudsonville has provided a portal on their website for residents to report nuisance wildlife.

Implement sanitary sewer maintenance practices

Sanitary sewer service is provided by several communities to residents in expanded service areas. Through these partnerships, many communities are able to utilize sanitary sewer infrastructure instead of relying on septic fields. The City of Grand Rapids collaborates with Cascade Charter Township, the City of East Grand Rapids, Forest Hills Public Schools, Grand Rapids Charter Township, Kent County, Kentwood, and the City of Walker. The City of Wyoming collaborates with the City of Kentwood and portions of the City of Grandville. The City of Grandville collaborates with the City of Hudsonville and portions of Georgetown Charter Township. The City of Grand Haven collaborates with the City of Ferrysburg and the Village of Spring Lake. The North Kent Sewer Authority collaborates with Plainfield Charter Township and the City of Rockford. Information related to the maintenance and upgrades of sewer infrastructure is included in Appendix 2B of the report.

Implement Low Impact Development Practices

Low Impact Development (LID) and green infrastructure are critical components in both the SWPPI and the PEP. Detailed information on the training related to LID practices and implementation is detailed in Appendix 2D. Tracking of the installation and consideration of LID practices by Permittees is tracked in Appendix 2E. The PEP incorporates messages on the implementation of LID practices such as rain gardens, buffer strips, and native plantings for their direct benefits to water quality. The PEP focuses on LID practices that are feasible for individual homeowners to implement, rather than large scale development. GVMC, in cooperation with the MDEQ, Macatawa Area Coordinating Council (MACC), and the West Michigan Shoreline Regional Development Commission (WMSRDC), cooperatively planned a West Michigan Green Infrastructure Conference for August of 2015 which was attended by 170 industry professionals including many representatives of regulated MS4 communities.

Implement watershed focused land-use planning

Throughout the watershed, construction in FEMA mapped floodplains is regulated by the Michigan Building Code to ensure that construction below the base flood elevation does not occur. Through the use of the model stormwater ordinance, which has been adopted across the Watershed, the three-zoned approach has been implemented to ensure that development in sensitive headwater areas (Zone A) provides the most stringent stormwater protection through post construction controls. This is accomplished by providing prescribed release rates for Bank Erosion Control as well as Flood Control.

Water Quality control is addressed with detention and infiltration where possible or delayed and restricted release where it is not.

Implement proper soil erosion and sedimentation control techniques

Part 91, Soil Erosion and Sedimentation Control (SESC), of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, regulates the activity of earth work and mandates that projects disturbing an area greater than one acre in size or an area less than 500 feet from a lake or stream obtain a soil erosion permit from the regulatory agency with jurisdiction over the area in which they are working. The table below details which Permittees work collaboratively with the county enforcing agent (CEA), which Permittees administer their own program as a municipal enforcing agent (MEA), and which Permittees have the authority to oversee their own projects as authorized public agencies (APA). MEA, CEA, and APA programs implement thorough soil erosion and sediment control plan review and regular site inspections in their programs for permitted sites. Plan review and site inspections are conducted by staff with either a comprehensive or inspector construction site stormwater operator certification respectively.

Table 2. LGRW Part 91 Administration Authority as of July 31, 2015

Community	Part 91 Contact Info Name	Phone	MEA	Utilizes Kent CEA	Utilizes Ottawa CEA	APA
Cascade Charter Township	KCRC	616-242-6914		X		
East Grand Rapids, City of	KCRC	616-242-6914		X		
Ferrysburg, City of	OCWRC	616-994-4530			X	
Forest Hills Public Schools	KCRC	616-242-6914		X		
Georgetown Charter Township	OCWRC	616-994-4530			X	
Grand Haven, City of	OCWRC	616-994-4530			X	
Grand Rapids Charter Township	KCRC	616-242-6914		X		
Grand Rapids, City of	Environmental Services Dept.	616-456-3057	X			X
Grandville, City of	KCRC	616-242-6914		X		
Hudsonville, City of	OCWRC	616-994-4530			X	
Kent County Drain Commissioner & Administration	Deputy Drain Commissioner	616-336-3688				X
Kent County DPW	Kent Co. DPW	616-336-3694				X
Kent County Road Commission (Kent County CEA)	KCRC	616-242-6914		X		X
Kentwood, City of	Engineering Dept.	616-554-0737	X			X
Ottawa County Water Resources Commissioner &	OCWRC	616-994-4530			X	X

Table 2. LGRW Part 91 Administration Authority as of July 31, 2015						
Community	**Part 91 Contact Info Name**	**Phone**	**MEA**	**Utilizes Kent CEA**	**Utilizes Ottawa CEA**	**APA**
Administration (Ottawa County CEA)						
Ottawa County Road Commission	Engineering Dept.	616-842-5400				X
Plainfield Charter Township	KCRC	616-242-6914		X		
Rockford, City of	Public Services Dept.	616-866-9631	X			
Sparta, Village of	KCRC	616-242-6914		X		
Spring Lake, Village of	OCWRC	616-994-4530			X	
Walker, City of	Engineering Dept.	616-453-6311	X			
Wyoming, City of	KCRC	616-242-6914		X		

The SWPPI includes training (Appendix 2D) on topics related to construction site stormwater runoff. Training ensures that even if a community does not oversee their own program, field staff will be informed regarding what to look for on a construction site and who to report to if there is an offsite discharge or poorly maintained SESC measures. Many LGRW MS4 permitted communities who administer a Part 91 program also work closely with the West Michigan Soil Erosion Control Network, a professional network that provides regular training, panel discussions and filed demonstrations on BMPs and new technologies in this field.

Implement channel and stream bank stabilization, bio-engineering and erosion control techniques

The MDEQ requires a joint permit from the state of Michigan for all work performed in channels that are designated as waters of the state. Any work that occurs within 500 feet of a lake or stream is required to obtain a soil erosion control permit from the authorized Part 91 agency as referenced above. These permitting procedures work in tandem to prevent negative impacts during and after construction as well as to ensure adequate restoration. Permitted communities in the Lower Grand River Watershed have policies in place to ensure protection of drainage systems from construction-site runoff as detailed in Appendix 2C and perform regular training as referenced in Appendix 2D related to construction site stormwater runoff and water quality protection.

Implement turf management and proper fertilizer application practices

Permitted communities within the Lower Grand River Watershed have developed procedures for managing vegetation and using fertilizers on Permittee owned properties as outlined in Appendix 2C. All staff at the communities and their subcontractors adhere to these procedures. Training is also provided in the form of the brochure "What Every Landscaper Must Know". This brochure is distributed as part of the comprehensive training plan on controls to reduce the discharge of pesticides, herbicides, and fertilizers as described in Appendix 2D.

LGRW Prioritized Objectives for Permittees from 2011 WMP	Commitment	Timeline	Measures of Effectiveness
Encourage proper septic tank management.	Provide educational brochures to all homeowners with septic systems. Currently there are approximately 257 within the City limits, none of which have storm sewers in the area.	December 2012.	Document that all brochures were sent. Report number of septic tank failures reported.
Actions completed:	66 brochures were sent to homeowners with septic systems. Homeowners on this list included homeowners that had not received brochures since 2013 and 6 new homeowners that were added to this list year. No septic tank failures were reported this year.		
Encourage septage ordinance.	Continue to work with the County or the Committee on septic tank issues.	Ongoing.	Number of failed septic systems connected to public sewer. Number of failed septic systems reported to Health Department and number of repairs and permits issued.
Actions completed:	Identified in the 2014 report, the home at 3993 Breton SE was reported to the Kent County Health Department (KCHD) as a potential failed septic system in June 2013. The City worked with KCHD and had the water turned off at the house with a plan for sanitary sewer service to be provided. Sanitary sewer service was provided to the house in 2014. However, as of August 13, 2015 water service to the house has yet to be restored as the house is still condemned by order of the City Code Compliance department. There were no septic failures discovered in this reporting year. In addition, the City Commission approved the Grand River Restoration Steering Committee's final report on July 28, 2015. This report gave the committee's vision in restoring the for restoring the river and downtown area. One item included in improving the river water quality was to improve the septic programs and policies in the Grand River watershed area in coordination with the state and local health departments.		

LGRW Prioritized Objectives for Permittees from 2011 WMP	Commitment	Timeline	Measures of Effectiveness
Implement vegetative buffering practices. Restore and protect the stream buffer and canopy.	Continue to enforce environmental features ordinance passed in 2012 requiring a 75-foot buffer protecting rivers, wetlands, streams, water bodies and sensitive environmental receptors. Prepare and adopt tree ordinance for the protection and restoration of the City's canopy.	Continue to implement environmental features buffer. Implement tree ordinance by June 30, 2013.	Report number of sites where buffer ordinance was applied. Adoption of tree ordinance.
Actions completed:	No exceptions to the 75-foot natural features buffer were applied requested during this reporting year. The City Commission is currently reviewing updates to the City's Zoning Ordinance for new requirements regarding enhancing the tree canopy within the City and providing for additional tree protection and tree canopy coverage as it relates to new construction or redevelopment of sites. This is a first step in protecting and increasing the City's tree canopy. Addition protection will come in the stormwater ordinance to be implemented upon approval of our NPDES permit application.		
Implement MDNR wildlife population management practices.	Continue to install "Don't feed the wildlife signs" where needed. Provide online training for staff.	Ongoing. Provide training by June 2013.	Number of signs – less feeding observed. Number of staff attending training.
Actions completed:	The City's only problematic area of feeding wildlife is Riverside Park. Signage has been installed at this location. 91 staff members have been trained in person. Training will continue until all staff has been trained.		
Implement sanitary sewer maintenance practices.	Maintain compliance with CMOM (Capacity, Management, Operation & Maintenance) for sanitary sewers in order to prevent seepage to storm sewers.	Ongoing.	Refer to cmom.net. Maintenance items are tracked in an enterprise asset management system.
Actions completed:	CMOM compliance has been maintained.		
Implement Low Impact Development practices.	Continue implementing commitment to LID, as detailed in Green Grand Rapids, a 2012 addendum to our Master Plan.	Ongoing.	Number and type of LID practices utilized at City properties.

LGRW Prioritized Objectives for Permittees from 2011 WMP	Commitment	Timeline	Measures of Effectiveness
Actions completed:	Construction for two City property sites with LID practices were completed this reporting period. These two facilities incorporated porous pavement, underground detention, and infiltration designs to accomadate stormwater management at existing facilities that were redeveloped.		
Implement watershed focused land-use planning.	Continue enforcement of the City's current floodplain ordinance to protect flood plains not regulated by MDEQ. Continue enforcement of the city's current pet waste ordinance. Continue implementing commitment to LID, as detailed in Green Grand Rapids, a 2012 addendum to our Master Plan.	Ongoing.	Number of plans reviewed. Number of offsite LID practices implemented.
Actions completed:	This reporting period, 173 permits were issued for City and Private projects. Of the permits issued, 64 were private projects that incorporated LID. Typically, LID is only implemented when impervious surfaces at a site are increased. The LID improvements included: 26 Detention / Retention Basins, 23 with Infiltration Practices, 2 utilitizing Native Vegetation, 4 Vegetated Swales, 1 Vegetative Roof, and 8 Water Quality Devices. There were also four right-of-way infrastructure projects that incorporated LID practices into the design of the public storm sewer system and street design. Projects incorporated infiltration basins, expanded tree planting systems, infiltration trenches, vegetative bulb outs, and porous pavement.		
Implement proper soil erosion and sedimentation control techniques.	Continue to enforce regulations as a Municipal Enforcing Agency. Train City field staff in SESC. Maintain certifications of Construction Stormwater Operators.	As projects are reviewed. Train a majority of field staff by June 30, 2013. Continue certifications.	Maintain MEA status. Percent of field employees trained. Number of Construction Stormwater Operators.
Actions completed:	Currently, 36% or 13 of the 36 required personnel are trained. This is due to several recent positions changes and an increase in hiring actions. Our goal for next reporting year is to have 75% of the 36 required personnel to receive training.		

LGRW Prioritized Objectives for Permittees from 2011 WMP	Commitment	Timeline	Measures of Effectiveness
Implement channel streambank stabilization, bio engineering and erosion control techniques.	Compliance with DEQ permit conditions for any work that occurs within a stream. Flow restriction ordinance for all streams and reduced flow for impaired streams.	Continue to obtain DEQ permits for construction in a stream or channel. Continue to implement flow controls per stormwater ordinance.	Number of projects needing permits and permits obtained. Number of sites limited to reduced discharge.
Actions completed:	The City had one project within a stream this reporting year. The project involved stabilizing earthen berms and adding flood protection at the waste water treatement plant. A permit was obtained from the MDEQ for the project. Of the LUDS permits issued by the City this reporting year, 28 had flow restrictions to protect all waterways and six had flow restrictions for impaired waterways.		

LGRW Prioritized Objectives for Permittees from 2011 WMP	Commitment	Timeline	Measures of Effectiveness
Implement turf management and proper fertilizer application practices.	Continue to be in compliance with the State of Michigan Public Act 299 of 2010. Staff is trained in proper use of pesticides, herbicides and fertilizers. Contracts for these services contain language requiring proper usage. a. "No clippings of grass or weeds may be left in the street, on the curb, parkways, or sidewalk, but must be properly disposed of by the contractor." b. "All chemicals and materials which are spilled or misapplied to areas other than turf shall be cleaned up immediately. The contractor shall not allow chemicals & other materials to enter storm sewers, catch basins and/or water ways." c. "No chemical of any kind may be discharged into the gutters or sewer system. If granular(s) are used they must be swept or blown clean off all impermeable surfaces."	Ongoing.	Number of staff trained. Number of contracts issued.
Actions completed:	Two City staff members are certified in pesticide application by the state. This certification requires ongoing training, including fertilizer and herbicide application. These employees are responsible for application of pesticides, herbicides and fertilizers. There were four landscape maintenance contracts issued this year.		

Part 2B - Stormwater Controls Inspection, Maintenance and Effectiveness

Property Name: City Wide				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Stormwater Manholes	Complaint Based	N/A	159 cleaned 12 Manholes repaired 2 manholes replace Logs are maintained in CityWorks	Identified problems were fixed and pollutants were removed.
Stormwater Catch basins	Complaint Based	Clean 2,500 annually	3,110 catch basins were cleaned Logs are maintained in CityWorks	1,836 tons of solids were removed from the stormwater sytem and kept from the waterways.
Discharge Points	Complaint Based	N/A	250 discharge points and backflow preventers were inspected.	In 2014, backflow preventers were installed in Grand Rapids and Walker. All backflow preventers are now inspected annually.
Stormwater Laterals	Complaint Based	N/A	1,589 ft storm lateral cleaned 3 laterals repaired 9 laterals replaced Logs are maintained in CityWorks	Identified problems were fixed.
Stormwater Pressurized Mains	Complaint Based	Bi-weekly Inspection visit	Inspections occur once every 3 weeks from May through October and once every 4 weeks from November through April	No failures of a stormwater pumping station during a rain event.
Stormwater Lift Stations	Complaint Based	Bi-weekly Inspection visit	All 11 wet wells were cleaned as a result of inspections. Inspections occur once every 3 weeks from May through October and once every 4 weeks from November through April	Given that the shortest gap between cleaning was two months, inspection every 2 to 4 weeks appears to be sufficient.
Stormwater Gravity Mains	Complaint Based	N/A	22,764 ft cleaned 1,442 ft were rootsawed and cleared.	Identified problems were fixed and pollutants removed.

			65 ft were replaced	
Infiltration Basins (underground)	Complaint Based	10 yr. Inspection cycle	Inspection in CityWorks for 2019	The basin appears to function well.
Detention Basins	Complaint Based	Maintain & Inspect three times annually	The one pond that is operated by the City was inspected every 2-8 weeks.	The basin appears to be function well.
Hydro Separators	Complaint Based	Clean twice year	5 hydroseparator cleanings were performed.	The hydro separators were cleaned in April 2015 and scheduled to be cleaned in October. We will evaluate next year after a full cycle of cleanings has been performed.
Siphons	Complaint Based	Clean annually	9 siphons were cleaned this year	Some of the siphons were noted to be in good working order upon arrival. One siphon needed a good cleaning, so annual cleaning appears to be appropriate.
Creek gates	Complaint Based	Clean annually	60 cleanings were performed 134 inspections were performed 1 creek gate was repaired	Responding to complaints ensures that the worst areas are addressed more often
Open Ditches	Complaint Based	N/A	200 feet of open ditch was cleared and restored along Lakeside Dr costing $11,000.	There are complaints related to neighborhood open drains. Funds were budgeted to address the most problematic areas.

Part 2C - Procedures Status

The following Pollution Prevention and Good Housekeeping procedures were adopted by the City. Dates of revised procedures are listed and revisions attached. The City reviewed and customized these procedures during the 2012-2013 permit cycle.

Types of Properties	O&M Procedure	Location on http://mygrcity.us/collaboration/swppp
PW, W, WW	Concrete Waste Management	BMP Concrete Waste Management.pdf
A, C, D, F, G, L, M, Pk, Po, PW, R, T, V, W, WD, WW	Dumpster Management	BMP Dumpster Management.pdf
Pk, PW, W	Erosion and Sediment Control	BMP Erosion and Sediment Control.pdf
F, G, Po, PW	Fueling Areas	BMP Fueling Areas.pdf
A, F, G, L, M, Pk, Po, PW, T, W, WD, WW	Garbage Storage	BMP Garbage Storage.pdf
D, Pk, PW, W, WD, WW	Material Covering	BMP Material Covering.pdf
D, Pk, PW, W, WD, WW	Outdoor Storage Areas	BMP Outdoor Storage Areas.pdf
Pk, PW, W, WD, WW	Outdoor Storage, Raw Materials	BMP Outdoor Storage, Raw Materials.pdf
PW	Paving and Grinding Operations	BMP Paving and Grinding Operations.pdf
F, M, PW, W, WW	Petroleum and Chemical Storage, Small Quantities	BMP Petroleum and Chemical Storage, Small Q.pdf
F, M, PW, W, WW	Petroleum and Chemical Disposal	BMP Petroleum and Chemical Disposal.pdf
F, M, W, WW	Petroleum and Chemical Handling	BMP Petroleum and Chemical Handling.pdf
F, W, WW	Petroleum and Chemical storage bulk	BMP Petroleum and Chemical Storage, Bulk.pdf
F, L, M, Pk, Po, PW, W, WW	Salt Application	BMP Salt Application.pdf
PW	Sand and Salt Storage	BMP Sand and Salt Storage.pdf
A, D, F, G, L, M, Pk, Po, PW, W	Solid Waste Management	BMP Solid Waste Management.pdf
A, F, M, Pk, PW, W, WD, WW	Spill Cleanup	BMP Spill Cleanup.pdf
A, F, M, Pk, PW, W, WD, WW	Spill Prevention Control and Cleanup	BMP Spill Prevent Control.pdf
PW, W	Dust Control	deq-wb-nps-dc 250612 7.pdf
A, D, F, G, M, Pk, PW, W, WD, WW	Equipment Storage and Maintenance	deq-wb-nps-ems 250618 7.pdf

Types of Properties	O&M Procedure	Location on http://mygrcity.us/collaboration/swppp
	Areas	
F, L, Pk, Po, PW, R, V, W, WD, WW	Fertilizer Management	deq-wb-nps-fm_250620_7.pdf
F, L, Pk, Po, PW, R, V, W, WD, WW	Lawn Maintenance	deq-wb-nps-lm_250884_7.pdf
D, F, L, Pk, Po, PW, W, WD, WW	Organic Debris Disposal	deq-wb-nps-odd_250887_7.pdf
F, L, Pk, Po, PW, W, WD, WW	Pesticide Management	deq-wb-nps-pm_250893_7.pdf
WW	Stream Bank Stabilization	deq-wb-nps-sbs_250898_7.pdf
PW, W, WW	Soil Management	deq-wb-nps-sm_250902_7.pdf
WW	Slope, Shoreline, Stabilization	deq-wb-nps-sss_250907_7.pdf
Pk, PW	Street Sweeping	deq-wb-nps-sw_250908_7.pdf
F, L, M, Pk, R, V, WD, WW	Trees, Shrubs and Ground Covers	deq-wb-nps-tsg_250910_7.pdf
PW	Winter Road Management	deq-wb-nps-wrm_250914_7.pdf
Pk	Golf Course Manual	ess-nps-Golf-Course-Manual_209682_7.pdf
Pk, PW	Road Salt Storage	Road Salt Application and Storage.doc

Property Types Legend:

A - Administration	F - Fire	M - Maintenance Grg	PW - Public Works	V – Vacant/Open Land	WW - Wastewater
C - Cemetery	G – Garage/Storage	Pk – Parking/Parks	R – Residential	W – Water Cond/Tmt	
D – Unregulated Landfill/Dump	L – Library	Po - Police	WD – Waste Disposal Area		

Appendix 2-C – Procedures - Good Housekeeping and Pollution Prevention by Property Type – Part 2

General operations and maintenance items for Transportation, Parking , Maintenance Garages and O&M Waste Disposal.

(1) controls for reducing or eliminating the discharges of pollutants from streets, roads, highways, parking lots, and maintenance garages;

(a) Streets, roads, highways

a. Street Sweeping – goal is once every 70-90 days (weather dependent).

i. The City has disposed of 4,345 cubic yards of waste from street sweeping this reporting year at a cost of over $92,000. This has prevented almost 4,000 tons of material from entering the stormwater system.

b. Salt Application – Drivers are trained with new equipment to utilize salt most cost effectively which minimizes the amount used on the roadways.

c. SESC Program – tracking and construction is controlled via ordinance

d. Vehicle Accident Spills – Fire Department has a policy for cleanup and control in place as submitted with the 2011-2012 annual report.

e. Dust Control - See BMP sheet

f. Snow Removal – See BMP sheet

g. Gravel Road – See BMP sheet

h. Roadside Vegetation – See BMP sheet

(b) Parking lots

a. Every surface parking lot has check sheet has cleaning the curb lines as a daily activity (5 days per week). Larger pieces of trash or debris are removed daily from the lot. Finer materials of grit and gravel are allowed to accumulate until there is a sufficient volume to warrant sweeping. Sweeping the curb lines is done weekly, monthly, or bi-monthly, depending on the inspection, season or activity in the lot.

b. During the winter months curb line cleaning activity is reduced due to snow accumulation. However, when the snow melts in the spring the curb lines are cleaned as they become accessible. During the fall, falling and blowing leaves require more attention and result in an increased frequency of cleaning curb lines.

c. Parking lots associated with City own buildings are cleaned on an as needed basis. The department responsible for the lot inspects and schedules cleaning.

(c) Maintenance garages

a. The maintenance garage and public works yard including salt storage has trained staff. Work has been ongoing to formalize the activities in this area. A SWPPP is being created and implemented to fully document all the procedures and ensure compliance.

(2) Procedures for the proper disposal of operation and maintenance waste from the separate storm water drainage system (dredge spoil, accumulated sediments, floatables, and other debris);

(a) dredge spoil, accumulated sediments, floatables, and other debris from the use of City staff and equipment for these activities are dumped on a concrete slab located at the wastewater treatment plant (WWTP). The liquid is discharged to the WWTP and solids disposed of in a type II landfill. The DEQ staff was shown the facility during a June 3, 2011 MS4 Inspection.

(b) Contractors are required as part of their contract to properly dispose of dredge spoil, accumulated sediments, floatables, and other debris in a type II landfill.

(3) ways to ensure that flood management projects assess the impacts on the water quality of the receiving waters and, whenever possible, examine existing water quantity structures for incorporation of additional water quality protection devices or practices.

(a) Green Master Plan Update establishes the baseline for these requirements and is complemented by Zoning and Planning Ordinances.
(b) The Sustainability Plan also includes goals and targets to address water quality.
(c) Use of Green Infrastructure and Low Impact Design is reviewed and incorporated into all public projects when affordable and appropriate.

Part 2D - Staff and Contractors Training on Pollution Prevention and Good Housekeeping

Where a meeting was attended for training, attached are sign in sheets listing the training topic, date of the training and the number of attendees. Also attached are a copy of the handouts (if any) that were distributed at the training meeting.

Training Topic Area	**Employee Group to Receive Training**	**Training Frequency Goal**	**Potential Training Type**
SWPPI Requirements			
Maintenance activities, maintenance schedules, and inspection procedures	Collection System Maintenance Group	Ongoing First 6 months of hire	**Written O&M Procedures** **Office of Water Programs, California State University, Sacramento Operation and Maintenance of Wastewater Collection Systems, Volumes I & 2**
Training completed:	**There are 12 Collection System Asset Technicians. Eight of them have taken and passed the CALIFORNAIA STATE UNIVERSITY, SACRAMENTO Operation and Maintenance of Wastewater Collection Systems, Volume I and II.**		
Controls on streets, parking lots, maintenance garages, and storage yards	Public Services, Facilities and Fleet Management, Field Staff and Parking Services	Hire in 2 year cycle	**Online training which may include Powerpoints and/or the following videos** **Storm Watch - Municipal Storm Water Pollution Prevention - DVD from Excal Visual, LLC** **Spills & Skills - Non-Emergency HazMat Spill Response - DVD from Excal Visual, LLC** **Keep An Eye On It! - Environmental Awareness for Gravel Road Maintenance - DVD from SEMCOG & Road Commission for Oakland County**

Training Topic Area	**Employee Group to Receive Training**	**Training Frequency Goal**	**Potential Training Type**
Training completed:	**Training is performed on hire. Stormwater staff has been working with public services supervisors and facilities to ensure that we are performing per the BMPs and inspecting garages and storage yards. Refreshers will be provided for field staff during the next reporting cycle.**		
Disposal of O&M waste	Collection System Maintenance Group Contractors	Ongoing Contract	**Written O&M Procedures** **Written contract requirements**
Training completed:	**The operation and Maintenance of Wastewater Collection Service training noted above includes managing a collection system O&M program, supervising a sewer cleaning program, and complying with the NPDES permit and applicable rules and regulations.**		
Water quality protection in flood control projects (detention basins, dams)	Stormwater Management Personnel, Field Staff & Design Personnel	Ongoing	**Training consistent with LID and other training/conferences as they become available**
Training completed:	**All stormwater management, design and lead field staff have passed the comprehensive soil erosion and sedimentation control exam through the MDEQ. In addition, additional field and design staff are trained as construction stormwater operators, as noted in Appendix 2-A. Additional Stormwater staff training is presented as Appendix 2-D1.**		

Training Topic Area	Employee Group to Receive Training	Training Frequency Goal	Potential Training Type
Controls to reduce discharge of pesticides, herbicides, and fertilizers	Contractors	Ongoing	**Compliance with the State of Michigan Public Act 299 of 2010** **Staff is trained in proper use of pesticides, herbicides and fertilizers** **Contracts for these services contain language requiring proper usage** **a. "No clippings of grass or weeds may be left in the street, on the curb, parkways, or sidewalk, but must be properly disposed of by the contractor."** **b. "All chemicals and materials which are spilled or misapplied to areas other than turf shall be cleaned up immediately. The contractor shall not allow chemicals & other materials to enter storm sewers, catch basins and/or water ways."** **c. "No chemical of any kind may be discharged into the gutters or sewer system. If granular(s) are used they must be swept or blown clean off all impermeable surfaces."**
Training completed:	**All contractors involved in landscaping must agree to abide by the requirements above. As noted in Appendix 2-A, staff in charge of pesticide, herbicide and fertilizer application are certified by the State for pesticide application and their training includes herbicide and fertilizer application practices.**		
Other Topics			

Training Topic Area	Employee Group to Receive Training	Training Frequency Goal	Potential Training Type
Construction site stormwater runoff	Field Staff Contractors	Preconstruction meeting	**Training may include one or both of the following;** **Ground Control - Storm Water Pollution Prevention for Construction Sites - DVD from Excal Visual, LLC** **LGRW_ContractorTrainingBrochure_2011-09-16.pub** The LGROW "What Every Earth Work Contractor Must Know About Storm Water" brochure is provided at the pre-construction meeting for City related projects.
Training completed:	**As noted in Appendix 2-A, 14 of the 30 are trained. We have 4 additional staff members trained that are not required to be trained. Several of the positions where training is required were vacant for a majority of the reporting year and several positions are changing titles. Inventory of positions requiring training will be taken fall of 2015 and training will be required. In addition, it is discussed at each pre-construction meeting for City projects, including City field staff, that our stormwater system drains directly to the river and must be protected. Contractors are presented with the LGROW brochure "What Every Earth Work Contractor Must Know About Storm Water" at every pre-construction meeting.**		
LID	Stormwater Management Personnel, Field Staff & Design Personnel	Ongoing	**Provide copies of the SEMCOG Low Impact Design manual. Provide opportunities for training and attendance of webinars and other conferences. The following videos are also available for their use;** **Reduce Runoff: Slow It Down, Spread It Out, Soak It In - DVD from USEPA** **RiverSmart Homes: Getting Smart about Runoff - DVD from USEPA** **Building Green: A Success Story in Philadelphia - DVD from USEPA** **After the Storm - DVD from USEPA** **BMP Tour of GVSU Campuses – Walking Tour**

Training Topic Area	Employee Group to Receive Training	Training Frequency Goal	Potential Training Type
Training completed:	**In addition to the training noted above, representatives from Traffic Safety, Streets and Water attended a Green Infrastructure Webinar on March 26. Given that LID is now the default street design in the City, it is discussed in connection with all street reconstructions.**		
IDEP	All Employees	Ongoing	**Items will be maintained on City intranet and periodic announcements made. These items will include various brochures and include;** **WaterPollutionReportForm.doc** **Article_City_Employees.doc**
Training completed:	**Training has been available via the GR311 materials and the Basin Buddy program and video on our website. In addition, in person training was conducted in the 2014 training cycle for staff from the Environmental Services and Parking Services Departments. Staff from Facilities was trained in the 2015 reporting cycle. The training focused on Six Minimum Control Measures, with an emphasis on IDEP. Reporting Cards were distributed to staff during the training. Training will continue through the next reporting year.**		
General Storm Water Education	Top Management	Annually	**"Back to Basics" Storm Water Training – Live Presentations (in 2011 the Six Minimum Control Measures were highlighted)**
Training completed:	This occurred at a TOP management meeting January 13, 2015.		

Part 2E - Post Construction Controls Activities

Implementation

The City of Grand Rapids Ordinances Ord. No. 2001-26, § 1 of 2001 and Ord. No. 2007-13, § 1 are the Stormwater Ordinances for the City. Post-construction controls for new development contained in the ordinance include:

- Limiting discharge rates to 0.13 cfs/acre for a 25-yr 24-hr storm.
- Limiting discharges to sensitive downstream receptors, including open channel banks susceptible to erosion, to 0.05 cubic feet per second per acre up to the two (2) year rain event.
- Treatment of the first ½" of runoff for water quality.
- Requiring storage of the 25-yr storm for sites with adequate downstream capacity
- Requiring storage of the 100-yr storm for sites without adequate downstream capacity

A total of 173 Land Use Development Services permits were issued during this reporting period.

The City of Grand Rapids Ordinances Ord. No. 2012-01, § 1 of 2012 is a zoning ordinance establishing setbacks for rivers, wetlands, streams, water bodies, or other sensitive environmental areas. Incentives for using Low Impact Development are also included in the zoning ordinances.

In addition, the Green Grand Rapids Master Plan Update depicts Grand Rapids' commitment to using Low Impact Development, conserving green space and protecting our waterways.

Of the permits issued, 64 of the site required and implemented LID.

Operation and Maintenance

In 2010, the City had a draft stormwater ordinance that included long term operation and maintenance of post-construction controls. As outlined in the 2015 City of Grand Rapids MS4 Phase 1 Permit Application, the post construction long term operation and maintenance of the BMPS will be initiated through the completion of a maintenance agreement, permittee certification, and periodic inspections of the facilities. Inspections and any maintenance of the BMPs will be tracked and tied to the property address and parcel number. Upon receipt of the new permit which is not expired, the stormwater ordinance will be revisited within 6 months of permit approval.

In preparation for the draft ordinance, however, a method for tracking and inspecting the post construction controls was established. Without the ordinance for authorization, the City cannot enter private property to inspect it. However, all post construction controls are inspected, to the extent they can be and limited to the access we have from the public right of way consistent with the approved SWPPI.

In addition, the City's nuisance ordinance can be utilized to inspect controls if a complaint is received by Code Enforcement.

Currently, there are 154 sites in monitor status that are due to be inspected every other year, provided that they can be inspected from public property. Inspections on 81 sites were performed this reporting period.

Explain the enforcement activities of your comprehensive storm water management program for post-construction controls completed during this reporting period:

During this reporting period, no enforcement activities were required as a result of post-construction inspections.

Have any long-term operation and maintenance agreements been signed?

Under our current ordinance, long-term operation and maintenance agreements are not required.

Explain how the Post Construction Controls have addressed other issues, such as protecting sensitive areas, directing growth to identified areas, encouraging infill development in higher density urban areas and areas with existing infrastructure, and/or maintaining or increasing open spaces

Requiring post development runoff to equal pre-development runoff is an incentive to use properties already developed, as retention/detention costs can be high. When re-using a site that is already developed, stormwater control costs can be minimal, if they are needed at all.

PART 3 - PEP

Regional PEP

The updated PEP was approved by MDEQ in February 2013. The purpose of the PEP is to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. This section provides a report of public education activities implemented between August 1, 2014, and July 31, 2015.

Public Education Committee

LGRW Stormwater Education Committee was formed in 1999 to begin development and implementation of the PEP. Since that time the committee has met on a regular basis to discuss and plan activities scheduled for implementation in the PEP. The 2014/2015 PAM/PEP Committee consists of the following participants:

Table 3. Public Education Plan/ Public Awareness and Marketing Committee Membership

Community	**Representative**
Cascade Charter Township	Steve Peterson
Forest Hills Public Schools	Lea Sevigny
Jenison Public Schools	Kim Kiel
City of Grand Haven	Cheryl Davidson
City of Grand Rapids	Carrie Rivette
City of Grandville	Ron Carr
City of Hudsonville	Amber Eckert-Howe
Kent County Drain Commissioner's Office	Lani Brown
Kent County Road Commission	Dave Beck
Kent County Resource Recovery	Kristen Wieland
City of Kentwood	John Gorney
Michigan Department of Environmental Quality	Amanda St. Amour
Ottawa County Water Resource Commissioner's Office	Angela Walachovic
Plainfield Township	Mary Trapp-Gunst
City of Rockford	Mike Bouwkamp
Village of Spring Lake	Chris Burns
Trout Unlimited	Nichol DeMol
Ottawa Conservation District	Becky Huttenga
Kent County Conservation District	Connie Redding
City of Walker	Rachell Nagorsen
City of Wyoming	Aaron Vis
GVMC	Wendy Ogilvie
GVMC	Bonnie Broadwater
GVMC	Brian Zuber

PEP Implementation in Year 13

This section describes the public education activities implemented by the Permittees in the thirteenth year of PEP implementation, August 1, 2014 through July 31, 2015. The following report is from the updated PEP, which meets the requirements of the 2013 approved PEP. Target audiences, messages, and delivery mechanisms are described for each Public Education Topic.

Public Education Topic 1 - Personal Watershed Stewardship

PEP Objective 1: Educate the public about their responsibility and stewardship in their watershed.

Target Audience: Watershed residents, community groups, business associations, and city and township officials.

Content of Message: You live in the Grand River Watershed which flows into Lake Michigan. Water quality in lakes and streams is greatly affected by our everyday activities. By taking water quality protection personally, you will help improve our community's water resources.

Delivery Method:

- A link from the Permittees' websites to LGROW's website, www.lgrow.org, was maintained or was established. The watershed website provides information on non-point source (NPS) pollution, local watershed issues, water science education, and watershed management. Through the reporting period, LGROW's website has been accessed by an average of 563 unique visitors each month resulting in over 238,000 total hits to the website during the reporting period. Website access has increased consistently over the reporting period with August of 2014 having 495 unique visitors and July 2015 having 611 unique visitors.

- LGROW worked to promote participation through its Facebook page with a regular posting schedule including, Watershed Wednesdays, upcoming events, and volunteer opportunities. Throughout the reporting period, LGROW Facebook posts have had a total reach of over 23,000 people. As of the end of the reporting period, the page reached over 325 likes. Facebook user engagement has shown consistent growth over the reporting period with the average number of likes, shares, and comments growing from 5 per post in August of 2014 to over 34 per post in July of 2015.

- Permittees distributed the following LGROW and watershed education materials to residents in the LGRW at multiple events and venues, as follows:

    - 1000 Paint by number Watershed Maps

- 1000 Troutie Coloring Books
- 1000 Temporary Tattoos
- 750 LGROW Logo Pens
- 1000 Household Stormwater Solution Brochures
- 500 Septic System Care Brochures
- 500 Pet Waste Brochures
- 500 Pet Waste Bag Dispensers
- 1000 Reusable Water Bottles
- 200 Reusable Tote Bags
- 1000 LGROW Brochures
- 750 LGROW Info Cards

- Many Permittees displayed lamppost banners purchased in 2012 to advertise the presence of the Grand River, Rogue River, and Plaster Creek Watersheds. The banners featured the LGROW logo and the message "Yours to Protect."

- Through cooperation of staff in permitted MS4 communities, PEP committee participants, GVMC staff, and other members of LGROW, the following events were either hosted or included a watershed education component for personal watershed stewardship:

  - The Annual Science, Technology, Engineering, and Mathematics (STEM) student evening was hosted at the Grand Rapids Public Museum this year on February 18-20, 2015. LGROW provided a 10 minute demonstration for small groups throughout the day utilizing the Kent County Drain Commissioner's Enviroscape model. The demonstration focused on non-point source water pollution and its impacts on stormwater. Each group of approximately 6-10 students watched the demonstration and then engaged in a discussion about actions to take to reduce the impacts of non-point source pollution on stormwater, including individual behavioral changes.. Approximately 240 students attended the event from several local schools and cycled through the LGROW station during the course of the event.

- The Quiet Water Symposium promotes non-motorized outdoor recreation and a shared concern for our Great Lakes environment. The 20th annual symposium was held on March 7th, 2015 and had over 2000 attendees. LGROW hosted a booth, collecting pet waste pledges, as well as distributing reusable water bottles. Although this event takes place outside the LGRW, many of the attendees travel through the Lower Grand during their excursions. The Symposium also presents a valuable opportunity to partner with our upstream watershed, the Middle Grand River Organization of Watersheds (MGROW), who is actively involved in public outreach through their own MS4 program. A watershed map was also displayed at the event to engage attendees and get them thinking about what watershed in which they reside.
- LGROW hosted the 12th Annual Grand River Forum on May 1, 2015, at the Grand Rapids Downtown Market. The event offered 100 attendees a regional perspective on emerging issues and accomplishments from around the Watershed. This year's keynote speaker was Former State Senator Patty Birkholz of the League of Conservation Voters. She discussed agricultural partnerships and connections to water resources. John Weiss (GVMC), Wendy Ogilvie (GVMC), and Kelly Goward (Macatawa Area Coordinating Council) presented on the Regional Prosperity Initiative and Jim Smalligan (Fishbeck, Thompson, Carr & Huber) provided an update on the Grand River restoration project. Joanna Allerhand from GVSU (Groundswell) spoke about place-based education, and Dale Robertson (GR Public Museum) presented proposed renovations to the Grand Rapids Public Museum. Students from two schools involved with the Groundswell program attended

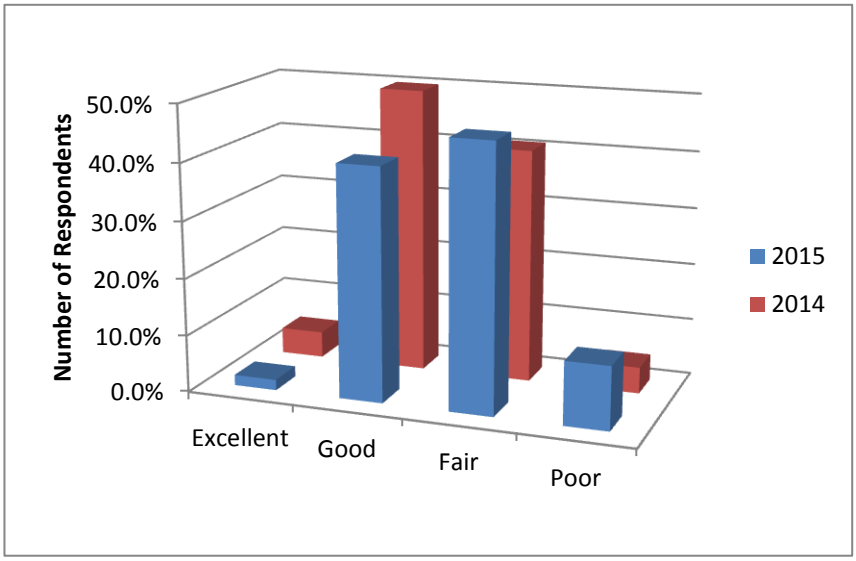


Figure 2. Survey Results: How would you rate the water quality in the Grand River?

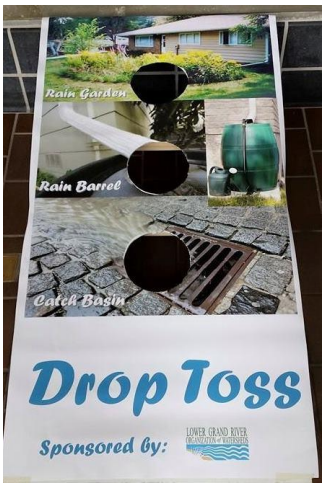
the forum to showcase their work. Students from Kent Innovation High (KIH) announced the upcoming LGROW 5K run which will focus on the topics of water pollution, community responsibility, protecting and preserving water quality, and bringing awareness to LGROW. Those students followed their presentation with a live rap written and performed by two KIH students. Students from CA Frost (Grand Rapids Public Schools) presented the materials they developed for their neighborhood stormwater showcase. These students have taken an active role educating their neighbors on how to reduce stormwater runoff and protect and improve Indian Mill Creek. Forum participants completed a survey after both registering and attending the event and a selection of the questions from each survey continue to be reused in subsequent years to see if there is a measurable change in people's attitudes toward and perception of the river.

- The Party for the Planet was held at John Ball Zoo on Saturday, May 2, 2015. The event brought the public together with environmentally conscious groups. 4900 people visited the Zoo on the day of the event. LGROW, the City of Grand Rapids, Kent County Drain Commissioner's Office, and WMEAC coordinated for the event with a theme of stormwater education. The

LGROW event table provided paint-by-number watershed maps, temporary tattoos, and coloring books. Brochures were also available as well as a watershed map that booth visitors could add a pushpin to mark the location of their home. The Kent County Drain Commissioner's office hosted Enviroscape demos throughout the day and gave out water bottles to those who attended a demo. The City of Grand Rapids collected pet waste pledges and distributed pet waste bag dispensers. Rain barrel demonstrations and giveaways were provided by WMEAC. Interaction was largely required for the public to receive give-away items.Public feedback was overwhelmingly positive with many children eager to visit all of the tables within our group.

- LGROW sponsored and attended the Healing our Waters Conference September 8-11, 2014. During the event, LGROW staff conducted interviews with WDET, the Detroit PBS station for Great Lakes week, on the Grand River and other related water quality issues. LGROW hosted a booth to conduct outreach about LGROW's activities and gave several presentations on topics including collaborative approaches of the Lower Grand MS4s.

- LGROW, inc conjunction wth Groundswell, hosted a booth at the River City Water Festival on May 30, 2014. Over 300 adults and childrenwere in attendance at the event. LGROW's new mascot, Major Runoff, made an appearance for photos with event attendees and the new interactive stormwater game, Drop Toss, was also introduced. Drop toss is a variation on Cornhole. This activity presented an opportunity for event attendees to explore the different paths stormwater takes to infiltrate or runoff. The customizable display currently features three graphics depicting the path of rain water when it falls on a residential yard: into a rain barrel for capture and reuse, into a rain garden for infiltration, or into a storm drain where it will flow into a river or lake. Prizes selected from the giveaways were available to participants and the display proved to be a great interactive draw at the event.



- LGROW hosted a booth at the Grand River Water Festival on June 29, 2015 at Riverside Park, which was attended by approximately 400 people. The festival is a free-of-charge day long music driven environmental festival featuring traditional folk, country, bluegrass, cajun, blues, and world beat music performed by Michigan musicians. Volunteers at the LGROW booth collected pet waste pledges (additional details in Topic 4) as well as distributed information on stormwater and native seed packets to encourage the use of native plants.

Public Education Topic 2 - Ultimate Stormwater Discharge Location and Potential Impacts

Target Audience: Residents, visitors, riparian landowners, local units of government, teachers, schools, businesses, and Girl/Boy Scouts.

Content of Message: 1) Storm drains connect to your local lakes and streams, not a water treatment plant. 2) Prevent pollution from entering your storm drains and protect the health of your family, your community, and the Grand River.

Delivery Method:

- Permittees installed metal storm drain markers from Almatek and plastic makers from Das Manufacturing. Markers advertise the message "No Dumping. Drains to Waterway", "No Dumping. Drains to Lake." And "No Dumping. Drains to River." Many Permittees also engaged with community partners to do storm drain stenciling events which are detailed in the PEP Questionnaire.

- Permittees utilized a variety of stormwater displays including the drop toss game, the watershed pushpin map, the LGROW banners on non-point source pollution, and the "Grand River Yours To Protect" informational poster board at a variety of events and locations throughout the Watershed. The PEP Questionnaire details when and where these displays were used by individual Permittees. The PAM/PEP committee worked with a local Artist Sara Grzegorski in cooperation with Groundswell.

Public Education Topic 3 - Public Reporting of Illicit Discharges

Target Audience: Residents, visitors, riparian landowners, local units of government, and businesses.

Content of Message: Report illicit discharges to your city or township to prevent pollution from entering your storm drains and protect the health of your family, your community, and the Grand River.

Delivery Method:

- Permittees distributed copies of the *"Citizen Report Form"* to their residents. This form included information on how to report illicit discharges and connections to one's community. Permittees individually customized these brochures for their residents.
- Permittees distributed the article *"How you as an Employee Can Help Reduce Pollution Entering the Grand River"* to their employees. This article encourages employees to report stormwater discharges to their community's stormwater coordinator.

Public Education Topic 4 - Personal Actions that can Impact the Watershed

Target Audience: Residents, visitors, riparian landowners, local units of government, teachers, students, landscaping/lawn care companies, commercial power washers, carpet cleaning companies, and golf courses.

Content of Message: 1) Avoid scorching your lawn. Use slow-release fertilizers only 2 to 3 times per year. Non-phosphorus types are best for the environment. 2) Lower your water bill. Install a rain barrel to capture and reuse your stormwater. 3) Wash your car at a commercial

car wash or on your lawn. Otherwise, dirty, oily water on your driveway will flow to your storm drain and eventually your local lake or stream. 4) Pick up your pet waste and dispose of it properly; otherwise, it could end up in the Grand River and on your favorite Lake Michigan beach.

Delivery Method:

- Permittees distributed the brochure "*Make your Household the solution to Water Pollution*".

- Several communities hosted rain barrel events as detailed in their PEP Questionnaires.

- Permittees collected pet waste pledges from dog owners in exchange for a free pet waste bag dispenser to hook to the pet's leash. The pledges also provide information on dog parks in the Watershed and discuss the connection between picking up pet waste and protecting stormwater. This brochure was adapted, with permission, from a similar program in Portland, Oregon.

Public Education Topic 5 - Waste Management Assistance

Target Audience: Residents, visitors, riparian landowners, local units of government, and auto repair shops.

Content of Message: 1) Protect your family's health, dispose of unwanted paints, solvents, and cleaners at your county collection center. 2) Recycle used oil and automotive fluids. Just one gallon of used motor oil dumped down a catch basin can contaminate one million gallons of your drinking water.

Delivery Method:

- Several communities utilized the pre-recorded "*Water Spots"* on the topic of properly disposing of household hazardous waste to keep it out of the storm drains as a hold message on their phone systems.

- Permittees and LGROW.org shared the newsletter article *"How You Can Help Reduce Pollution Entering The Grand River"*. This article encourages residents to dispose of pet waste, paints, motor oil, etc., in the appropriate locations, not in the storm drains.

- Permittees distributed the flyer "*Make your household the solution to stormwater pollution"* which also details the importance of proper disposal of household hazardous waste.

- Both Kent and Ottawa counties distributed their household hazardous waste flyers in permitted communities as well as providing info on recycling household hazardous waste via the phone and web. This year Kent County expanded their collection hours from scheduled drop off events to regular hours to allow more Kent County residents to take advantage of this service.

Public Education Topic 6 - Septic System Maintenance

Target Audience: Septic system owners and local units of government.

Content of Message: 1) If you have a septic system, have it pumped out every 3 to 5 years to avoid a costly septic system failure. Failing septic systems can leak bacteria into your local stream, the Grand River, and eventually Lake Michigan, causing beach closures.

Delivery Method:

- Permittees distributed 500 copies of USEPA's *"Do your Part- Be Septic Smart!"* brochure to their residents. This brochure describes what a septic system is, how it works, and how to maintain it.

- Permittees distributed the newsletter article *"Do You Know Where Your Septic System Is?"* to their residents via their webpage, community newsletter, or a link to LGROW.org. This article encourages residents to regularly pump their septic tanks, warning signs of a failing drain field, and the environmental consequences of a failed or improperly maintained septic system.

Public Education Topics 7 and 8 - Benefits of Native Vegetation and Management of Riparian Lands

Target Audience: Residents, visitors, riparian landowners, local units of government (e.g. parks departments), teachers, students, and faith-based organizations.

Content of Message: Plant native plants in your yard or garden. Natives naturally need less water, fertilizers, and pesticides saving you time and money.

Delivery Method:

- Permittees distributed the brochure "*What Every Landscaper Should Know*, to their subcontractors and facilities staff. These brochures detail BMPs for fertilizer and pesticide application, lawn care, and native plantings.

- Permittees distributed native seed packets along with the booklet "*Landscaping for Water Quality".* The materials were also distributed at the Grand River Water Festival booth hosted by LGROW. Booth volunteers discussed the importance of native plantings and their role in water quality with attendees at the Festival.

- LGROW planned a green infrastructure conference which was held on August 4-5, 2015. Many of the speakers, as well as a tour of local green infrastructure, focused on the importance of native vegetation in protecting water quality. Several Permittees participated in the planning and preparation for this event. Attendance and specific content will be detailed in the next progress report.

Public Education Topic 9 - Entity of Specific Pollutants

Target Audience: Local units of government (e.g. county road commissions, Department of Public Works [DPW]), and restaurants.

Content of Message: Prevent pollution from entering your storm drains and protect the health of your family, your community, and the Grand River.

Delivery Method:

- Permittees distributed the newsletter article *"How You Can Help Reduce Pollution Entering the Grand River,"* to their employees at department meetings. This article encourages residents to dispose of pet waste, paints, motor oil, etc., in the appropriate locations, not in the storm drains.

Evaluation Measures

This section includes a description of the quantitative and qualitative evaluation measures of PEP effectiveness implemented between August 1, 2014, and July 31, 2015.

Community Quantitative and Qualitative Evaluation Measures of Effectiveness

Permittees completed PEP Questionnaires to provide a quantitative and qualitative evaluation of their individual stormwater education efforts. Based on the input provided by the Permittees the most popular brochures were the Household Solution to Water Pollution and the pet waste pledges. In total, materials were distributed at over 50 events and locations throughout the watershed. The pet waste pledges collected included information the pledger's zip code. These data are displayed in the figure on the right and shows that nearly all of the pledges were taken by watershed residents. These pledges represent more than simply an educational outreach effort; these are a commitment to a behavioral change which has an important impact on water quality. This program was very popular with over 700 pledge forms requested and nearly 500 pledges completed during the reporting period.

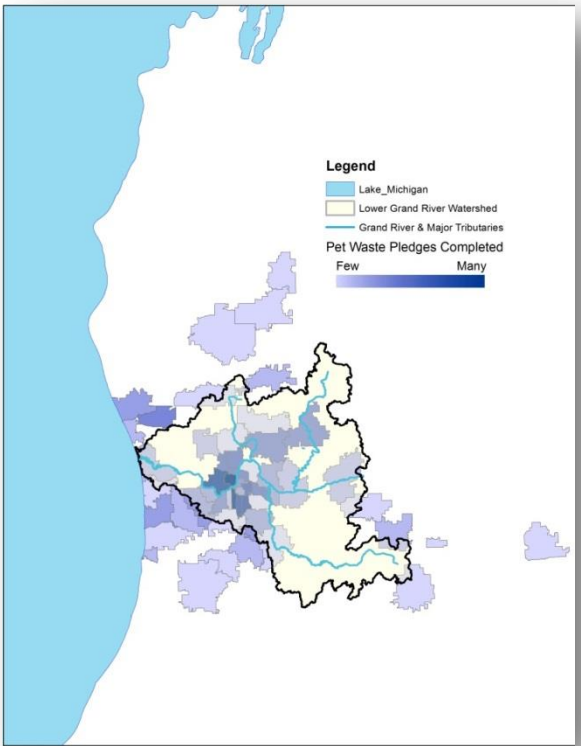


Figure 3. Pet waste pledges by zip code

Finally, during the reporting period, the Public Education Committee also developed a survey to be administered at a WhiteCaps Ballgame during the 2015-2016 reporting period. The survey was designed to gauge the awareness of the public on each of the nine objectives outlined in the approved 2013 PEP. In addition, participants also provided their zip code and age to allow a clear picture of which geographic regions and age groups require additional efforts. Detailed survey results will be shared in the next progress report, however, approximately 300 completed surveys were returned. Preliminary results indicate that approximately 80% of respondents were able to correctly define a watershed and approximately 70% of respondents know that stormwater discharges directly to surface water. Approximately two thirds of respondents have seen one or more of the Lower Grand Public outreach messages identified in this report around the watershed.

2015 Stormwater Public Education Plan (PEP) Questionnaire

Reporting Period of August 1, 2014, to July 31, 2015

Please complete this questionnaire to provide an evaluation of the stormwater education activities you have implemented between **August 1, 2014, and July 31, 2015**. GVMC will include this information, along with watershed-wide measures of effectiveness, in your 2014 Progress Report.
Please return this form to GVMC by August 15, 2015.

Community Name: City of Grand Rapids

Brochures, Flyers, and Give-a-ways (Available for events in April of 2015)

1. Have brochures, flyers, and give-a-ways been distributed?
☐Yes: ☐all ☒in progress
☐No

2. Where did you distribute your brochures, flyers, and give-a-ways?
☐Government office ☐Library ☒Community event ☒Other

Brochures and give-a-ways were provided at the 2014 HOW conference, 2015 Home and Garden Show, May 2015 New Branches storm drain painting, May 2015 Groundswell Showcase, May 2015 Grand River Water Festival, May Party for the Planet, New Cannanland Childhood Development Center in June 2015, and door hangers were distributed to approximately 131 homes along 5 blocks in November of 2014.

3. Approximately how many people did you interact with during the distribution of the materials? 400

4. What was the most popular give-a-way from the materials distributed in your community? Tote bags, fish post-it notes, and rain gauges tend to be the most popular

5. What brochure topics have historically been in the highest demand in your community?
☐How to report stormwater pollution
☐Stormwater discharge locations/impacts
☒Native vegetation/rain gardens/riparian buffers
☐Proper vehicle care/motor oil disposal
☐Proper use of pesticides/fertilizers/herbicides
☐Proper yard waste disposal
☐Proper pet waste disposal
☐Proper septic system maintenance
☐Household hazardous waste management

Illicit Discharge Reporting

(brochure available at: http://www.lgrow.org/uploads/files/Citizens_Reporting_Brochure_withnote.pdf)

6. How many "Citizens Reporting Brochures" were customized and distributed to your residents? A link to this brochure is posted on the Environmental Services website.
Was the "Citizens Reporting Brochure" posted to your city website? ☒Yes, at http://www.grcity.us/enterprise-services/Environment-Services/Pages/IDEP.aspx (url) ☐No
Please describe any interest, comments, or discussion generated from the brochure . None
How many complaints were received from the general public regarding illicit discharges? 2

Lamppost Banners

7. Did you display your lamppost banners provided to you in 2009- 2013?

☒Yes, at Monroe (streets) on since 2011 (dates). Please describe any public feedback generated
☐No, but we will display our banners at _____ (streets) on _____ (dates)
☐We did not order lamppost banners

Newsletter Articles (available at: http://www.lgrow.org/MS4articles)

8. Did you distribute newsletter articles to your residents?
☐Yes, on _____ (date); Via: ☐print ☒web ☒other
Topic(s): Septic brochures are mailed to homes as noted in Appendix 2A. Other newsletters on a various topics are posted to our website periodically. A press release was submitted on 12/4/2014 regarding the city's search for Basin Buddies and informed the public on the value of catch basins.
☐No, but we will on _____ (date)

9. Please describe any interest, comments, or discussion generated from the articles None

10. If applicable, list the newsletter name or webpage address used to distribute stormwater information to the public www.grcity.us/esd

11. If applicable, how many residents received your community newsletter? N/A

12. If applicable, how many total website hits did you receive for your online newsletter articles? Unknown

Pet Waste Pledges

13. Did your community collect pet waste pledges distributed with the public education materials?
☒Yes, 24 (approximate number)
☐No

14. Please describe any interest, comments, or discussion generated from the pledges and the associated giveaway: None

Website

15. Is there a web link to www.lgrow.org on your community's website?
☒Yes, please describe any interest, comments, or discussion generated from the website www.grcity.us/basinbuddy
☐No, but we have a web link to _____
☐No

16. If you have developed your own stormwater webpage, please list the web address: www.grcity.us/esd(url)

Stormwater Interactive Displays

17. Did you set up your stormwater poster board display?
☐Yes, on _____ (dates) at _____ (location).
☒No, but we will set up our display at the Home & Garden Show, Party for the Planet, and Healing Our Waters Conference, New Branch Storm Drain Painting, Groundswell Showcase, and Grand River Water Festival
☐No

18. Did you use an EnviroScape interactive stormwater model to educate the public on stormwater pollution?
☒Yes, on 4/22/15 (dates) at City High (location); ☐No, Enviroscape was also part of the LGROW group display that the City participated in at Party for the Planet.

19. Did you use the watershed map with pushpins at an event?
☐Yes, on _____(dates) at _____ (location); ☒No However, this was part of the group LGROW display at party for the Planet.

Approximately how many participants pinpointed their location in the watershed? _____

Storm Drain Awareness Activities

20. Did you implement a storm drain awareness activity between August 1, 2014, and July 31, 2015?
☒Yes_____ (streets) on _____See Below_____ (dates)
☒Yes, we held a storm drain stenciling event on _____ (dates) and stenciled Fountain St and College Ave (streets)
☒Yes, we have approximately 400 (no.) pre-marked catch basin backs/grates with the message "No dumping, drains to waterway" All new catch basins have this marking, unless the catch basin is to be installed in a historic area.
☒Yes, we hung door knob flyers on Monroe, Carlton, and Northlawn (streets) on November 21, 2014 (dates)
☐No, but we plan to implement _____ (activities) on _____ (dates)

21. Please describe any interest, comments, or discussion generated from the activities above _____

22. Have you noticed a reduction in storm drain dumping?
☒Yes, if so, please describe _____; ☐No, if so, please describe _____
This year we had five illicit discharges, which is less than the previous year. This shows that people are more aware of the effects of dumping in a storm drain.

Additional Efforts

23. Did you participate in any community stormwater events? (check all that apply)

☒Rain Barrel Workshop Date: __/__/____ Sponsor. The City of Grand Rapids sponsors this WMEAC event which distributed 185 rain barrels during several events this reporting year.
☐Rain Garden Installation Date: __/__/____ Number of Attendees: __
☒River Clean Up(Location): _Grand River_____ Date: _9/27/2014 Number of Attendees: _800_
☒Healing Our Waters Conference 9/8-11/2014: **4 staff attendees including 2 presenters, sponsors and display**
☒Ottawa County Water Quality Forum 11/7/2014 : **4 staff attendees, including 1 presenter**
☒MWEA Watershed Seminar 12/3/2014: **2 staff attendees**
☐STEM (at Grand Rapids Public Museum) 2/18-21/2015
☒MWEA Watershed Summit 3/25/2015: **2 staff attendees**
☐12th Annual Grand River Spring Forum 5/1/2015
☒John Ball Park Party for the Planet 5/2/2015: **2 staff attendees**
☒River City Water Festival 5/30/2015: **1 staff attendee**
☐Grand River Water Festival 6/29/2015
☒Clean Air- Clean Water @ the West Michigan WhiteCaps 8/9/2015 : **1 staff attendee**
☒Other: SESC 101 Panel Discussion 12/4/2014: **3 staff attendees**
☒Other: Green Infrastructure Luncheon 12/15/2014: **33 staff attendees**
☒Other: Groundswell Educating Local Teachers 1/28/2015 **: 1 staff attendee**
☒Other: Little Pentagon presentation **1 staff attendees including 1 presenter**
☒Other: West Michigan Home & Garden Show : 3/5-8/2015: **Display with 14 staff volunteers over the 4 days**
☒Other: NTH Consultants Green Infrastructure webinar : 3/26/2015: **4 staff attendees**
☒Other: New Branches Painting: **1 staff attendee**
☒Other: Groundswell Showcase: **2 staff attendees**
☒Other: Groundswell Summer Institute: **2 staff attendees including 1 presenter**
☒Other: Canaan Land Development Center 6/19/2015 : **1 staff attendee including 1 presenter:**
☒Other: Facebook: Multiple advertising campaigns were launched during this year. These campaigns engaged approximately 2,700 people and reached thousands more. Please see attached marketing reports.

Describe any materials distributed, number of attendees, messages distributed : Please see below

24. If applicable, please describe any other stormwater public education activities your community implemented beyond the events described above. (Submit any relevant documentation):

Wastewater Treatment Plant tours, that discuss stormwater and native vegetation, were conducted for approximately 1,213 people from 8 years old to adults. The tour also shows one of our rain gardens at the plants.

PART 4 – IDEP

Regional IDEP Activities

During the previous reporting period the DIP Committee worked with MDEQ on IDEP revisions. The IDEP for the Lower Grand River Watershed was approved in July of 2013 as meeting requirements of the General Permit Application for Storm Water Discharges from MS4s. The IDEP is intended to prohibit and effectively eliminate illicit discharges to the MS4.

The IDEP is being implemented under a cooperative program administered by the Grand Valley Metropolitan Council (GVMC) and involving the county agencies and municipal units participating in the Watershed Approach. The approved IDEP utilizes an alternative approach which includes the sampling of all storm sewer outfalls to Waters of the State within the urbanized area for the following parameters: surfactants, temperature, ammonia, and pH. Cooperative agreements were signed by participating communities to ensure that any illicit discharges detected would be traced upstream to their point of origin within the approved timeline whether or not they crossed jurisdictional boundaries.

Outfall sampling was conducted during the summers of 2013 and 2014 for regulated communities in Kent and Ottawa County respectively. In total, over 2000 outfalls were sampled in the urbanized area of the Lower Grand River Watershed. Of those outfalls, only 13, or 0.5% required high priority or immediate follow-up. By comparison, 28 illicit discharges not associated with outfall testing were identified either by public reporting or staff identification during the reporting period and 41 illicit discharges were identified during the last reporting period. This shows that training the public and the staff of permitted communities to identify and report is at minimum, twice as effective in eliminating illicit discharges as outfall sampling during a screening year. Additionally, illicit discharge reporting is an ongoing initiative while outfall sampling provides only a snapshot in time. A detailed description of the IDEP activities undertaken on an individual basis is included below. The IDEP activities include dry-weather screening of discharge points, locating possible sources of contamination, responding to reported incidents, correcting the problems, and preventing new illicit connections.

Community IDEP Activities

Please describe any dry-weather screening conducted during the reporting period and the findings of that screening.
One dry-weather screening was conducted during this reporting period. On April 2, 2015, Molly Ripke of the MDEQ contacted us to let us know that when she was at Riverside Park doing her biosurveys and electroshocking in the fall, she found a stormwater outfall with a very strong odor near the boat launch. On April 24, 2015, a dry weather sample was collected from the outfall. The sample was inspected visually inspected and field tested for temperature, pH, surfactants and ammonia. No indications of an illicit connection were found.
Please list any other known and/or resolved illicit discharges identified during the reporting period and status of elimination. For significant discharges, also list the pollutants involved with an estimate of the volume and loading. Examples of illicit discharges include: malfunctioning septic systems; sanitary sewer leaks, overflows, or cross-connections; laundry water discharges; leaking fluids from vehicles, barrels, dumpsters, or tanks; concrete truck wash water; polluted runoff from temporary or permanent storage areas; improper fire hydrant flushing; spills from auto accidents; power washing wastewater; industrial/commercial wastewater, dumping; and any other violation of the IDEP ordinance.
196 Monroe NW - We received a 311 message at 11:11 am on October 16, 2014 noting that a contractor was washing a building at Monroe and Lyon and that paint was going down the catch basin. Carrie Rivette arrived onsite at approximately 11:20 am. Drainage from the washing was going to a private catch basin that was covered with a board. Kooi Industrial Painting was onsite power washing 196 Monroe. Ms. Rivette spoke with one of the workers and informed him that the site had to be cleaned, the catch basins needed to be covered and that none of the water could go to our storm system. She went on to explain that the water gets to the river within 5 minutes of leaving the site and that we cannot even allow City water in the system. She also explained that if their company was caught discharging to the storm system in the future, they would be ticketed upwards of $1,000. Ms. Rivette then called Jim Bierens, the supervisor of the onsite workers. His employee had contacted him and he had already contacted Plummers. He was aware that he would need Plummers to vacuum up the water in the lot after covering the catch basin, as well as cleaning the catch basin. Ms. Rivette informed Mr. Bierens that the City was going to check out the system and that if we need to pump out our system, we would bill them for the costs. A City vactor arrived onsite at approximately 1 pm to determine if our system had been impacted. The Collection System Asset Technician stated that the catch basin connects to our stormwater system in Monroe. He noted that there appeared to be a minimal amount of residual in the basin in Monroe, so he cleaned the manhole and the line leading to the catch basin. When he left the site at approximately 2:30, Kooi's workers were covering the catch basin with plastic and using a wet/dry vacuum to clean up the lot. Ms. Rivette told Mr. Bierens that she would need a copy of the receipt from Plummers showing that the catch basin was cleaned. We will also bill them for our time inspecting and cleaning. **301 Market Ave SW-** At 2:53 pm on June 22, 2015, Ms. Rivette received a call that one of our soil erosion inspectors had noted a strong diesel smell at the Public Services Island and wanted assistance

tracking down the source. Michael Staal and Ms. Rivette arrived onsite shortly after 3 pm and were escorted to 301 Market near the emulsifier tank. At that time, oil dry was already being spread. Kyle Johnson (facilities) and Jason Carter (Public Services) arrived shortly after me. According to Mr. Carter, small amounts of product had been left in the buckets and the buckets overflowed when the rain came. Mr. Carter estimated that it was likely a half gallon of product or less that was released. As we were discussing the situation, additional oil dry was being spread.

Mr. Carter indicated that the oil dry would be spread and swept to finish addressing the spill. Mr. Johnson indicated that Public Services has been diligent about addressing the spills and sweeping the oil dry.

Mr. Staal and Ms. Rivette inspected the outfall that the catch basin in the area would flow to and one outfall downstream. No sheen was noted. While the amount of product likely to have made it to the river is estimated to be minor, if any, it was reported in the event that a sheen further downstream is reported.
No further response actions were deemed necessary Mr. Johnson and Mr. Carter are going to address storage of the buckets to ensure that additional spills do not occur.

44 Coldbrook St NW - On July 13, Auto Die reported that the storm sewer beneath their building (vacated right of way) at 44 Coldbrook St NW was backing up into the manholes inside their facility. Blockages in the line were discovered while trying to televise the main beneath their building. The blockage appears to be concrete or flowable fill. As of July 30, the lines were cleared to the extent that limited televising could be conducted. Upon review of the footage, that showed potential cross connections, it was recommended that samples be collected for fecal coliform analysis. Samples were collected on July 30 and analysis indicated high levels of fecal coliforms. We are currently working with Auto Die to separate the cross connection.

240 Ottawa Ave NW - At 3:20 pm on July 21, Ryan Grant emailed photos of Consumer's Concrete truck number 267 being washed down in Ottawa Avenue, across from the above address. These photos are attached. Ms. Rivette contacted Consumer's and was connected with Mr. Ike Warner, Safety Manager. She informed Mr. Warner of the situation and that, at minimum, Consumer's would be invoiced for our costs to respond to this matter. It was also stated that Mr. Warner should use this as a reason to train staff on proper disposal of concrete wash out.

At 6:39 pm, Mr. Warner emailed the following statement "We spoke with our driver and he said he did not washout into the sewer system he washed out into the dumpster provided for reason which is setting next to his truck in your pictures. The pictures show him rinsing the outside of his truck not his chutes so there will be little or no spillage into your storm drain. "

Given that rain was not forecasted overnight and the heavy traffic in the area at that time of day, a vactor truck was dispatched to the site the next morning. Photos of the catch basin and the street indicate that the concrete washout was likely going to the dumpster and the outside of the truck being washed down is likely what was photographed. The catch basin and the manhole that it discharges to were both cleaned out the next morning.

Consumer's has been notified that even "clean" water from their trucks is not allowed and were told to inform their staff of this. Given that they were generally attempting to follow proper washout procedures, however, we will only be invoicing them for the City's response time and not issuing a Notice of Violation or Civil Infraction with their associated fees.

1021 Bridge St NW - During SESC site inspections on July 22, inspector Kevin Hines at

approximately 2:00 pm noted the building owner at 1021 Bridge St NW (Christian Kado) and associated building concrete mason crew had discharged concrete wash into the storm sewer system. Kevin Hines immediately told them to cease operations. Daniel Taber (Project Engineer) and Patrick Snyder (Engineering Inspector) were called for consultation and arrived on-site. Owner was directed that concrete wash water from wheel barrels and equipment may not be discharged to storm sewer system and any waste / washout must be contained in construction dumpster. Owner understood that discharge to the system would not be permitted. Owner was directed to sweep the site and install silt sacks to prevent any further cement /sediment from entering the basin. Owner was going to purchase and install silt sacks this afternoon. A work order for basin cleaning was generated and two basins were cleaned this morning. A Notice of Violation ($400.00 Fee) was issued for discharge to basin and failure to have soil erosion control measures installed on-site. The owner will also be billed for our response time.
Please list the status and schedule for elimination for any illicit discharges identified but not eliminated during this reporting period. Also, report the status of any illicit discharges identified but not eliminated during previous reporting periods.
With the exception of Auto Die, all known illicit discharges were eliminated. We are working with Auto Die to eliminate the cross connection at their facility.
Please describe actions taken when indications of illicit discharges have been identified, if any.
Please see above.

Please provide: ● An estimated quantification of the number of discharges eliminated, and ● An estimated quantification of the volume of illicit flow eliminated (*For large spills or, where the amount discharged is possible to estimate)*.
Four illicit discharges were eliminated this year. None of the discharges were readily quantifiable.
Identify any specific coordination with the health department in response to illicit discharge elimination for failed or failing septic fields.
No failed or failing septic fields were noted this year.
Describe the effectiveness of the program to prevent illicit discharges and the method used to assess effectiveness.
The City has completed five cycles of dry weather monitoring, and all illicit connections that could be identified in this manner have been eliminated. As such, dry weather screening should be discontinued. The periodic monitoring of the Grand River and tributaries has proven effective in identifying illicit discharges and should be continued.

PART 5 - New Point Source Discharges of Stormwater

Do you own or operate any NEW or previously unidentified stormwater discharges?

☒Yes ☐No If "yes," please indicate which discharge points are new on your outfall map or list.

Is your stormwater discharge point map attached or provided electronically?

☐ Map is attached ☐ Map is provided electronically ☒ Other. Please explain in comments section.

Is your stormwater discharge point list attached or provided electronically?

☐ List is attached ☐ List is provided electronically ☒ Other. Please explain in comments section.

Comments:

Map and list were submitted to MDEQ as Appendix 2 in Illicit Discharge Elimination Plan revision, July 30, 2013. Updated lists were submitted to the MDEQ as part of the 2016 MS4 Permit Application which is currently under review. The information pertaining to the newly identified stormwater discharges is summarized in the attached table.

PART 6 - Nested Drainage System Agreements

Please list all nested jurisdictions with whom you have a cooperative agreement:		
Name of Nested Jurisdiction	**Agreement previously provided to MDEQ**	**Agreement attached**
	☐Yes ☐No	☐Yes ☐No
	☐Yes ☐No	☐Yes ☐No
	☐Yes ☐No	☐Yes ☐No
	☐Yes ☐No	☐Yes ☐No
Comments: The City of Grand Rapids does not have any nested jurisdictions.		

PART 7 - Other Actions

Please list any extra efforts your community has conducted above and beyond your commitments recorded above (e.g., stream buffer ordinance adoption, new management techniques, invasive species control, habitat enhancement/protection, logjam removal, stream/beach clean-ups, etc.) that have helped implement the **Lower Grand River Watershed Management Plan**:
The Mayor's 11th annual Grand River Clean-up took place on September 20, 2014, and had 1,018 participants. The event was held in conjunction with the cities of Walker, Wyoming, Grandville and Plainfield Township and collected over 9 tons of debris from the river banks. City employees actively participated in this event.
Please list any other actions your community has conducted to reduce stormwater pollution
• The City continues to provide a rain garden plant nursery for WMEAC. • Grand Rapids participates in LGROW, GLSLCI, West Michigan Take Back the Meds and West Michigan Soil Erosion Control Network. • The City Commission is currently reviewing updates to the City's Zoning Ordinance for new requirements regarding enhancing the tree canopy within the City and providing for additional tree protection and tree canopy coverage as it relates to new construction or redevelopment of sites.

PART 8 - Revisions to the SWPPI

Based on your evaluation of the effectiveness of your stormwater BMPs, are there any commitments that should be added to or removed from the SWPPI?

☒ No, the SWPPI does not need any revisions

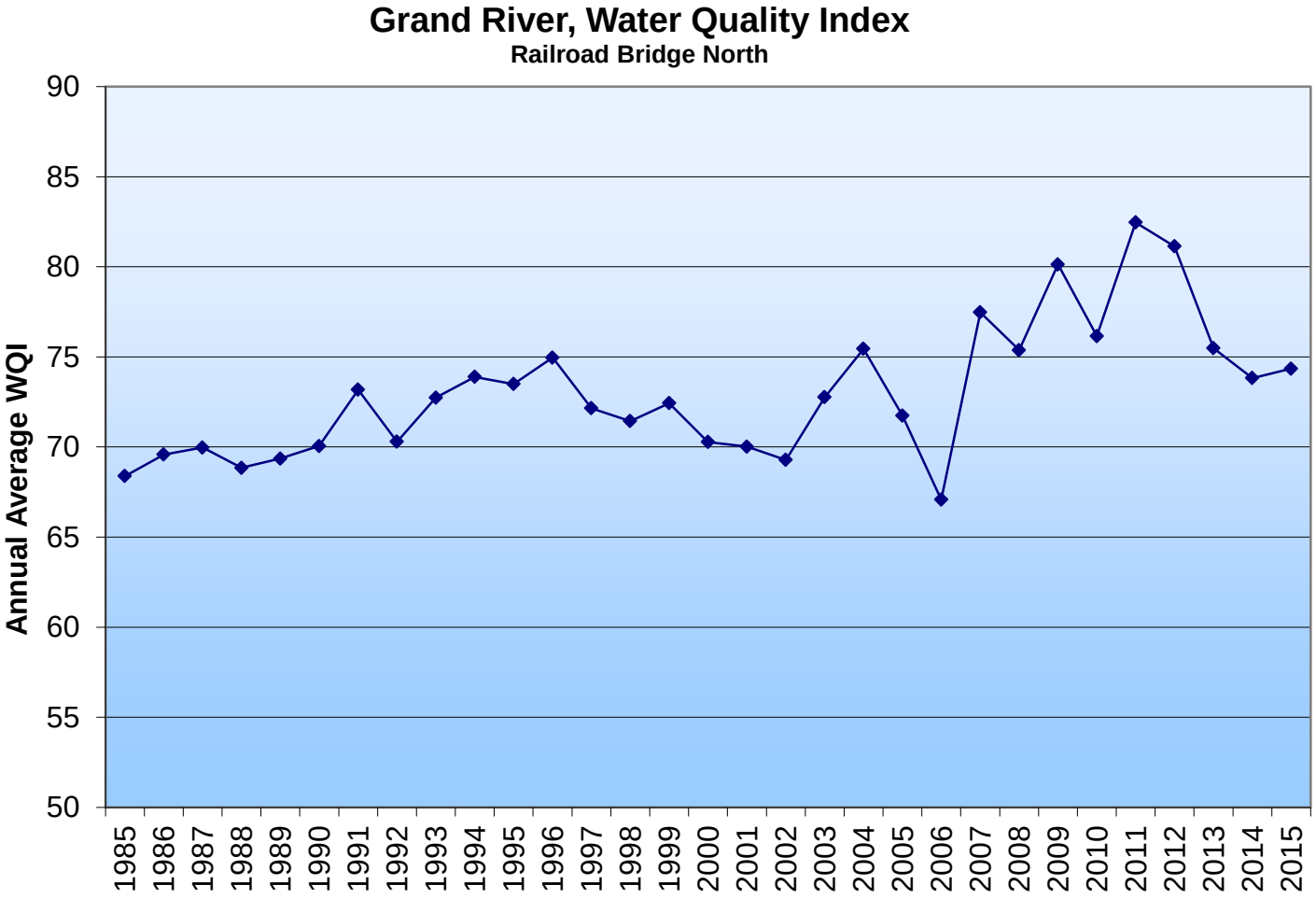
☐ The following revisions to the SWPPI could be considered:

Original SWPPI Section/Subsection	**Revision**

Part 9 – 2015 Special Reporting Requirements

a. Environmental Impacts [40 CFR 122.42(c)(7)]

a. A Grand River Water Quality Index (WQI) of 71-90 indicates good water quality with high diversity of aquatic life and very few limits for recreational use. The WQI graph shows that the Grand River water quality continues to be good downstream of Grand Rapids. Extreme rain events in 2013 and 2014 and sampling within the first 48 hours of a rain event are likely why the WQI has decreased in 2013 and 2014. Grand Rapids has been monitoring the Grand River for forty years and the data is made available to those which request it. This summer, sampling was performed on a monthly basis for additional data.



RIVER SURVEY REPORT

DATE: 08/13/2014

CITY OF GRAND RAPIDS EPSD

LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River														
201403613 Northland Drive Bridge (250120)	9:07	20.9	8.2	8.17	2.1	7.8	690	365	42	610	0.041	0.05	0.011	0.5
201403614 Wealthy Street Bridge (250090)	10:04	21.1	9.2	9.20	3.2	13.2	440	411	46	624	0.057	0.05	0.009	<0.4
201403615 Railroad Bridge South (250070)	10:25	20.6	8.3	8.38	2.8	14.2	>1500		58	696	0.060	0.05	0.010	0.7
201403616 Railroad Bridge North (250071)	10:10	20.9	8.7	8.39	2.9	14.0	1290	727	54	697	0.059	0.05	0.016	<0.4
201403617 M-11, Wilson Avenue (250062)	9:09	20.6	8.2	8.39	2.8	14.4	>1500	1200	54	663	0.053	0.05	0.019	<0.4
201403618 Eastmanville (250040)	8:22	20.5	7.2	8.32	3.6	19.0	>1500	2420	62	689	0.079	0.06	0.019	1.3
Streams														
201403619 Rogue River at West River Drive	8:43	15.8	9.4	8.41	<2.0	7.8	480		41	610	0.009	0.06	0.013	2.5
201403620 Mill Creek at West River Drive	8:20	14.8	10.1	8.46	<2.0	4.2	2300		58	712	0.015	0.07	0.013	1.2
201403621 Indian Mill Creek at Turner Aven	8:02	14.4	9.4	8.16	<2.0	7.4	5300		95	823	0.039	0.08	0.009	0.5
201403622 Silver Creek at Crofton/Roy	7:24	17.6	8.9	8.13	<2.0	1.4	9200		177	1110	0.056	0.05	0.010	0.9
201403623 Plaster 1 at Burton	7:16	18.3	7.5	7.80	3.8	60.4	>15000		95	553	0.165	0.10	0.013	<0.4
201403624 Plaster 2 at Market	10:46	18.1	8.7	8.01	>7	166	>15000		120	688	0.065	0.13	0.013	<0.4
201403625 Buck Creek at Chicago Drive	7:51	16.2	8.0	8.05	<2.0	10.2	6500		137	1040	0.034	0.12	0.013	0.6
201403626 Deer Creek	8:34	18.2	6.8	8.15	<2.0	7.2	420		36	675	0.091	0.08	0.015	0.9
201403627 Coldbrook Storm Drain	7:40	17.2	9.4	8.03	2.8	4.2	>15000		127	769	0.059	0.07	0.008	<0.4

LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River									
201403613 Northland Drive Bridge (250120)	<5	4	330	<0.2	<5	<0.5	10	264	71.6
201403614 Wealthy Street Bridge (250090)	<5	4	300	<0.2	<5	<0.5	5	274	66.1
201403615 Railroad Bridge South (250070)	<5	3	330	<0.2	<5	<0.5	6	235	65.6
201403616 Railroad Bridge North (250071)	<5	4	530	<0.2	<5	<0.5	7	264	67.1
201403617 M-11, Wilson Avenue (250062)	<5	4	340	<0.2	<5	<0.5	8	272	66.3
201403618 Eastmanville (250040)	<5	6	500	<0.2	<5	<0.5	17	283	61.3
Streams									
201403619 Rogue River at West River Drive	<5	2	160	<0.2	<5	<0.5	<5	249	67.5
201403620 Mill Creek at West River Drive	<5	3	190	<0.2	<5	<0.5	<5	295	63.2
201403621 Indian Mill Creek at Turner Aven	<5	5	420	<0.2	<5	<0.5	9	292	62.0
201403622 Silver Creek at Crofton/Roy	<5	8	170	<0.2	<5	<0.5	21	296	60.1
201403623 Plaster 1 at Burton	6	9	2270	<0.2	<5	<0.5	37	139	55.5
201403624 Plaster 2 at Market	33	42	16200	<0.2	18	<0.5	330	320	53.6
201403625 Buck Creek at Chicago Drive	<5	5	600	<0.2	<5	<0.5	6	311	59.9
201403626 Deer Creek	<5	5	370	<0.2	<5	<0.5	6	285	70.9
201403627 Coldbrook Storm Drain	<5	6	520	<0.2	<5	<0.5	10	215	56.9

Miscellaneous Information and Test Descriptions:

Weather conditions: Sunny, moderate, warm.

Air Temperature: 19 °C

Comments:

River Flow: 2270 cfs

Field Technicians: Harold Boucher / Kayla Johnson / Jim Soper / Mary

Time samples (hh:mm)
Sample temperature (°C)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Quality Index (percent)

Printed: 9/5/2014 3:20:55 PM

Permittee: City of Grand Rapids

RIVER SURVEY REPORT

DATE: 09/17/2014

CITY OF GRAND RAPIDS EPSD

LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River														
201404248 Northland Drive Bridge (250120)	8:33	15.0	9.0	8.22	<2.0	6.8	60	37	43	641	0.030	0.04	0.007	0.4
201404249 Wealthy Street Bridge (250090)	9:16	14.9	9.7	8.48	<2.0	7.2	110	96	48	657	0.032	0.04	0.009	0.6
201404250 Railroad Bridge South (250070)	9:57	15.2	9.4	8.40	<2.0	8.8	167		55	677	0.041	0.04	0.009	0.1
201404251 Railroad Bridge North (250071)	9:43	15.2	9.6	8.37	<2.0	7.8	130	114	55	682	0.040	0.05	0.012	0.4
201404252 M-11, Wilson Avenue (250062)	9:20	15.2	9.6	8.32	<2.0	7.8	110	135	54	681	0.040	0.04	0.013	0.3
201404253 Eastmanville (250040)	8:39	14.8	9.8	8.45	<2.0	9.0	210	62	59	695	0.044	0.06	0.046	0.5
Streams														
201404254 Rogue River at West River Drive	8:06	10.3	10.0	8.52	<2.0	6.0	127		38	600	<0.030	0.04	0.009	0.6
201404255 Mill Creek at West River Drive	7:42	10.1	10.4	8.39	<2.0	2.6	280		52	714	<0.030	0.04	0.009	0.7
201404257 Silver Creek at Croften/Roy	7:03	15.8	9.5	8.36	<2.0	0.4	570		200	1230	0.042	0.05	0.013	1.7
201404258 Plaster 1 at Burton	7:21	12.5	9.3	8.16	<2.0	7.8	650		169	1070	0.046	0.21	0.026	0.4
201404259 Plaster 2 at Market	9:40	12.5	9.4	8.18	<2.0	4.6	2200		175	1150	0.036	0.21	0.036	0.1
201404260 Buck Creek at Chicago Drive	7:42	12.5	9.8	8.40	<2.0	4.8	370		139	1070	<0.030	0.06	0.012	0.2
201404261 Deer Creek	8:49	11.7	9.3	8.32	<2.0	3.8	500		46	696	0.099	0.05	0.014	0.7
201404262 Coldbrook Storm Drain	7:01	15.0	9.3	8.17	<2.0	3.4	310		199	1100	<0.030	0.09	0.010	0.5

LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River									
201404248 Northland Drive Bridge (250120)	<5	1	250	<0.2	<5	<0.5	<5	290	82.2
201404249 Wealthy Street Bridge (250090)	<5	1	240	<0.2	<5	<0.5	<5	296	79.4
201404250 Railroad Bridge South (250070)	<5	2	350	<0.2	<5	<0.5	6	319	78.0
201404251 Railroad Bridge North (250071)	<5	2	250	<0.2	<5	<0.5	6	275	78.9
201404252 M-11, Wilson Avenue (250062)	<5	1	220	<0.2	<5	<0.5	<5	252	79.9
201404253 Eastmanville (250040)	<5	2	310	<0.2	<5	<0.5	6	270	76.0
Streams									
201404254 Rogue River at West River Drive	<5	1	240	<0.2	<5	<0.5	<5	261	76.7
201404255 Mill Creek at West River Drive	<5	<1	160	<0.2	<5	<0.5	<5	323	74.0
201404257 Silver Creek at Croften/Roy	<5	2	80	<0.2	<5	<0.5	8	324	67.9
201404258 Plaster 1 at Burton	<5	2	550	<0.2	<5	<0.5	21	303	70.9
201404259 Plaster 2 at Market	<5	1	400	<0.2	<5	<0.5	17	335	66.1
201404260 Buck Creek at Chicago Drive	<5	1	440	<0.2	<5	<0.5	<5	347	73.4
201404261 Deer Creek	<5	2	260	<0.2	<5	<0.5	<5	239	72.3
201404262 Coldbrook Storm Drain	<5	3	240	<0.2	<5	<0.5	5	268	73.7

Miscellaneous Information and Test Descriptions:

Weather conditions: Clear, sunny.

Air Temperature: 12 ºC

Comments: Indian Mill Creek too shallow to get a representative sample.

River Flow: 2520 cfs

Field Technicians: Brian Frazier / Cassey Wagner / Paul Kuklewski / Kayla Johnson

Time samples (hh:mm)
Sample temperature (ºC)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Qulatity Index (percent)

Printed: 10/2/2014 2:55:09 PM

Permittee: City of Grand Rapids

RIVER SURVEY REPORT

DATE: 10/15/2014

CITY OF GRAND RAPIDS EPSD

	LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River															
201404692	Northland Drive Bridge (250120)	08:21	13.1	8.9	8.40	<2.0	10.2	>660	461	43	618	0.045	<0.20	0.013	<0.1
201404693	Wealthy Street Bridge (250090)	08:52	13.2	9.4	8.28	<2.0	10.0	780	866	47	635	0.038	<0.20	0.010	<0.1
201404694	Railroad Bridge South (250070)	11:23	13.6	9.4	8.29	<2.0	16.0	1280		53	627	0.056	<0.20	0.007	<0.1
201404695	Railroad Bridge North (250071)	11:01	13.6	9.5	8.35	<2.0	11.6	1280	1600	48	634	0.046	<0.20	0.015	<0.1
201404696	M-11, Wilson Avenue (250062)	09:04	13.7	9.4	8.20	<2.0	9.2	1400	1050	52	649	0.046	<0.20	0.009	1.2
201404697	Eastmanville (250040)	07:55	14.2	8.8	8.06	<2.0	14.6	>1500	3590	57	619	0.064	<0.20	0.054	<0.1
Streams															
201404698	Rogue River at West River Drive	08:03	12.5	9.4	8.08	<2.0	8.0	3000		39	561	0.024	<0.20	0.008	<0.1
201404699	Mill Creek at West River Drive	07:43	13.1	9.4	8.41	<2.0	9.6	6100		46	582	0.066	<0.20	0.005	<0.1
201404700	Indian Mill Creek at Turner Aven	07:29	13.7	9.1	7.94	<2.0	12.2	3500		60	585	0.095	<0.20	0.008	<0.1
201404701	Silver Creek at Croften/Roy	10:14	15.4	9.2	8.13	<2.0	3.0	3000		160	968	0.045	<0.20	0.006	0.1
201404702	Plaster 1 at Burton	09:53	14.5	8.5	8.17	2.7	36.0	5600		87	572	0.115	<0.20	0.004	<0.1
201404703	Plaster 2 at Market	09:11	14.5	8.6	8.18	2.5	35.0	5100		77	543	0.121	<0.20	0.007	<0.1
201404704	Buck Creek at Chicago Drive	09:28	14.7	8.3	7.94	3.0	20.5	4700		52	512	0.107	<0.20	0.003	<0.1
201404705	Deer Creek	08:23	14.0	7.3	7.75	5.0	31.0	>15000		43	550	0.387	<0.20	0.003	<0.1
201404706	Coldbrook Storm Drain	07:14	14.6	9.2	7.92	2.2	10.2	4300		135	738	0.074	<0.20	0.006	<0.1

	LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River										
201404692	Northland Drive Bridge (250120)	<5	1	360	<0.2	<5	<0.5	<5	239	72.5
201404693	Wealthy Street Bridge (250090)	<5	1	320	<0.2	<5	<0.5	9	226	72.7
201404694	Railroad Bridge South (250070)	<5	2	470	<0.2	<5	<0.5	10	225	70.3
201404695	Railroad Bridge North (250071)	<5	1	330	<0.2	<5	<0.5	8	225	70.6
201404696	M-11, Wilson Avenue (250062)	<5	2	320	<0.2	<5	<0.5	26	237	67.8
201404697	Eastmanville (250040)	<5	2	400	<0.2	<5	<0.5	19	195	69.3
Streams										
201404698	Rogue River at West River Drive	<5	<1	310	<0.2	<5	<0.5	<5	204	67.2
201404699	Mill Creek at West River Drive	<5	2	520	<0.2	<5	<0.5	6	215	62.9
201404700	Indian Mill Creek at Turner Aven	<5	3	730	<0.2	<5	<0.5	11	193	66.2
201404701	Silver Creek at Croften/Roy	<5	2	160	<0.2	<5	<0.5	18	235	65.8
201404702	Plaster 1 at Burton	<5	3	1400	<0.2	<5	<0.5	21	143	60.6
201404703	Plaster 2 at Market	<5	4	1550	<0.2	<5	<0.5	21	159	61.6
201404704	Buck Creek at Chicago Drive	<5	3	1260	<0.2	<5	<0.5	16	153	61.7
201404705	Deer Creek	<5	7	2000	<0.2	<5	<0.5	26	180	53.6
201404706	Coldbrook Storm Drain	<5	3	600	<0.2	<5	<0.5	19	165	63.5

Miscellaneous Information and Test Descriptions:

Weather conditions: Dry, no rain, partly cloudy.

Air Temperature: 15 ºC

Comments: FC result for 201404692 and 201404694 estimated. WQI results for these based on these estimates.

River Flow: 3860 cfs

Field Technicians: Kurt Anderson / Kayla Johnson / Harold Boucher / Casey Wagner

Time samples (hh:mm)
Sample temperature (ºC)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Qulatity Index (percent)

Printed: 11/12/2014 15:27:19

RIVER SURVEY REPORT

DATE: 02/18/2015

CITY OF GRAND RAPIDS EPSD

LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River														
201500668 Northland Drive Bridge (250120)	09:24	0.1	13.0	7.81	<2.0	0.6	20	11	56	464	0.011	0.10	0.032	0.7
201500669 Wealthy Street Bridge (250090)	10:09	0.1	13.9	8.70	<2.0	1.0	38	47	64	616	<0.009	0.06	0.067	1.1
201500670 Railroad Bridge South (250070)	11:11	2.0	17.1	8.08	<2.0	1.0	58		73	805	0.017	0.24	0.073	1.3
201500671 Railroad Bridge North (250071)	11:03	2.1	13.6	8.08	<2.0	1.0	120	58	74	795	0.016	0.24	0.052	1.3
201500672 M-11, Wilson Avenue (250062)	10:16	0.1	13.8	8.10	<2.0	1.0	42	61	75	825	0.020	0.23	0.042	0.6
Streams														
201500674 Rogue River at West River Drive	08:45	0.2	13.4	8.34	<2.0	1.6	9		38	588	<0.009	0.08	0.047	1.9
201500675 Mill Creek at West River Drive	08:16	0.2	12.6	8.49	<2.0	1.6	<9		58	740	<0.009	0.06	0.050	1.7
201500676 Indian Mill Creek at Turner Aven	07:57	0.3	13.0	8.24	<2.0	1.0	590		130	1050	0.013	0.07	0.087	1.8
201500677 Silver Creek at Croften/Roy	07:25	4.5	11.3	7.78	<2.0	79.2	270		246	1390	0.039	0.03	0.045	1.7
201500678 Plaster 1 at Burton	07:46	1.9	12.4	7.94	<2.0	1.8	36		359	1870	<0.009	0.12	0.012	0.3
201500680 Buck Creek at Chicago Drive	08:22	4.3	12.5	7.71	<2.0	2.0	9		173	1270	<0.009	0.09	0.044	0.1
201500682 Coldbrook Storm Drain	07:39	2.9	12.5	7.76	2.0	1.4	270		235	1300	<0.009	0.12	0.041	0.3

LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River									
201500668 Northland Drive Bridge (250120)	<5	1	190	<0.2	<5	<0.5	17	356	86.8
201500669 Wealthy Street Bridge (250090)	<5	1	170	<0.2	<5	<0.5	12	321	79.0
201500670 Railroad Bridge South (250070)	<5	1	200	<0.2	<5	<0.5	18	363	77.5
201500671 Railroad Bridge North (250071)	<5	2	190	<0.2	<5	<0.5	41	317	76.6
201500672 M-11, Wilson Avenue (250062)	<5	<1	190	<0.2	<5	<0.5	65	323	83.7
Streams									
201500674 Rogue River at West River Drive	<5	2	620	<0.2	<5	<0.5	28	288	81.9
201500675 Mill Creek at West River Drive	<5	<1	190	<0.2	<5	<0.5	30	302	76.3
201500676 Indian Mill Creek at Turner Aven	<5	<1	380	<0.2	<5	<0.5	131	383	67.8
201500677 Silver Creek at Croften/Roy	5	3	380	<0.2	5	<0.5	81	339	67.5
201500678 Plaster 1 at Burton	<5	<1	320	<0.2	<5	<0.5	45	410	75.9
201500680 Buck Creek at Chicago Drive	<5	<1	400	<0.2	<5	<0.5	87	393	86.9
201500682 Coldbrook Storm Drain	<5	1	270	<0.2	<5	<0.5	18	315	73.0

Miscellaneous Information and Test Descriptions:

Weather conditions: Cold, cloudy, snow.

Air Temperature: -13 ºC

Comments: pH Railroad Bridge sites and M-11 taken in lab. DO & temperature of Railroad Bridge South taken in Lab.

River Flow: 3390 cfs

Field Technicians: Kurt Anderson / Brian Frazier / Paul Kuklewski / Jim Soper

Time samples (hh:mm)
Sample temperature (ºC)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Qulatity Index (percent)

Printed: 3/12/2015 17:10:17

Permittee: City of Grand Rapids

RIVER SURVEY REPORT

DATE: 05/13/2015

CITY OF GRAND RAPIDS EPSD

LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River														
201501754 Northland Drive Bridge (250120)	08:54	14.4	8.6	8.26	<2.0	6.6	100	228	44	655	0.045	0.12	0.028	0.2
201501755 Wealthy Street Bridge (250090)	09:47	13.7	9.7	8.15	<2.0	22.4	440	387	36	568	0.080	0.12	0.025	<0.1
201501756 Railroad Bridge South (250070)	09:33	13.5	9.0	8.29	<2.0	17.2	203		49	643	0.081	0.18	0.021	<0.1
201501757 Railroad Bridge North (250071)	09:25	13.5	9.2	8.28	<2.0	17.8	280	435	37	571	0.085	0.17	0.022	<0.1
201501758 M-11, Wilson Avenue (250062)	09:06	12.9	9.0	8.25	<2.0	15.8	280	517	41	593	0.079	0.17	0.021	<0.1
201501759 Eastmanville (250040)	08:25	13.0	9.3	8.22	<2.0	27.0	670	613	45	613	0.111	0.16	0.020	<0.1
Streams														
201501760 Rogue River at West River Drive	08:29	11.6	10.2	8.40	2.0	15.4	400		17	354	0.099	0.12	0.017	<0.1
201501761 Mill Creek at West River Drive	08:08	10.6	10.7	8.13	<2.0	25.8	1300		19	449	0.149	0.13	0.016	<0.1
201501762 Indian Mill Creek at Turner Aven	07:54	10.0	10.5	7.91	<2.0	10.2	1500		51	582	0.103	0.23	0.023	<0.1
201501763 Silver Creek at Croften/Roy	07:09	11.9	10.9	8.23	<2.0	5.2	290		190	1200	0.044	0.16	0.011	0.8
201501764 Plaster 1 at Burton	07:19	11.7	9.5	8.12	2.2	22.2	1800		136	859	0.106	0.21	0.027	<0.1
201501765 Plaster 2 at Market	09:58	12.2	9.6	8.13	2.0	13.4	1190		141	891	0.092	0.19	0.023	<0.1
201501766 Buck Creek at Chicago Drive	07:36	10.2	10.1	8.21	<2.0	7.0	200		125	974	0.022	0.14	0.020	0.7
201501767 Deer Creek	08:35	11.1	9.0	8.20	<2.0	28.4	1400		20	460	0.323	0.28	0.042	<0.1
201501768 Coldbrook Storm Drain	07:37	12.4	10.5	8.19	<2.0	4.4	91		197	1050	0.040	0.13	0.013	<0.1

LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River									
201501754 Northland Drive Bridge (250120)	<5	2	260	<0.2	<5	<0.5	8	267	79.7
201501755 Wealthy Street Bridge (250090)	<5	3	780	<0.2	<5	<0.5	14	253	75.0
201501756 Railroad Bridge South (250070)	<5	3	650	<0.2	<5	<0.5	8	281	75.6
201501757 Railroad Bridge North (250071)	<5	3	700	<0.2	<5	<0.5	8	238	75.0
201501758 M-11, Wilson Avenue (250062)	<5	4	630	<0.2	<5	<0.5	9	258	74.8
201501759 Eastmanville (250040)	<5	3	1040	<0.2	<5	<0.5	10	251	71.9
Streams									
201501760 Rogue River at West River Drive	<5	3	880	<0.2	<5	<0.5	9	153	72.6
201501761 Mill Creek at West River Drive	<5	4	1270	<0.2	<5	<0.5	12	202	68.8
201501762 Indian Mill Creek at Turner Aven	<5	6	770	<0.2	<5	<0.5	15	252	69.4
201501763 Silver Creek at Croften/Roy	<5	3	170	<0.2	<5	<0.5	17	321	73.0
201501764 Plaster 1 at Burton	<5	5	1400	<0.2	<5	<0.5	21	243	65.4
201501765 Plaster 2 at Market	<5	3	960	<0.2	<5	<0.5	14	238	67.7
201501766 Buck Creek at Chicago Drive	<5	3	570	<0.2	<5	<0.5	10	321	74.9
201501767 Deer Creek	<5	24	2050	<0.2	8	<0.5	14	200	65.7
201501768 Coldbrook Storm Drain	<5	5	330	<0.2	<5	<0.5	8	253	78.6

Miscellaneous Information and Test Descriptions:

Weather conditions: Cloudy, overcast.

Air Temperature: 12 ºC

Comments: Overcast, no rain.

River Flow: 5550 cfs

Field Technicians: Brian Frazier / Harold Boucher / Kurt Anderson / Paul Kuklewski

Time samples (hh:mm)
Sample temperature (ºC)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Qulatity Index (percent)

Printed: 6/5/2015 10:31:42

RIVER SURVEY REPORT

DATE: 06/17/2015

CITY OF GRAND RAPIDS EPSD

LOCATIONS	TIME	TEMP	DO	pH	BOD	TSS	FC	EC	CHLORIDE	CON	TP	NH3-N	NO2-N	NO3-N
Grand River														
201502245 Northland Drive Bridge (250120)	08:10	21.2	6.7	7.86	<2.0	30.0	670	579	24	457	0.197	0.13	0.064	<0.1
201502246 Wealthy Street Bridge (250090)	08:35	21.2	7.3	7.88	<2.0	32.4	490	276	23	459	0.168	0.15	0.054	0.9
201502247 Railroad Bridge South (250070)	09:25	21.2	7.3	7.92	<2.0	33.2	500		29	466	0.169	0.17	0.062	1.4
201502248 Railroad Bridge North (250071)	09:21	21.2	7.3	8.00	<2.0	32.4	460	488	24	453	0.176	0.15	0.051	1.0
201502249 M-11, Wilson Avenue (250062)	08:54	21.0	7.2	8.07	<2.0	28.4	420	308	27	463	0.166	0.17	0.057	2.2
201502250 Eastmanville (250040)	08:05	21.1	7.1	8.04	<2.0	34.8	420	308	34	514	0.168	0.16	0.056	1.4
Streams														
201502251 Rogue River at West River Drive	07:54	18.3	8.4	8.16	<2.0	14.0	191		25	512	0.084	0.08	0.021	0.2
201502252 Mill Creek at West River Drive	07:35	16.1	9.2	8.53	<2.0	10.4	780		40	662	0.078	0.12	0.049	0.9
201502253 Indian Mill Creek at Turner Aven	07:22	15.9	8.5	7.96	<2.0	10.8	2100		83	790	0.080	0.12	0.026	0.4
201502254 Silver Creek at Crofton/Roy	06:40	16.5	9.2	8.09	<2.0	0.4	2900		188	1200	0.043	0.06	0.008	1.0
201502255 Plaster 1 at Burton	06:53	19.1	7.6	8.09	<2.0	30.4	1030		127	829	0.127	0.16	0.139	1.2
201502256 Plaster 2 at Market	08:44	19.4	7.6	8.05	<2.0	14.0	560		41	547	0.108	0.17	0.065	1.6
201502257 Buck Creek at Chicago Drive	07:12	18.7	7.9	8.07	<2.0	20.0	750		113	930	0.067	0.13	0.041	<0.1
201502258 Deer Creek	08:21	19.0	6.9	8.05	<2.0	18.0	580		35	654	0.164	0.16	0.119	2.1
201502259 Coldbrook Storm Drain	07:10	20.2	8.5	7.88	<2.0	5.6	1170		171	945	0.072	0.08	0.011	<0.1

LOCATIONS	Cr	Cu	Fe	Hg	Ni	Ag	Zn	Hard	WQI
Grand River									
201502245 Northland Drive Bridge (250120)	<5	3	1260	<0.2	<5	<0.5	6	188	72.0
201502246 Wealthy Street Bridge (250090)	<5	4	1470	<0.2	<5	<0.5	9	223	72.3
201502247 Railroad Bridge South (250070)	<5	3	1040	<0.2	<5	<0.5	5	173	69.9
201502248 Railroad Bridge North (250071)	<5	4	1400	<0.2	<5	<0.5	9	230	71.4
201502249 M-11, Wilson Avenue (250062)	<5	3	1050	<0.2	<5	<0.5	7	182	68.9
201502250 Eastmanville (250040)	<5	3	1260	<0.2	<5	<0.5	9	205	69.2
Streams									
201502251 Rogue River at West River Drive	<5	2	550	<0.2	<5	<0.5	<5	238	77.9
201502252 Mill Creek at West River Drive	<5	2	360	<0.2	<5	<0.5	<5	258	68.6
201502253 Indian Mill Creek at Turner Aven	<5	2	560	<0.2	<5	<0.5	7	279	67.1
201502254 Silver Creek at Crofton/Roy	<5	4	220	<0.2	<5	<0.5	27	349	63.4
201502255 Plaster 1 at Burton	<5	4	1350	<0.2	<5	<0.5	19	228	65.5
201502256 Plaster 2 at Market	<5	3	700	<0.2	<5	<0.5	<5	209	68.0
201502257 Buck Creek at Chicago Drive	<5	4	1220	<0.2	<5	<0.5	10	338	71.4
201502258 Deer Creek	<5	4	1130	<0.2	<5	<0.5	<5	302	66.6
201502259 Coldbrook Storm Drain	<5	5	370	<0.2	<5	<0.5	10	197	69.8

Miscellaneous Information and Test Descriptions:

Weather conditions: Partly cloudy.

Air Temperature: 19 ºC

Comments: Wealthy conductivity taken from bottle.

River Flow: 9850 cfs

Field Technicians: Greg Reno / Kurt Anderson / Paul Kuklewski / Brian Frazier

Time samples (hh:mm)
Sample temperature (ºC)
Dissolved oxygen (mg/L)
pH (pH units)
BOD-5 (mg/L)
Total suspended solids (mg/L)
Fecal coliform (#FC/100mL)
E. coli (#EC/100mL)
Chlorides (mg/L)
Conductivity (µS/cm)
Total phosphorous (mg/L)
Ammonia as nitrogen (mg/L)
Nitrites as nitrogen (mg/L)
Nitrates as nitrogen (mg/L)
Total chromium (µg/L)
Total Copper (µg/L)
Total iron (µg/L)
Total mercury (µg/L)
Total nickle (µg/L)
Total silver (µg/L)
Total zinc (µg/L)
Hardness (mg/L CaCO3)
Water Qulatity Index (percent)

Printed: 7/10/2015 13:54:46

   b. All CSO and SSO occurrences are reported to the DEQ as required in NPDES Permit #MI0026069 when they occur.
   c. Illicit Discharges can be found in Part 4 of the Report.
   d. The construction work on the Combined Sewer Overflow Project required by the City Wastewater NPDES Permit were completed in July 2015.

b. Data and Results [40 CFR 122.42(c)(4)] – see above

c. BMP Changes [40 CFR 122.42(c)(2)]
   a. None.
   b. We have a Technical Reference Manual that emphasizes green infrastructure and will be implemented upon revising our City ordinance. The ordinance revision process has begun. In lieu of the upcoming permit applications, however, proposed changes were presented in the new permit application.

d. Revised Financial Analysis [40 CFR 122.42(c)(3)]
   a. The stormwater program continues to be funded from the City General Fund, Local and Major Streets, Refuse, and Vital Streets Funds. Funding levels have been increased due to low impact development funding through the streets tax extension. Funds for asset management have also increased. A fiscal analysis of City of Grand Rapids is included as an attachment. The one attached is the most current from September 2014.

e. Annual Budget [40 CFR 122.42(c)(5)]

Activity	FY15 Expenditures	FY16 Budget
Stormwater Management (General Fund)	$402,380.66	$601,597.00
Stormwater Maintenance (Local and Major Streets Funds)	$673,505.62	$840,513.00
Street Sweeping (Refuse and Vital Streets Funds)	$1,151,809.60	$985,714

Capital Improvement Plan

KCDC	$	45,000
Emergency	$	135,846
Burton-Breton Branch of Plaster Creek- Enlargement of Culverts	$	30,000
Moerland and Longmeadow Stormwater Improvements	$	20,730
Eastridge Stormwater Improvements	$	79,700
Brookshire Outfall Replacement and Erosion Repair	$	60,095

Summary of Enforcement Actions and Inspections

Activity	2014-2015 Reporting Cycle
Stormwater Inspections	2532
Notices of Violations	100
Corrective Action Orders	6

Summary of Street Sweeping

The City has disposed of 4,345 cubic yards of waste from street sweeping this reporting year at a cost of over $92,000. This has prevented almost 4,000 tons of material from entering the stormwater system.

Additional Documentation

EPSD BROCHURES

Brochure #	Brochure Name	Last Updated	Printer Information	Notes	Last Order Date
1	City of GR Public Inquiry		City of Grand Rapids	NO LONGER AVAILABLE	
2	Drug Free Drains	December, 2008	Water Environment Federation		
3	ESD Storm Water Quality Improvements		Environmental Services		
4	Ever Wonder Where it Goes?	August, 2008	Water Environment Federation		
5	GR WWTP Rain Garden Plant Species		Environmental Services		
				Outdated and disposed of	
7	Sanitary and Stormwater Sewers	9/12 - Spanish	Environmental Services	Spanish also avail. - needs work	
8	Your Path to Water Wise Lawn Sprinkling		Utility Advisory Board		
9	A Homeowner's Guide to Septic Systems		Environmental Protection Agency		
10	Be Stormwater Savvy-Clean Up After Your Pet		Lower Grand River Watershed		
11	Be Stormwater Savvy		Lower Grand River Watershed		
12	City of GR About Wastewater Treatment		Environmental Services		
13	Each One of Us Can Make a Difference		Water Environment Federation		
14	EPA Healthy Lawn Healthy Environment		Environmental Protection Agency	NO LONGER AVAILABLE	
15	Everyone Shares a Watershed	1997	Water Environment Federation		
16	Fat Free Sewers		Water Environment Federation		

EPSD BROCHURES

Brochure #	Brochure Name	Last Updated	Printer Information	Notes	Last Order Date
17	GR Leading the Way CSO Imp Program		City of Grand Rapids	DO NOT REORDER - Needs Update	
18	Grand Rapids Market Avenue Retention Basin	June, 1992	City of Grand Rapids		
19	Groundwater Why You Should Care		Water Pollution Control Federation		
20	Kent Co Recycling Guide		Kent County Dept. of Public Works	Printed from Website (100)	10/1/2012
21	Landscaping for Water Quality	July, 2003	GR Center for Environmental Study		
22	Mercury Awareness for GR Area Citizens		City of Grand Rapids		
23	Rain Gardens		W MI Environmental Action Council		
24	Stop Pointless Personal Pollution		Environmental Protection Agency		
25	Streams in the City		Environmental Protection Agency		
26	Sustainability Starts at Your Sink	August, 2008	Water Environment Federation		
27	The Solution to Stormwater Pollution		Environment Protection Agency		
28	Treating Our Waters With Care		ASMA		
29	Earth Care From A to Z		Positive Promotions	Replaces 5 Ways to Go Green	October 2012 (500)
30	Kent Co A Fish Story Coloring Book		Kent County Drain Commission		
31	Surface Water The Students Resource Guide		Water Environment Federation		
32	The Story of Drinking Water		American Water Works Association		
33	Wastewater Treatment The Students Resource Guide		Water Environment Federation		

EPSD BROCHURES

Brochure #	Brochure Name	Last Updated	Printer Information	Notes	Last Order Date
34	WEF Clean Water for Today		Water Environment Federation		
35	Stormwater Runoff Take it Personally	July, 2011	Water Environment Federation		October 2012 (500)
36	Get the Most Out of Rain		www.lowergrandriver.org		
37	Use Phosphorus Free Fertilizer	January, 2012	MI Dept. of Agriculture & Rural Dev.		
38	W MI Take Back Meds		www.wmtakebackmeds.org		
39	Catch a Ride on the Water Cycle	2010	Water Environment Federation	Coloring Book	
40	Nature's Way (How WWT Works for You)	1999	Water Environment Federation		
41	Rain, Rain	May, 2012	Environmental Services		May, 2012
42	Grease Poster		City of Grand Rapids		
43	Grease Stickers		City of Grand Rapids		
44	Window Clings (Protect our River)		City of Grand Rapids		
45	Super Heron Coloring Page	2012	City of Grand Rapids		
46	Super Heron Stickers	2012	City of Grand Rapids		
47	311 Stickers	2012	City of Grand Rapids		
	Stormwater & the Construction Industry	April, 2003	Envrionmental Protection Agency	Way too big to scan - no # assigned	No Longer Available
	Environmental Tip #1		Environmental Services	Thomas Graphics (Troy Micighan)	

EPSD BROCHURES

Brochure #	Brochure Name	Last Updated	Printer Information	Notes	Last Order Date
	Environmental Tip #2		Environmental Services	Thomas Graphics (Troy Micighan)	
	Environmental Tip #3		Environmental Services	Thomas Graphics (Troy Micighan)	
	Environmental Tip #4		Environmental Services	Thomas Graphics (Troy Micighan)	
	Environmental Tip #5		Environmental Services	Thomas Graphics (Troy Micighan)	
	Environmental Tip #6		Environmental Services	Thomas Graphics (Troy Micighan)	
	Environmental Tip #6		Environmental Services	Thomas Graphics (Troy Micighan)	
	Be Stormwater Savvy - Don't Let a Good Drop go Bad		www.lowergrandriver.org	Insulated Lunch Bag - Not Scanned - No # Assigned	March, 2012
	Cloth Tote Bag		www.lowergrandriver.org	Not scanned	
	Introduction to the Watershed Series		Lower Grand River Watershed	Lg. newspaper format in 3 pts. - not scanned	
	Waste & Recycling Guide	2011	Kent County	Lg. newspaper format - not scanned	Outdated - reorder 4/1/13

Table 2 - Brochure Distribution

Brochure Name	Home Show	Party for the Planet	Central Woodlands	HOW Conference	New Branches Water Day	Miscellaneous	Totals
							0
Adopt A Catch Basin	25				0	7	32
Catch a Ride on the Water Cycle	17				0	0	17
Drug Free Drains	7				0	0	7
Each One of Us Can Make a Difference	0				1	0	1
Earth Care From A to Z	48				12	0	60
GR Environmental Tip #1- Water & Oil Do Not Mix	8				6	0	14
GR Environmental Tip #2- Don't Rush to Flush	7				3	0	10
GR Environmental Tip #3- No Wipes in the Pipes	10				4	0	14
GR Environmental Tip # 4- Rain Water is Not Wastewater	0				2	0	2
GR Environmental Tip #5- Report it Don't Ignore it	1				2	0	3
GR Environmental Tip #6- We Never Close	1				3	0	4
GR Environmental Tip #7- Maintain the Drain	1				2	0	3
Kent Co A Fish Story Coloring Book	74				11	15	100
Kent Co Recycling Guide	3				0	0	3
Landscaping for Water Quality	57				5	0	62
Rain Gardens	2				0	0	2
Recycling Reward	4				0	0	4
Sanitary and Stormwater Sewers	0				1	0	1
Septz Smart	12				0	0	12
Stormwater Runoff Take it Personally	1				2	0	3
The Solution to Stormwater Pollution	13				6	0	19
Use Phosphorus Free Fertilizer	1				0	0	1
W MI Take Back Meds	17				0	0	17
Your Path to Water Wise Lawn Sprinkling	0				1	0	1
					0	0	
Give Aways					0	0	
Cell Phone Wallets	3				0	0	3
Cloth Tote Bag	19				0	8	27
Crayons	32				0	0	32
Fish Magnet	15				0	0	15
Hats	29				0	0	29
Pens	182				0	0	182
Rain Gauge	22				6	0	28
Sticky Notes- Keep it Pure	16				0	0	16
Poop Bags	17				0	7	24
Water Bottles	13				0	0	13
311	10				0	4	14
							775

*** Bold indicates stormwater related**

*** Outlined box contains added sections**

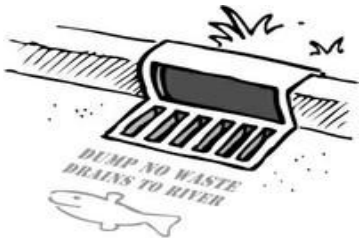
Brochure Name	Home Show Counts
A Homeowner's Guide to Septic System	**0**
Adopt A Catch Basin	25
Be Stormwater Savvy	0
Be Stormwater Savvy- Don't Let a Good Drop go Bad	0
Be Stormwater Savvy-Clean Up After Your Pet	0
Catch a Ride on the Water Cycle	17
City of GR About Wastewater Treatment	0
Drug Free Drains	7
Each One of Us Can Make a Difference	0
Earth Care From A to Z	48
EPA Healthy Lawn Healthy Environment	0
ESD Storm Water Quality Improvements	0
Ever Wonder Where it Goes?	0
Everyone Shares a Watershed	0
Fat Free Sewers	0
Get the Most Out of Rain	0
GR Environmental Tip #1- Water & Oil Do Not Mix	8
GR Environmental Tip #2- Don't Rush to Flush	7
GR Environmental Tip #3- No Wipes in the Pipes	10
GR Environmental Tip #5- Report it Don't Ignore it	1
GR Environmental Tip #6- We Never Close	1
GR Environmental Tip #7- Maintain the Drain	1
GR Leading the Way CSO Imp Program	0
GR WWTP Rain Garden Plant Species	0
Grand Rapids Market Avenue Retention Basin	0
Grease Poster	0
Grease Stickers	0
Green Lawncare TPS	0
Groundwater Why You Should Care	0
Introduction to the Watershed Series	0
Kent Co A Fish Story Coloring Book	74
Kent Co Recycling Guide	3
Landscaping for Water Quality	57
Mercury Awareness for GR Area Citizens	0
Nature' s Way (How WWT Works for You)	0
Rain Gardens	2
Rain, Rain	0
Recycling Reward	4
Sanitary and Stormwater Sewers	0
Septz Smart	12
Stop Pointless Personal Pollution	0
Stormwater & the Construction Industry	0
Stormwater Runoff Take it Personally	1
Super Heron Coloring Page	0
Super Heron Stickers	0
Surface Water The Students Resource Guide	0

Sustainability Starts at Your Sink	0
The Solution to Stormwater Pollution	13
The Story of Drinking Water	0
Treating Our Waters With Care	0
Use Phosphorus Free Fertilizer	1
W MI Take Back Meds	17
Waste & Recycling Guide	0
Wastewater Treatment The Students Resource Guide	0
WEF Clean Water for Today	0
Your Path to Water Wise Lawn Sprinkling	0

Give Aways

Cell Phone Wallets	3
Cloth Tote Bag	19
Crayons	32
Fish Magnet	15
Hats	29
Pens	182
Rain Gauge	22
Sticky Notes- Keep it Pure	16
Poop Bags	17
Water Bottles	13
311	10

Care instructions for Catch Basins



What can I do to help? The grates of catch basins can become clogged with litter or leaves, especially in the spring and fall. Regularly inspect the grate and remove debris.

- DO NOT rake or blow the leaves from your yard to the street!

- Pile shoveled snow where it can be absorbed into the ground.

- Dispose of all waste (including pet waste) in trash receptacles instead of sweeping it into the gutters or catch basins.

- **NEVER** dispose of household waste, cleaning products, solvents or residual from concrete or paint projects where they might run into a catch basin! **Adopt a catch basin!**

Visit
grcity.us/basinbuddy

Encourage family, friends and neighbors to adopt the catch basins in front of their homes, and businesses - keep them free of debris.

If you see someone dispose of pollutants or any material into a catch basin or the gutter pan area of the street…

Report it – Don't ignore **Download your free GRCity311 smart phone app from our web site, www.grcity.us.**

You can also call us at 456-3246

We are here for you **24** hours a day, **7** days a week, **365** days a year!

Proper Care of a Catch Basin:

A catch basin is a living, breathing entity!
It collects rainwater and discharges the rainwater to the stormwater system – which is comprised of other catch basins – storm ditches – stormwater pipes – and eventually they all empty into the waterways of the state!

If a catch basin can't breathe – i.e. the top is covered with leaves and debris, it is like holding your breath. How long can you do that and still function properly? A catch basin can't function properly if it can't breathe, just like you! If a catch basin is "improperly fed" with solid material such as pop cans, paper waste, cigarette butts or liquid material such as waste oil, fertilizer or soap products - all kinds of havoc can be created.

What happens when a catch basin gets sick?

First – the health of the catch basin declines….it can no longer capture the dirt and silt in the sump area and discharge the stormwater to the system and to the waterways of the state properly as designed.
The catch basin can get plugged - flooding streets and yards.
Second – the health of the waterways of the state decline because of all the pollutants that are being discharged from the stormwater system.


lichigan
nd Tile Inc.
Combined Sewer Overflows
All but eliminated
Flows reduced 99.8%
Complete construction 2015
$237 Million spent
before
after
Adopt-a-Catch Basin
How can you help?
Keep sewer grates clean!
Allow only rainwater to enter
Report all Dumping
Environmental Protection TIP #1
Environmental Protection TIP #2
Environmental Protection TIP #3
Environmental Protection TIP #4
Environmental Protection TIP #5
GRAND RAPIDS
Environmental
Services

GRAND RIVER RESTORATION COMMITTEE

FINAL REPORT

07/21/15

The Grand River Restoration Steering Committee is pleased to submit for your review and action the attached final report. The report summarizes the committee's charge, accomplishments and recommended actions.

The committee has completed its work assuring coordination of the various planning studies to create a vision for the restored river, downtown and the river banks. The Committee is proud of its accomplishment and looks forward to assisting in the transition from vision to implementation. In order to do so, we urge the City to act upon the recommendations contained in the report. Key recommendations include:

1. The City Commission should authorize a transitional role for a successor to the Steering Committee (Grand River Corridor Revitalization Committee) to identify or create a new public-private partnership, not-for-profit organization capable of coordinating construction, management and operations for river/corridor restoration-related projects and activities and capable of coordinating long-term leadership, public engagement, fundraising, programming, stewardship, operations and maintenance services. A draft Interim Organizational structure document is included which suggests a future governance model for the new Grand River Corridor Revitalization Committee.

2. Work with key partners including the City of Grand Rapids and Grand Rapids Whitewater to develop a Memorandum of Understanding with Trust for Public Land (TPL) by which (with private philanthropic funding) TPL would provide professional support to the Grand River Corridor

Revitalization Committee in its transitional role and would coordinate vital near-term tasks, likely to include:

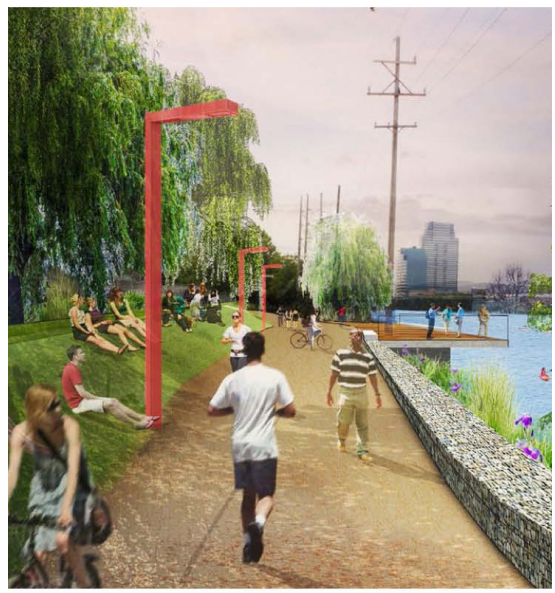
a. Assessing capacities of local Non-Governmental Organizations (NGO) and other organizations and, then, developing a strategy and timetable for identifying or creating an NGO as described in Recommendation 1 above;

b. Serving as fiscal agent and fiduciary for funds contributed to or designated for specific projects, such as restoring the namesake rapids to downtown Grand Rapids;

c. Developing and coordinating execution of a fundraising strategy for early projects and activities catalyzed by the prospect of River/rapids restoration; and,

d. Coordinating with the City and key partners in applying for permits, identifying funding sources and beginning implementation of river/corridor projects, especially the catalytic project of restoring the namesake rapids to downtown.

3. On a parallel track, the Grand River Corridor Revitalization Committee, supported by TPL, should explore the formation of a complementary "recreational authority" like organization under Michigan law (with inclusion of key government jurisdictions upstream and downstream from Grand Rapids) and/or of potential "improvement districts" and similar funding mechanisms, carefully coordinating with the City in view of the existing system-wide parks millage.



4. Recognizing that the Grand River is held in public trust by the State of Michigan and is a watershed in which Grand Rapids is one community among many, special consideration must be given to regional efforts that positively contribute to water quality for river recreation. Improving water quality must be an imbedded priority in program and funding strategies, messaging and branding. The Grand River Corridor Revitalization Committee and any subsequent entity or entities managing the oversight and coordination of the river corridor projects, must work in partnership with others to closely monitor water quality and support both regional and local efforts to minimize pollutants to the Grand River. Strategies for achieving water quality improvements include

    a. The notion of improving the quality of the water in the Grand River should be imbedded in the messaging, branding and funding initiatives of the river restoration effort. Responsibility for monitoring progress on the recommendations should become part of the work of the entity that takes on oversight and coordination of the next phase of the project.

    b. Address high impact point-source water quality infrastructure opportunities in the Grand River watershed area.

    c. Address livestock and cropland pathogen pollutants in the Direct Drainage Subwatershed management unit of the Lower Grand River Watershed and in the Urban Waters Federal Partnership area. Plant buffer and filter strips along priority acreage adjacent to and encompassing the Direct Drainage Subwatershed and Urban Waters Federal Partnership area.

    d. Improve septic programs and policies in the Grand River watershed area. Work with the Governor's Administration on a statewide

septic code and with local health departments to adopt operational inspections and maintenance requirements in their septic regulations.

e. Maximize implementation of green infrastructure and low-impact development (LID) within the River Restoration Project Corridor area by encouraging local policies and incentives that favor LID.

f. Implement projects identified by the City of Grand Rapids Green Infrastructure Opportunity Assessment. Inspire a similar assessment and implementation process for managing stormwater runoff in upstream communities.

Our ability to complete the work as assigned by the City Commission is due in large part to the diverse committee leaders that include members from local, state, tribal and federal governments, businesses, community groups, river user groups, conservation and environmental organizations.

Thank you for your continued support in strengthening our City's biggest asset, the Grand River.

Sincerely,

River Restoration Steering Committee:

Joe Jones, Co-Chair
Fred Keller, Co-Chair
Vicki Anthes
Patty Birkholz
Steve Faber
George Heartwell
John Helmholdt
Scott Hicks
Rachel Hood
Ryan Huppert
Kris Larson
Megan Lemmen
James Moyer
Chris Muller

Nkatha Mwenda

Larry Romanelli

Rodney Stokes

Greg Sundstrom

Mary Swanson

Jim Talen

Rick Treur

Kristian Williams

Liasons:

Scott Bishop,
Stoss Landscape Urbanism

Jason Carey,
River Restoration Org.

Neil Carlson,
Calvin College

Tim Kelly,
Downtown Grand Rapids Inc.

Barbara Nelson Jameson,
National Park Service

Kalie Nye,
Grand Rapids Whitewater

Wendy Ogilvie,
Grand Valley Metro Council, Lower Grand River Organization of Watersheds

Nick Occhipinti,
West Michigan Environmental Action Council

Scott Page,
Interface Studio

Eric Pessell,
Kent County Health Department

Chris Reader,
GRForward River Corridor Committee Chair

Chip Richards,
Grand Rapids Whitewater

Allison Rudi,
Calvin College

Jim Smalligan,
Fishbeck, Thompson, Carr and Huber

Dana Strouse,
State of Michigan, Department of Environmental Quality

Mark Van Putten,
ConservationStrategy LLCon behalf of the Wege Foundation

Staff:

Eric Delong

Kim Dixon

Hannah Fernando

Mike Lunn

David Marquardt

Suzanne Schulz

Jay Steffen

Committee Charge

The Grand River Restoration Steering Committee was appointed by the Grand Rapids City Commission in March, 2014. The Steering Committee was co-chaired by Fred Keller and Joe Jones and the Commission provided the Committee with the following charge:

- Provide overall guidance on efforts associated with the restoration of the Grand River and riverbank;
- Assure a common vision that advances broad and diverse community interests and the effective alignment of various projects related to river restoration;
- Serve as a resource to advise the City Commission regarding the GRWW plan, permits, funding, project staging, construction, maintenance, and operations of any projects associated with the Grand River.

Steering Committee Members:

The members of the Steering Committee are:

- Vicki Anthes, Planning Section Chief, Michigan Department of Natural Resources
- Patty Birkholz, West Michigan Director, Michigan League of Conservation Voters and West Michigan Environmental Leadership Network
- Steve Faber, Byrum & Fisk Communications
- George Heartwell, Mayor, City of Grand Rapids
- John Helmholdt, Executive Director of Communications & External Affairs, Grand Rapids Public Schools
- Scott Hicks, Field Office Supervisor, U.S. Fish and Wildlife Service
- Rachel Hood, Executive Director, West Michigan Environmental Action Council
- Ryan Huppert, Principal, Grand Rapids Public Schools

- Joe Jones, President and CEO, Grand Rapids Urban League
- Fred Keller, Founder and CEO, Cascade Engineering
- Kris Larson, President and CEO, Downtown Grand Rapids, Inc.
- Megan Lemmen, Student, Grand Valley State University
- James Moyer, Associate Vice President for Facilities Planning, Grand Valley State University
- Chris Muller, Co-Founder, Grand Rapids Whitewater
- Nkatha Mwenda, Student, Grand Rapids Public Schools
- Larry Romanelli, Ogema (Chief), Little River Band of Ottawa Indians
- Rodney Stokes, Special Advisor, Office of Governor Rick Snyder
- Greg Sundstrom, City Manager, City of Grand Rapids
- Mary Swanson, Assistant Administrator, Kent County
- Jim Talen, County Commissioner, Kent County
- Rick Treur, City of Grand Rapids Planning Commission
- Kristian Williams, Resource Con servationist, U.S. Natural Resources Conservation Service

Steering Committee Tasks

1. Develop guiding principles by which to consider and evaluate recommendations. The principles shall take into account the environment, the economy and social equity;

2. Monitor the progress, coordination and alignment between the Restoration Plan, Downtown Plan and River Corridor Plan;

3. Cultivate and inspire widespread participation and support of the project;

4. Advocate for resources on the Federal, State and regional levels;

5. Explore potential organizational models and processes for the long-term operation, management and programming of river improvements;

6. Ensure annual reporting on progress outcomes is available to citizens.

The Steering Committee met 11 times and progress with respect to each of these tasks is summarized here:

Task 1: Develop Guiding Principles

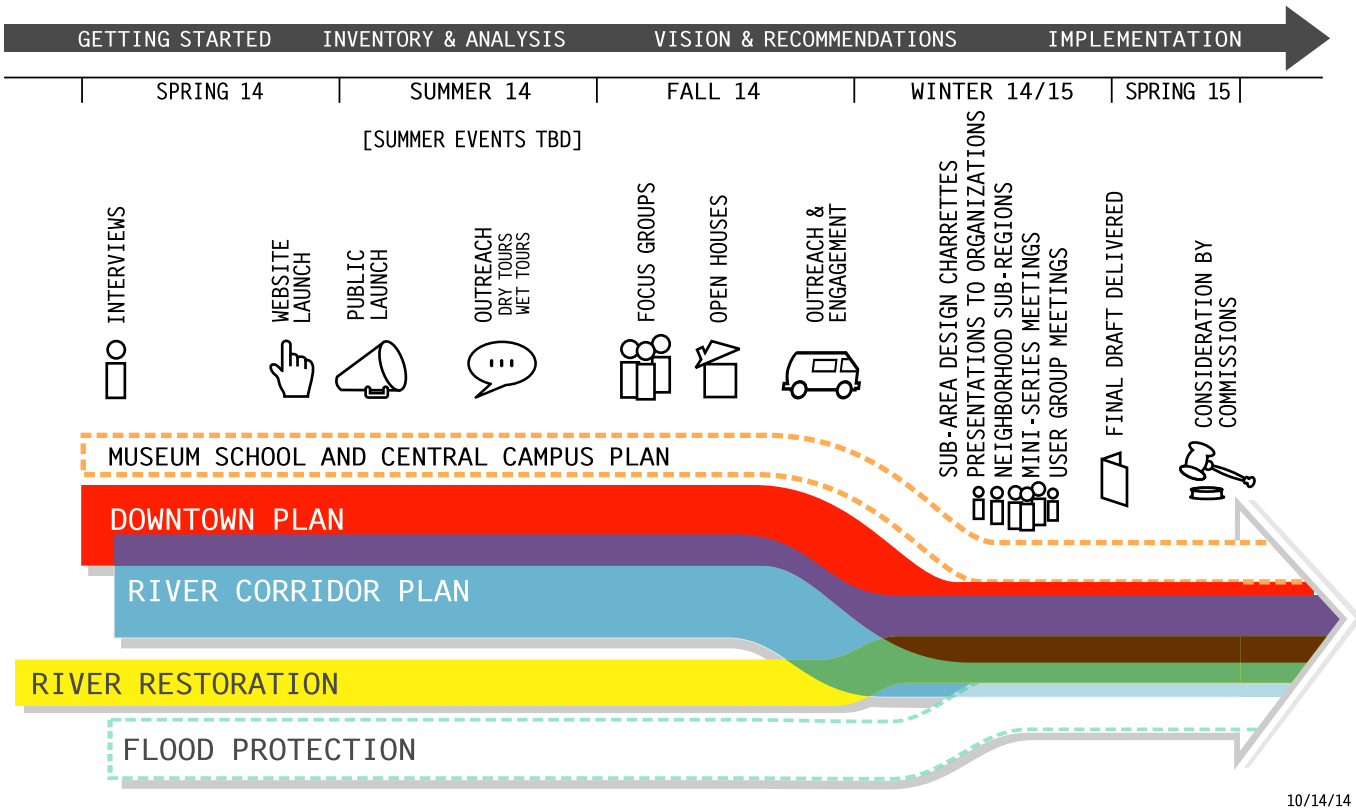
The River Restoration Steering Committee devoted several initial meetings to developing the guiding principles to be applied to projects for revitalizing the Grand River and river corridor:

- Recognize that the Grand River belongs to everyone and contributes to our quality of life.
- The Grand River as it flows through Grand Rapids is part of a watershed that has regional implications.
- Every action should improve the ecological condition of the watershed and be an exemplar for others.
- Seek to balance human interaction, commercial investment, and environmental considerations.
- Consider future generations by ensuring that actions are sustainably designed, well-managed, responsibly assessed, continuously evaluated, and corrective action taken as necessary.
- Preserve and restore habitat for desirable species and deter invasive species.
- Direct and develop the capacity and resources (people, organizations, and finances) necessary to enhance all human and natural habitats.
- Encourage innovation, the leveraging of resources, and shared accountability by engaging residents, businesses, government, education, philanthropy, and non-governmental organizations.
- Celebrate our history and cultural diversity.
- Ensure that future development of the river and its edges contributes to the local economy by creating wide-ranging investment, recreation, and employment opportunities for all.
- Develop the programming of places and activities to be accessible and safe for everyone; being mindful of social and/or physical barriers.
- Use intentionally inclusive and trans parent decision-making to foster ownership of a re-imagined Grand River watershed that serves as a beacon for civic identity.

Task 2: Monitor the progress, coordination and alignment between plans

GR FORWARD
DOWNTOWN & RIVER ACTION PLAN >>

DOWNTOWN AND RIVER ACTIVITIES SCHEDULE



The Steering Committee assured coordination between the various planning studies for the restored river, downtown and the river banks. Every meeting agenda included an update on each of the planning processes. There was cross-pollination between committees which was achieved by having key committee members on each of the three committees. The consulting firms for the river and GRForward communicated very well to assure that the plans for the "wet" and "dry" were integrated. A summary of steering committee meetings follows:

- 11 River Restoration Steering Committee Meetings
- 14 River Corridor Steering Committee Meetings
- 12 Downtown Steering Committee Meetings
- 209 Basecamp Participants from the Three Committees, Consultants and Staff

Task 3: Cultivate and inspire widespread participation and support of the project

The Steering Committee was laser-focused on community engagement. They regularly asked questions and made suggestions about the process and how traditionally marginalized communities were to be involved. Thanks to the generous funding from local foundations including Dyer-Ives, Frey, Grand Rapids Community, and Wege, a series of three meetings were held in each neighborhood adjacent to the river. In addition, city-wide meetings were held in neighborhoods farther from the river as well as meetings with government and special interest groups in west Michigan. A summary of the activities is below.

- Over 3,300 people signed-in at the meetings
- Two public forums with over 200 attendees total
- Open house with 450 visitors
- 24 meetings in Grand Rapids neighborhoods
- Dozens of meetings in the region with government and other interest groups
- Over 31,000 website views
- Over 1,100 Facebook likes
- 250 Instagram followers
- 290 Twitter followers

Task 4: Advocate for resources on the Federal, State and regional levels

The Steering Committee was briefed on and monitored a wide variety of grant applications such as:

Applications in Progress:

- Healing Our Waters – Assistance in Developing a GLRI proposal
- Consumers Energy - Education
- NRCS Regional Conservation Partnership Program – conservation assistance to producers and landowners

Submitted/Waiting Decision

- National Fish and Wildlife Foundation – Sustain Our Great Lakes Full Application - River Habitat Restoration

- Michigan Natural Resources Trust Fund – Land Acquisition

- HUD – National Disaster Re siliency Competition submitted by the State

Received/Underway:

- United States Fish and Wildlife Service – Fish Passage Grant

- Michigan Department of Transportation, Monroe North TIFA, Michigan Trails and Greenways Coalition – River Edge Construction

- National Park Service – Technical Assistance Grant for Organizational Models

- United States Army Corp of Engineers – Great Lakes Fishery and Ecosystem Restoration – Adjustable Barrier

- Healing Our Waters - Mussel Report

Task 5: Explore potential organizational models and processes for the long-term operation, management and programming of river improvements

The Steering Committee formed two work groups to address specific aspects of this task: the Organizational Models Work Group and the Water Quality Work Group. The final reports of each work group are included.

Organizational Models Work Group

The participants in the Organizational Models Work Group were:

- Eric DeLong, City of Grand Rapids
- Steve Faber, Byrum & Fisk Communications
- Rachel Hood/Elaine Sterrett-Isely, WMEAC
- Kris Larson, DGRI
- David Marquardt, City of Grand Rapids
- Chris Muller, Grand Rapids Whitewater
- Barbara Nelson Jameson, National Park Service
- Kalie Nye, Grand Rapids Whitewater

- Wendy Ogilvie,
  Grand Valley Metro Council
- Suzanne Schulz,
  City of Grand Rapids
- Jay Steffen,
  City of Grand Rapids
- Mark Van Putten, representing
  the Wege Foundation

The Work Group developed a Work Plan, approved by the Steering Committee in August 2014, which included: (1) identify likely future organizational functions and tasks; (2) identify and review relevant examples; (3) identify and assess existing local capacities; and (4) identify options and prepare recommendations. It is important to note that the Work Group was not able to complete the third task as originally contemplated due to a lack of capacity. Instead, as included in the recommendations above, the Work Group has identified this as an essential early task to be undertaking by Trust for Public Land (or an equivalent partner).

The Work Group scheduled a series of interviews/webinars with leaders from several communities around the U.S. that have recently undertaken waterfront revitalization projects and with leaders of statewide and national not-for-profit organizations experienced with such projects, including:

- Detroit Riverfront Conservancy
- Atlanta – Proctor Creek (Urban Waters Federal Partnership Project)
- Pittsburgh – River of Steel (National Heritage Area)
- Cleveland -- Ohio & Erie Canalway Coalition (National Heritage Area)
- Memphis Riverfront Development Corporation
- LIAA (webinar on recreational authorities under Michigan Law)
  - Ottawa County Parks & Rec reation Commission
  - Traverse City/Garfield Township Recreational Authority
- National Not-for-profit Land/ Park Conservancies
  - Trust for Public Land
  - Conservation Fund

Based on its research, the Work Group has identified the following key lessons to be learned from examples from elsewhere, based on which the Work Group developed four recommendations, which have been approved by the Steering Committee:

1. The City Commission should authorize a transitional role for a successor to the Steering Committee (the Grand River Corridor Revitalization Committee) to identify an existing or create a new public-private partnership, not-for-profit organization capable of coordinating construction, management and operations for river/corridor restoration-related projects and activities and capable of coordinating long-term leadership, public engagement, fundraising, programming, stewardship, operations and maintenance services.

2. The public-private partnership identified or created by the Grand River Corridor Revitalization Committee should conform to the best practices especially concerning governance, fundraising, coordination, accountability, public outreach and engagement, and accessing local expertise and experience.

3. On a parallel track, the Grand River Corridor Revitalization Committee, sup-ported by Trust for Public Land, should explore formation of a complementary "recreational authority"-like organization under Michigan law (with inclusion of key government jurisdictions upstream and downstream from Grand Rapids) and/or of potential "improvement districts" and similar funding mechanisms, carefully coordinating with the City in view of the existing system-wide parks millage.

4. The Grand River Corridor Revitalization Committee should proceed quickly, but with due diligence, to work with key partners including the City of Grand Rapids and with Grand Rapids Whitewater to develop a Memorandum of Understanding with Trust for Public Land by which (with private philanthropic funding) TPL would support the Grand River Corridor Revitalization Committee in its transitional role and would coordinate vital near-term tasks, likely to include:

    a. Assessing capacities of local NGOs and organizations and, then, developing a strategy and timetable for identifying or creating an NGO as described in Recommendation 1 above;

    b. Serving as fiscal agent and fiduciary for funds contributed to or designated for specific projects, such as restoring

the namesake rapids to downtown Grand Rapids;

c. Developing and coordinating execution of a fundraising strategy for early projects and activities catalyzed by the prospect of River/rapids restoration; and,

d. Coordinating with the City and key partners in applying for permits, identifying funding sources and beginning implementation of river/corridor projects, especially the catalytic project of restoring the namesake rapids to downtown.

The Work Group also developed a set of "best practices" (a.k.a. "lessons learned") concerning not-for-profit conservancies, which are described in detail in the report.

Water Quality Work Group

The participants in the Water Quality Work Group were:

- Scott Hicks, U.S. Fish and Wildlife Service
- Rachel Hood, West Michigan Environmental Action Council
- Mike Lunn, City of Grand Rapids, Environmental Services Department
- Kalie Nye, Grand Rapids Whitewater
- Nick Occhipinti, West Michigan Environmental Action Council
- Wendy Ogilvie, Grand Valley Metro Council, Lower Grand River Organization of Watersheds
- Eric Pessell, Kent County Health Department
- Dana Strouse, State of Michigan, Department of Environmental Quality
- Jim Talen, Kent County Commissioner
- Kristian Williams, U.S. Department of Agriculture, Natural Resource Conservation Service

The Water Quality Work Group developed the following recommendations:

1. The notion of improving the quality of the water in the Grand River should be imbedded in the messaging, branding and funding initiatives of the river restoration effort. Responsibility for monitoring progress on the recommendations should become part of the work of the entity that takes on oversight and coordination of the next phase of the project.

2. Address high impact point-source water quality infrastructure opportunities in the Grand River watershed area.

3. Address livestock and cropland pathogen pollutants in the Direct Drainage Subwatershed management unit of the Lower Grand River Watershed and in the Urban Waters Federal Partnership area. Plant buffer and filter strips along priority acreage adjacent to and encompassing the Direct Drainage Subwatershed and Urban Waters Federal Partnership area.

4. Improve septic programs and policies in the Grand River watershed area. Work with the Governor's Administration on a statewide septic code and with local health departments to adopt operational inspections and maintenance requirements in their septic regulations.

5. Maximize implementation of green infrastructure and low-impact development (LID) within the River Restoration Project Corridor area by encouraging local policies and incentives that favor LID.

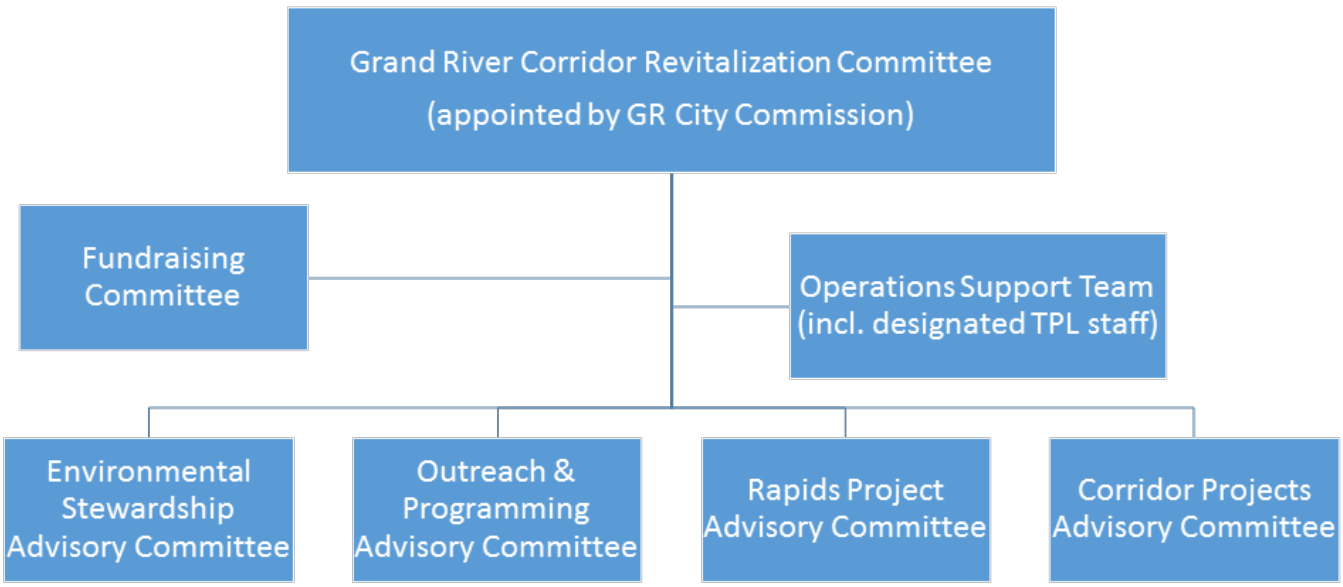
6. Implement projects identified by the City of Grand Rapids Green Infrastructure Opportunity Assessment. Inspire a similar assessment and implementation process for managing stormwater runoff in upstream communities.

Task 6: Ensure annual reporting on progress/ outcomes is available to citizens.

The Steering Committee Co-Chairs and work group leaders have briefed the City Commission about the progress of the committee for the past 14 months. GRForward is in the draft document phase with presentations planned for the DDA, DGRI, Planning Commission and City Commission in mid to late July. It is anticipated that an open house will be held in August and that another round of Grand Rapids neighborhood meetings will take place around this time. The public comment period will end in September, with City Commission review of the final draft plan in October. They can vote to accept, modify or reject the plan.

(Draft) Interim Organizational Structure for Grand River Corridor Revitalization Committee

(As endorsed by the Grand River Restoration Steering Committee on July 16, 2015)



Grand River Corridor Revitalization Committee

The Grand River Corridor Revitalization Committee ("GRCRC") will be appointed by the Grand Rapids City Commission as the successor to the Grand River Restoration Steering Committee. It will provide oversight and accountability for moving forward with the restoration and revitalization of the Grand River and corridor in the City of Grand Rapids in close coordination with upstream and downstream jurisdictions, Tribes and stakeholders. In accordance with the "best practices" recommended by the Steering Committee's Organizational Models Work Group, this public-private partnership:

- will include members drawn from the City and other governmental jurisdictions in the region, but will primarily be composed of members from non-governmental sectors;
- will include diverse representation from the community;
- will include senior-level, acknowledged community, philanthropic and business leaders;
- will include leaders from key related planning efforts, e.g. GRForward's downtown & corridor planning processes;

- will have members independent of representational roles with organizations likely to receive funding;
- will analyze, incubate and launch a new or repurposed not-for-profit conservancy and, depending on analysis, an associated Recreational Authority; and,
- will receive staff support from Operations Support Team Leader and designated OST staff.

Fundraising Committee

The Fundraising Committee will oversee the development and implementation of a long-term fundraising strategy and will assist with fundraising. It will assure coordination of the long-term strategy with near-term fundraising campaigns for specific projects such as restoring the namesake rapids. It will assure coordination of applications for federal, state, tribal and local government grants. Its members will include prominent representatives of foundations, businesses, and individual philanthropists willing to contribute financially and help recruit other donors. The Fundraising Committee will be supported by the designated staff from Operations Support Team, including local and TPL development professionals.

Environmental Stewardship Advisory Committee

The Environmental Stewardship Advisory Committee will advise the GRCRC on integrating the environmental stewardship opportunities associated with Grand River/corridor restoration, including water quality improvements. The Environmental Stewardship Advisory Committee will be supported by the designated staff from Operations Support Team.

Outreach & Programming Advisory Committee

The Outreach & Programming Advisory Committee will advise the GRCRC concerning and will help coordinate continuing outreach to the full diversity of stakeholders in the City, as well as upstream and downstream. It will help assure that historically-disadvantaged communities and communities of color are consistently engaged in all aspects of River/corridor restoration. It will help assure ongoing outreach to current and prospective businesses interested in associated economic development and to private property owners in and near the River corridor. The Committee will also help assure effective integration of current and anticipated future programs of existing, local not-for-profit organizations. The Committee will help in

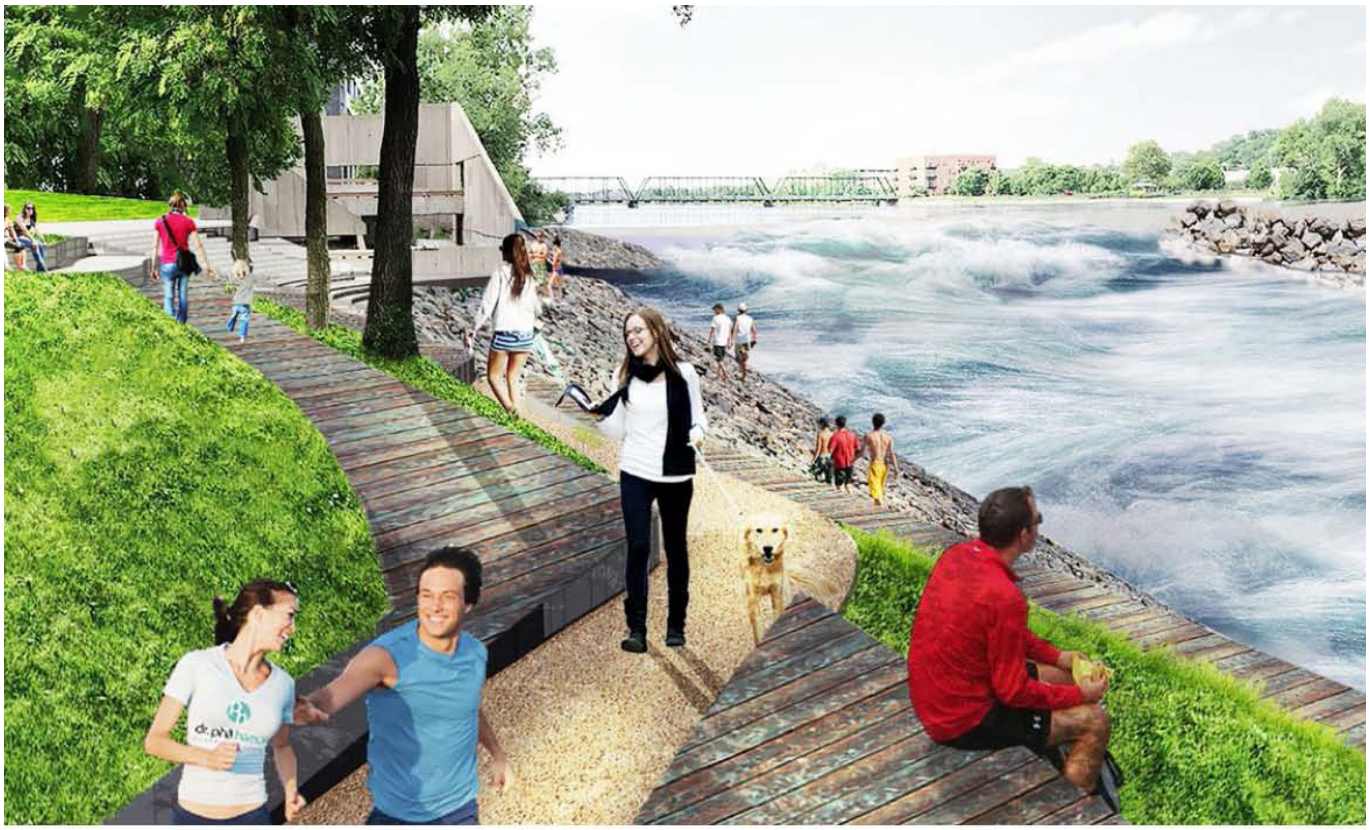
identifying, developing and promoting relevant recreational and community-oriented programs, including programs to be conducted by organizations represented on this Committee. The Outreach & Programming Advisory Committee will be supported by designated staff from the Operations Support Team.

Rapids Project Advisory Committee

The Rapids Project Advisory Committee will assure coordination of broader and longer-term goals with finalization and implementation of Grand Rapids Whitewater's plans for restoring the namesake rapids. It will include at least one overlapping member from the other committees described above and a member of the GRWW Board of Directors. In addition to advising the GRCRC, the Rapids Project Advisory Committee will provide ongoing advice and input on project design, construction and management directly to Grand Rapids Whitewater and to any subsequent entities with leading roles in implementation of this project. The Rapids Project Advisory Committee will be supported by designated staff from the Operations Support Team.

Corridor Projects Advisory Committee

The Corridor Projects Advisory Committee will assure coordination of broader and longer-term goals with development and implementation of specific projects for revitalization of the River corridor. It will include at least one overlapping member from the other committees described above and a representative of any organization undertaking such a project. In addition to advising the GRCRC, the Corridor Project Advisory Committee will provide ongoing advice and input on project design, construction and management directly to organizations undertaking specific projects. The Corridor Projects Advisory Committee will be supported by designated staff from the Operations Support Team.



Operations Support Team

The Operations Support Team will provide coordinated, professional staff support to the GRCRC, the Fundraising Committee and to the advisory committees (current and any created in the future). It will include staff detailed to the OST by the City, Grand Rapids Whitewater, Grand Valley Metro Council, Trust for Public Land and, potentially, other organizations. It will include both locally-based TPL staff and TPL staff with specialized expertise located elsewhere. A local-based Team Leader will be designated to coordinate and assure the effective deployment of adequate staff resources to support the GRCRC, the Fundraising Committee and the advisory committees. The OST will operate based on an annual staffing plan and budget approved by the GRCRC and it will be funded by in-kind contributions of staff time and by support from private donors.

1,700 students service projects to protect the Grand River being showcased at Celebration Cinema

Monica Scott | mscott2@mlive.com By **Monica Scott | mscott2@mlive.com**

Follow on Twitter

on May 18, 2015 at 8:30 AM, updated May 18, 2015 at 9:08 AM

GRAND RAPIDS, MI – The service efforts of 1,700 students to protect the Grand River watershed and the Great Lakes will be recognized Wednesday, May 20, at Celebration Cinema North, as part of the Groundswell initiative.

Groundswell is a coalition of community partners that creates opportunities for hands-on environmental learning for students throughout Kent County.

The group worked with 22 public and private schools and more than 40 teachers this school year. Teachers received extensive professional development, as well as funding for student-developed stewardship initiatives.

"We can all take tremendous pride in the outstanding service and commitment of the Grand Rapids-area students who are helping to better their communities by improving the quality of the Grand River and the Great Lakes through the Groundswell program," said Clayton Pelon, associate director at Grand Valley State University's College of Education, which coordinates the Groundswell environmental network.

For example, Sara Grzegorski's middle school art students at New Branches Charter Academy worked with local artist Reb Roberts on art designs students painted around three storm drains near the school, located at 3662 Poinsettia Ave., to raise awareness about water quality issues.

The art work that began last week wraps up Monday, May 18, and stresses that rainwater flowing through urban areas add pollution to the Grand River. Students will be hosting a community unveiling of the drain projects Tuesday, May 19, from 3:30 to 5:30 p.m. The City of Grand Rapids Environmental Services Department partnered with the school.

Groundswell's work in the community falls into three categories:

& bull: Engage: Engaging students in place -based environmental stewardship throughout students' communities by encouraging and funding service projects.

A New Branches Charter Academy student works on one three art designs to storm drains near the school as part of the Groundswell initiative. Groundswell is a coalition of community partners that creates opportunities for hands-on environmental learning for students.
Megan Knight/Courtesy Photo

• Partner: Empowering community partners to collaboratively enhance educational opportunities for schools, students, and their communities.

• Develop: Providing sustained professional development for teachers in place-based service learning and environmental education in the Great Lakes Watershed.

Groundswell is part of the statewide Great Lakes Stewardship Initiative and funded through grants from local, state, and federal organizations, including the Great Lakes Fishery Trust, the Michigan Department of Environmental Quality, the Wege Foundation, the Frey Foundation, and the Baldwin Foundation

The goal of the New Branches project is to inform Grand Rapids residents that water entering storm drains goes directly to the river, not a treatment facility.

Wednesday's show is free and open to the public. Groundswell students will present videos of their projects and share their experiences learning outdoors. Besides New Branches, students from Grand Rapids, Forest Hills, Rockford, Caledonia, Sparta and Kentwood districts are involved in the initiative as well as All Saints Academy.

Some other projects to be featured are:

• C.A. Frost Environmental Science Academy – Students in fifth through eighth grade partnered with the Blandford Nature Center to identify ways to help protect the forests and natural areas surrounding the center. After concluding residential development had changed the water cycle in the area and harming local streams, students organized an event to educate neighborhood residents about ways to keep rainwater out of the storm drains. They also hosted a Water Night event and residents signed up to have students visit and make suggestions for reducing storm water impacts.

• East Rockford Middle School – Students are working with Trout Unlimited to help protect the Rogue River. With help from community partners, the students determined that rain falling on urban areas and flowing to the river was one of the biggest threats to local water resources. They are planting two rain gardens in downtown Rockford that will allow rainwater to soak into the soil instead of flowing directly to the river. The students are also leading a rain barrel workshop.

Showcase theater presentations begin at 6 p.m. and table exhibits follow from 7 to 8 p.m. Celebration Cinema North is located at 2121 Celebration Drive North.

*Monica Scott is the Grand Rapids K-12 education writer. Email her at **mscott2@mlive.com** and follow her on Twitter **@MScottGR*** or **Facebook**

Low Impact Development for Resilience

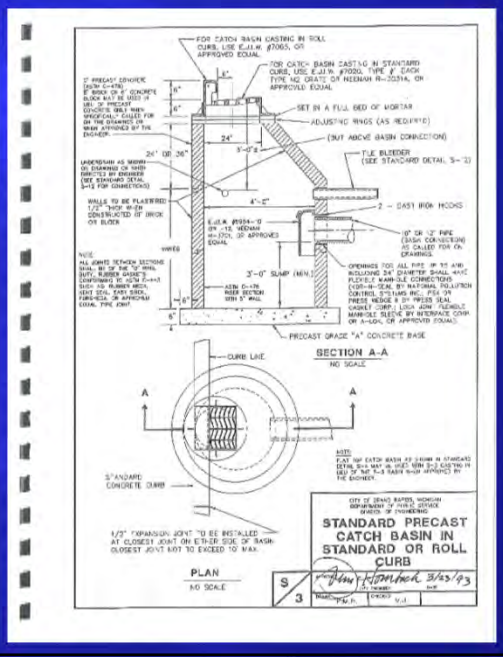



CITY OF GRAND RAPIDS

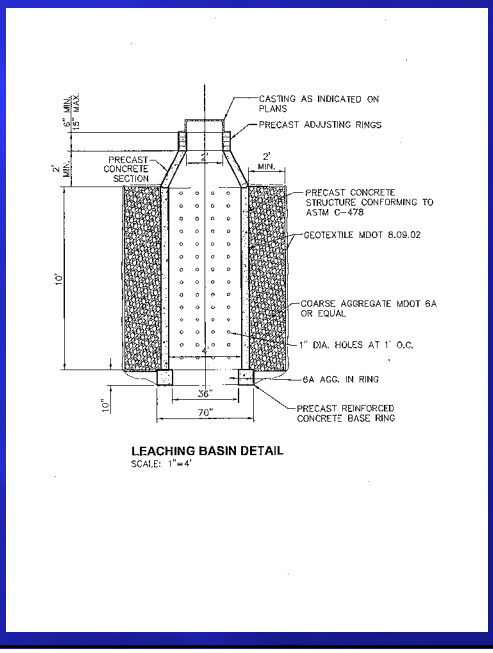
Why Green Infrastructure?

- First Flush – Water Quality
- Volume – Water Quantity

The standard Catch Basin



The standard Leaching Basin



Porous Pavement

CSO Contract 27

Cost CSO 27

- 2,350 tons of porous pavement @ $116/ton ($40/ton increase over LVSP asphalt used in drive lanes): $94,000 in additional cost
- 4,000 CY aggregate base open graded @ $72/CY ($32.40/CY increase over 21AA used under LVSP): $129,600 in additional cost
- 17 Infiltration basins ($9,200 vs $2,600 for stand basin): $112,200 in additional cost
- 9 urban bulb-outs at $50,400
- 298 street trees at $113,820
- Total = $500,020

Benefits

- Porous Pavement – ~2,000,000 gallons / year
- Infiltration Basins - ~300,000 gallons / year
- Trees – 1/10th of an inch per rainfall
- Less Gray Infrastructure
- Improved Quality of Life

Joe Taylor Park

CITY OF GRAND RAPIDS

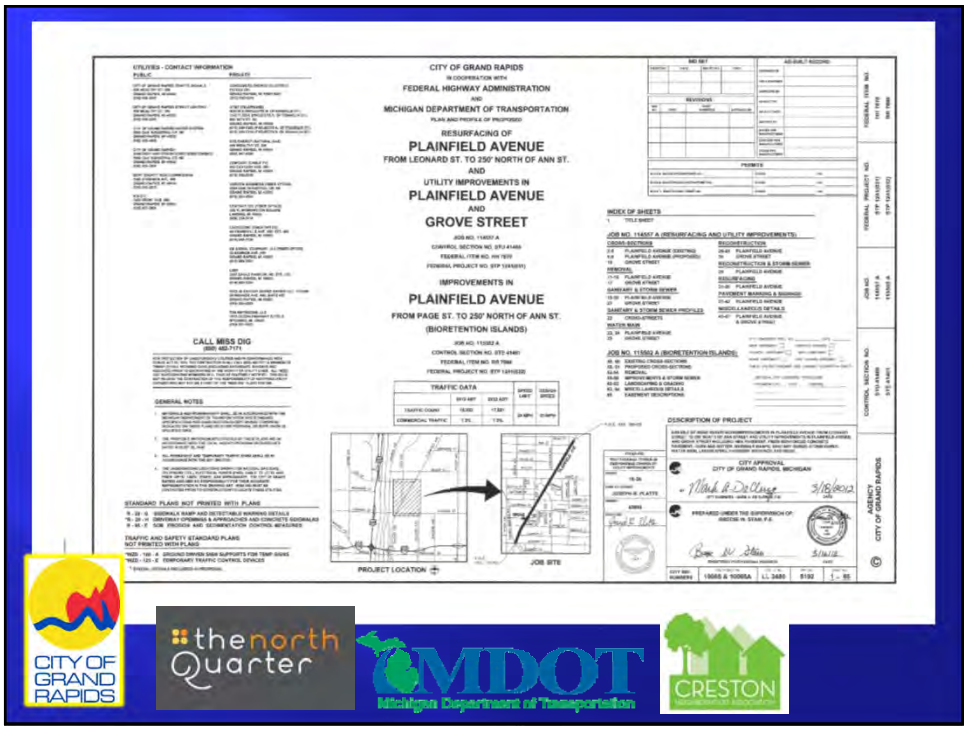

CITY OF
GRAND
RAPIDS

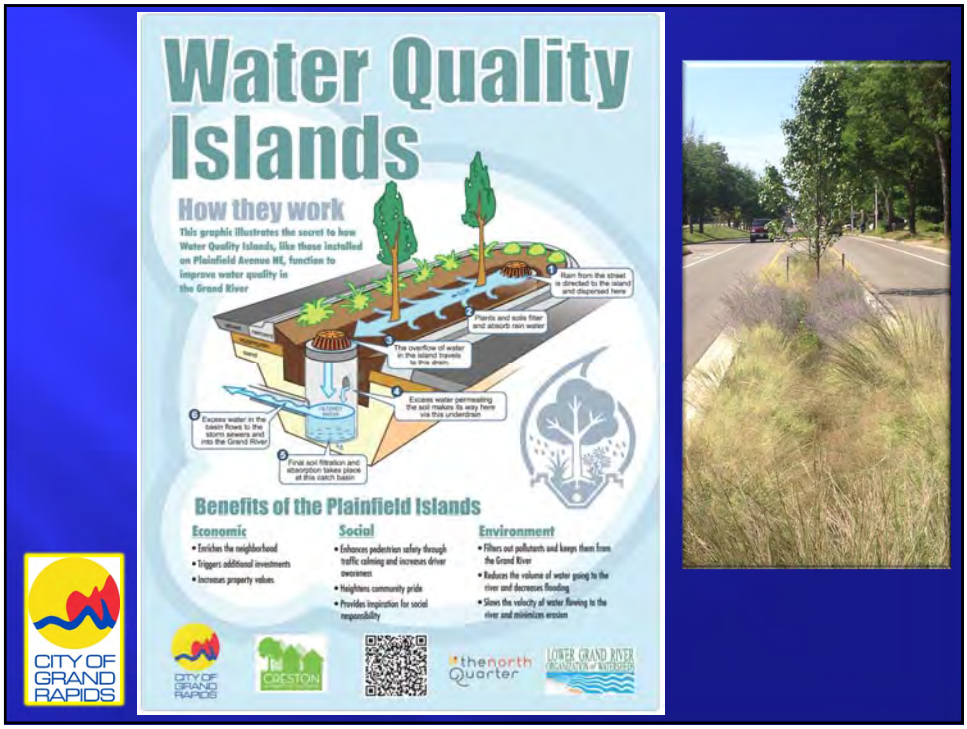

CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS

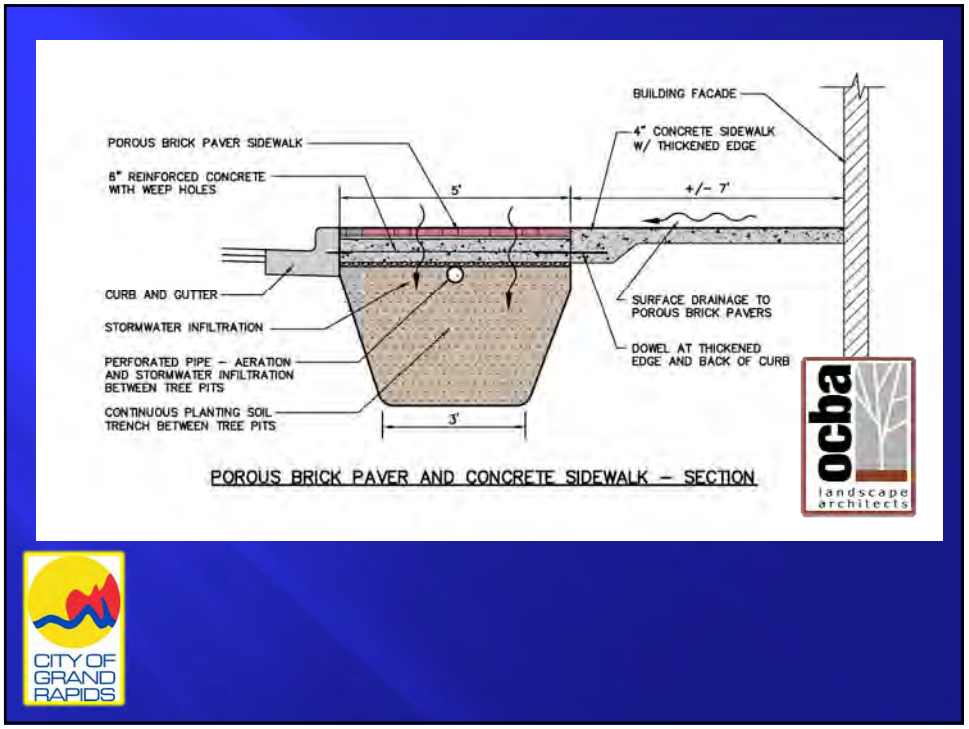

CITY OF
GRAND
RAPIDS

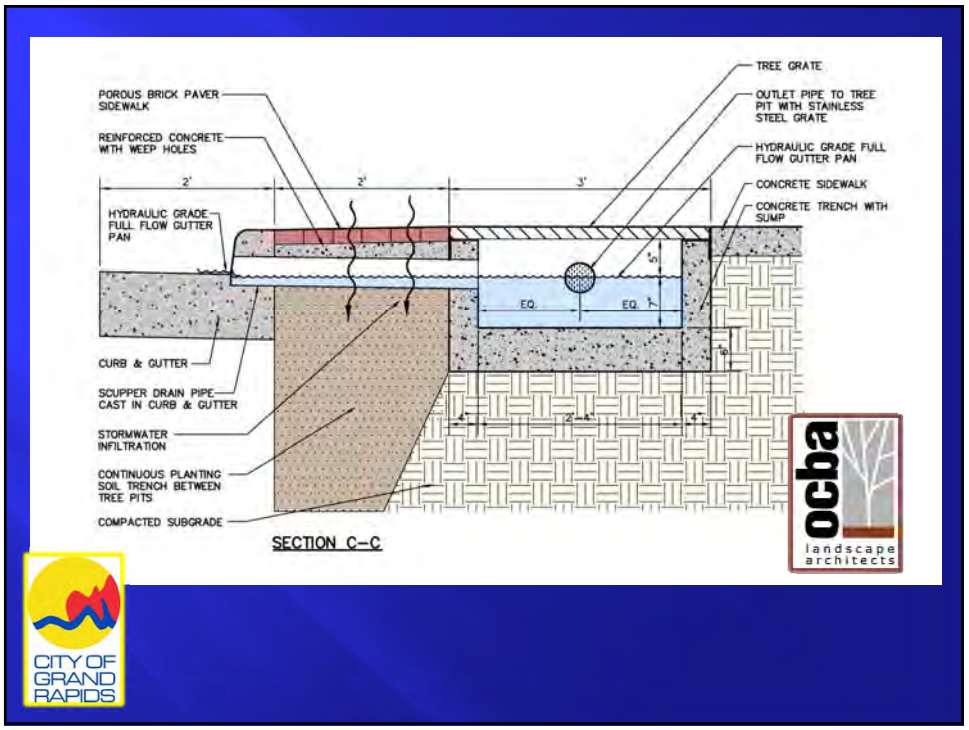

CITY OF GRAND RAPIDS


CITY OF GRAND RAPIDS
CITY OF GRAND RAPIDS
IN COOPERATION WITH
FEDERAL HIGHWAY ADMINISTRATION
AND
MICHIGAN DEPARTMENT OF TRANSPORTATION
RESURFACING OF
PLAINFIELD AVENUE
FROM LEONARD ST. TO 250' NORTH OF ANN ST.
AND
UTILITY IMPROVEMENTS IN
PLAINFIELD AVENUE
AND
GROVE STREET
IMPROVEMENTS IN
PLAINFIELD AVENUE
FROM PAGE ST. TO 250' NORTH OF ANN ST.
(BIORETENTION ISLANDS)
CALL MISS DIG
GENERAL NOTES
TRAFFIC DATA
PROJECT LOCATION
JOB SITE
DESCRIPTION OF PROJECT
CITY APPROVAL
CITY OF GRAND RAPIDS, MICHIGAN
AGENCY
CITY OF GRAND RAPIDS
thenorth Quarter
MDOT
Michigan Department of Transportation
CRESTON


Water Quality Islands
How they work
This graphic illustrates the secret to how Water Quality Islands, like those installed on Plainfield Avenue NE, function to improve water quality in the Grand River
1 Rain from the street is directed to the island and dispersed here
2 Plants and soils filter and absorb rain water
3 The overflow of water in the island travels to this drain
4 Excess water permeating the soil makes its way here via this underdrain
5 Excess water in the basin flows to the storm sewers and into the Grand River
6 Final soil filtration and absorption takes place at this catch basin
Benefits of the Plainfield Islands
Economic
• Enriches the neighborhood
• Triggers additional investments
• Increases property values
Social
• Enhances pedestrian safety through traffic calming and increases driver awareness
• Heightens community pride
• Provides inspiration for social responsibility
Environment
• Filters out pollutants and keeps them from the Grand River
• Reduces the volume of water going to the river and decreases flooding
• Slows the velocity of water flowing to the river and minimizes erosion
CITY OF GRAND RAPIDS
CREATION
thenorth Quarter
LOWER GRAND RIVER


CITY OF GRAND RAPIDS


BUILDING FACADE
POROUS BRICK PAVER SIDEWALK
6" REINFORCED CONCRETE WITH WEEP HOLES
4" CONCRETE SIDEWALK W/ THICKENED EDGE
5'
+/- 7'
CURB AND GUTTER
STORMWATER INFILTRATION
PERFORATED PIPE - AERATION AND STORMWATER INFILTRATION BETWEEN TREE PITS
CONTINUOUS PLANTING SOIL TRENCH BETWEEN TREE PITS
SURFACE DRAINAGE TO POROUS BRICK PAVERS
DOWEL AT THICKENED EDGE AND BACK OF CURB
3'
POROUS BRICK PAVER AND CONCRETE SIDEWALK - SECTION
ocba
landscape architects
CITY OF GRAND RAPIDS


TREE GRATE
POROUS BRICK PAVER SIDEWALK
OUTLET PIPE TO TREE PIT WITH STAINLESS STEEL GRATE
REINFORCED CONCRETE WITH WEEP HOLES
HYDRAULIC GRADE FULL FLOW GUTTER PAN
2'
2'
3'
CONCRETE SIDEWALK
CONCRETE TRENCH WITH SUMP
HYDRAULIC GRADE FULL FLOW GUTTER PAN
EQ.
EQ.
CURB & GUTTER
SCUPPER DRAIN PIPE CAST IN CURB & GUTTER
STORMWATER INFILTRATION
CONTINUOUS PLANTING SOIL TRENCH BETWEEN TREE PITS
COMPACTED SUBGRADE
SECTION C-C
ocba
landscape architects
CITY OF GRAND RAPIDS


CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS

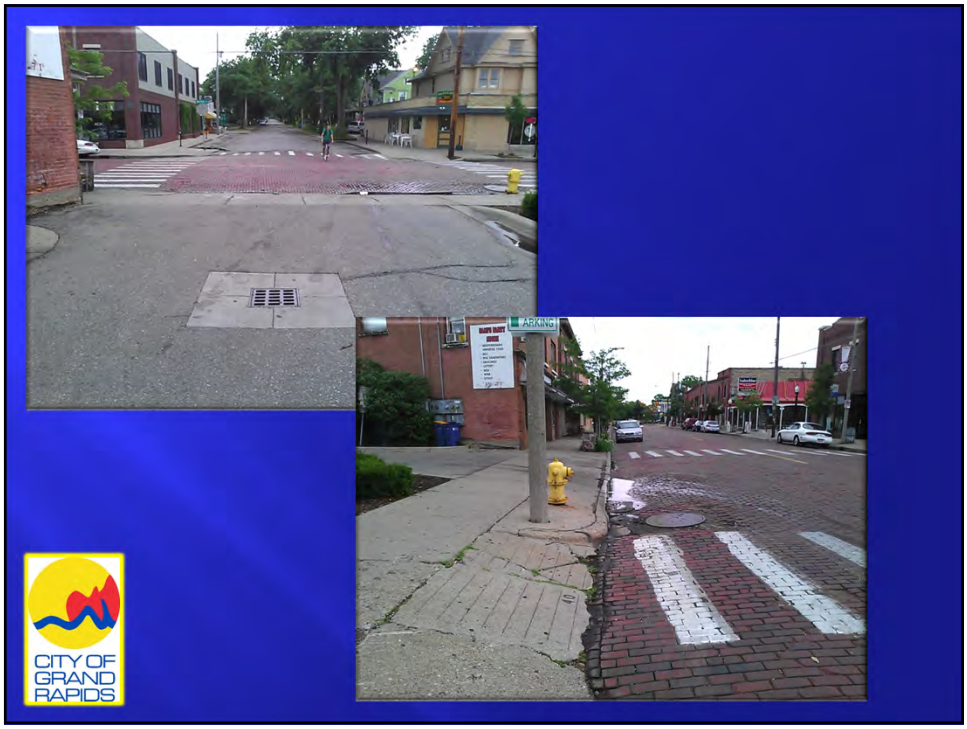

CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS

Eastown Hub lot


CITY OF
GRAND
RAPIDS


CITY OF
GRAND
RAPIDS

Bartlett and Finney

Mike Lunn
ESD Manager
City of Grand Rapids
616.456.3625
mlunn@grcity.us

TABLE 1 NEW OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
C69	COLDBROOK SOUTH DRAIN	GR to KCDC	No			LDR	12783659	534683.565	
CN47	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to KCDC	No	No	No	SD-IT	12788577.7	540083.301	MEDIUM LOW
CN49	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to KCDC	No	No	No	SD-IT	12788572.4	540125.163	MEDIUM LOW
G289	Grand River	GR to KCDC	No	No	Yes	CC	12773451.1	536782.773	MEDIUM LOW
G290	Grand River	GR to KCDC	No	No	Yes	CC	12773455.7	536782.35	MEDIUM LOW
G291	Grand River	GR to KCDC	No	No	Yes	CC	12773587	536770.358	MEDIUM LOW
G292	Grand River	GR to KCDC	No	No	Yes	CC	12773764.5	536754.29	MEDIUM LOW
G293	Grand River	GR to KCDC	No	No	Yes	CC	12773816.2	536728.929	MEDIUM LOW
G294	Grand River	GR to KCDC	No	No	Yes	CC	12773856.1	536697.06	MEDIUM LOW
G295	Grand River	GR to KCDC	No	No	Yes	CC	12773895.5	536665.582	MEDIUM LOW
G296	Grand River	GR to KCDC	No	No	Yes	CC	12774045	536544.594	MEDIUM LOW
G297	Grand River	GR to KCDC	No	No	Yes	CC	12774158.9	536447.651	MEDIUM LOW
G298	Grand River	GR to KCDC	No	No	Yes	CC	12774581.4	536742.445	MEDIUM LOW
G299	Grand River	GR to KCDC	No	No	Yes	CC	12774600.9	536741.84	MEDIUM LOW
G300	Grand River	GR to KCDC	No	No	Yes	CC	12774644.4	536740.71	MEDIUM LOW
G301	Grand River	GR to KCDC	No	No	Yes	CC	12774686.1	536740.2	MEDIUM LOW
G302	Grand River	GR to KCDC	No	No	Yes	CC	12774708.3	536739.92	MEDIUM LOW
G303	Grand River	GR to KCDC	No	No	Yes	CC	12774877.7	536736.877	MEDIUM LOW
G304	Grand River	GR to KCDC	No	No	Yes	CC	12774930.2	536735.8	MEDIUM LOW
G305	Grand River	GR to KCDC	No	No	Yes	CC	12774989.4	536734.59	MEDIUM LOW
G306	Grand River	GR to KCDC	No	No	Yes	CC	12775039.1	536732.265	MEDIUM LOW
G307	Grand River	GR to KCDC	No	No	Yes	CC	12774525.9	536581.735	MEDIUM LOW
G308	Grand River	GR to KCDC	No	No	Yes	CC	12774544.1	536566.777	MEDIUM LOW
G309	Grand River	GR to KCDC	No	No	Yes	CC	12774573.6	536542.661	MEDIUM LOW

G310	Grand River	GR to KCDC	No	No	Yes	CC	12774601.4	536519.841	MEDIUM LOW
G311	Grand River	GR to KCDC	No	No	Yes	CC	12774617	536507.097	MEDIUM LOW
G312	Grand River	GR to KCDC	No	No	Yes	CC	12774630.2	536496.279	MEDIUM LOW
G313	Grand River	GR to KCDC	No	No	Yes	CC	12774676.9	536458.019	MEDIUM LOW
G314	Grand River	GR to KCDC	No	No	Yes	CC	12774682	536453.83	MEDIUM LOW
G315	Grand River	GR to KCDC	No	No	Yes	CC	12774795	536358.957	MEDIUM LOW
G316	Grand River	GR to KCDC	No	No	Yes	CC	12774830.2	536329.675	MEDIUM LOW
G317	Grand River	GR to KCDC	No	No	Yes	CC	12774846.5	536316.149	MEDIUM LOW
G318	Grand River	GR to KCDC	No	No	Yes	CC	12774858.1	536306.554	MEDIUM LOW
G319	Grand River	GR to KCDC	No	No	Yes	CC	12774871.4	536295.462	MEDIUM LOW
G320	Grand River	GR to KCDC	No	No	Yes	CC	12774885	536284.221	MEDIUM LOW
G321	Grand River	GR to KCDC	No	No	Yes	CC	12774218	536840.535	MEDIUM LOW
G322	Grand River	GR to KCDC	No	No	Yes	CC	12774255.5	536808.846	MEDIUM LOW
G323	Grand River	GR to KCDC	No	No	Yes	CC	12774271.8	536795.29	MEDIUM LOW
G324	Grand River	GR to KCDC	No	No	Yes	CC	12774295	536775.94	MEDIUM LOW
G325	Grand River	GR to KCDC	No	No	Yes	CC	12774310.3	536763.124	MEDIUM LOW
G326	Grand River	GR to KCDC	No	No	Yes	CC	12774317.4	537092.545	MEDIUM LOW
G327	Grand River	GR to KCDC	No	No	Yes	CC	12774328.6	537092.643	MEDIUM LOW
G328	Grand River	GR to KCDC	No	No	Yes	CC	12774670.2	537085.186	MEDIUM LOW
G329	Grand River	GR to KCDC	No	No	Yes	CC	12774321.5	537443.571	MEDIUM LOW
G330	Grand River	GR to KCDC	No	No	Yes	CC	12773954.1	537595.743	MEDIUM LOW
G331	Grand River	GR to KCDC	No	No	Yes	CC	12773957.5	537723.485	MEDIUM LOW
G332	Grand River	GR to KCDC	No	No	Yes	CC	12773957.5	537727.01	MEDIUM LOW
G333	Grand River	GR to KCDC	No	No	Yes	CC	12773956.9	537760.019	MEDIUM LOW

C = Commercial
CC = City Center
LDR = Low Density Residential
MDR = Mixed Density Residential
SD-IT = Industrial Transportation
SD-OS = Open Space
SD-PRD = Planned Redevelopment District
TBA = Traditional Business Area
TCC = Transitional City Center

Report of the UAB Rate Review Sub-Committee

1 BACKGROUND

The region's first significant effort to put smart growth principles into play included a new Water and Sewer Partnership, developed in 1999 to manage growth and improve livability through an innovative approach to water and sewer service agreements. These agreements address sprawl in several key ways:

- By assigning a cost to the use of land,
- By requiring growth to pay for growth,
- By setting rational criteria for the expansion of utility service areas, and
- By using smart growth principles and good utility practice to ensure that utilities and growth patterns match up.

While the new agreements set a benchmark that is clearly a significant step forward, the Utility Advisory Board (UAB) recognizes the need to continually review and improve on these tenets and to add more tools to the region's toolbox.

Previous subcommittees of the UAB have worked on various aspects of rates. This work resulted in the partnership agreements being amended four times as follows:

- First Amendment: Calculation of Integrated Connection Fees
- Second Amendment: Calculation of Integrated Connection Fees and Integrated System Revenue Requirement
- Third Amendment: Borderline street agreements; Individual Circuit Beaker; City and Customer Community Circuit Breaker; and extending boundaries into adjoining municipalities when there are good engineering reasons to do so
- Fourth Amendment: Average billed flow; prepay of capital reserve requirements; modification of the rate setting methodology; and modification of the rate of return percentage for rates and charges

And several policies have been put in place to handle certain circumstances:

- Policy #06-01 Downward Adjustment of Area Calculation for the Determination of Water and Sewer Connection Fees for Residential Development (2/16/06; revised 5/18/06)
- Policy #08-01 Urban Mixed Use Development Connection Fees (2/21/08)
- Policy #08-02 Water Use Restriction Policy (2/21/08)
- Policy #10-01 Utility Service District (USD) Reduction Policy Standards (4/15/10)
- Policy #11-01 Prepay of Capital Reserve Requirements (10/20/11)

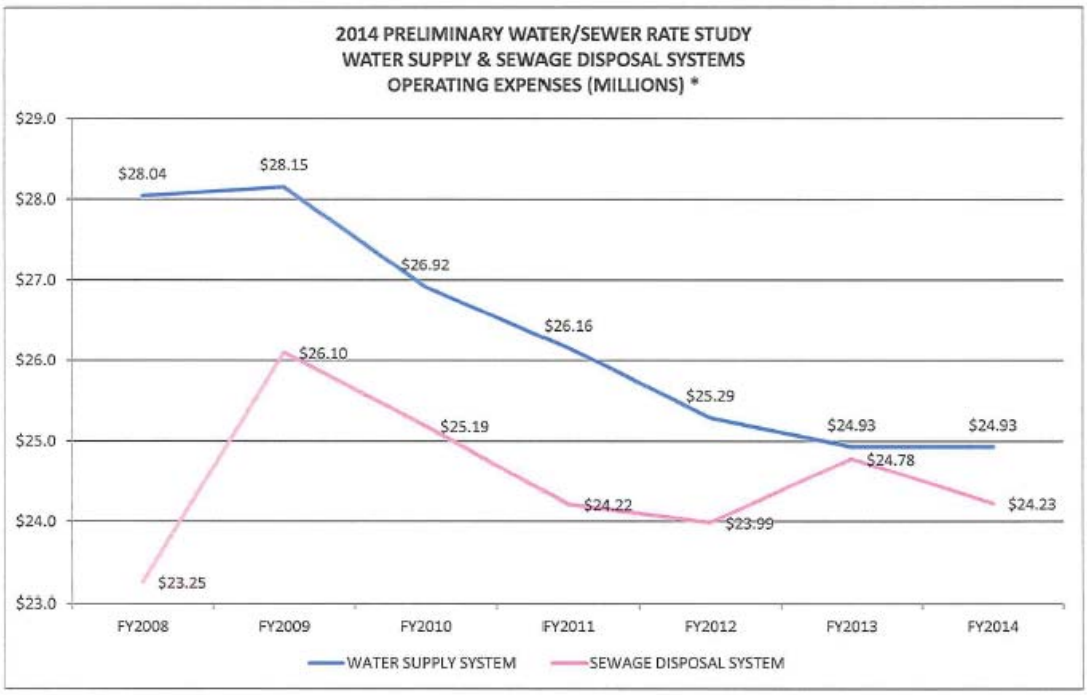
In January, 2014, the UAB again formed a Rate Review Subcommittee consisting of representatives from Walker, Grand Rapids Township, Kentwood, Cascade Township, and Grand Rapids as well as legal counsel. We were charged with reviewing and making recommendations as deemed appropriate on land use and

metrics, the effectiveness of connection fees, the impacts of varying the readiness-to-serve charge and commodity charge by community, and strategies for increasing the number of users on the system, with a focus on larger, commercial users.

2 WORK OF THE UAB RATE REVIEW SUB-COMMITTEE

We began by reviewing the original concepts that were the foundation in the development of the new Water and Sewer Agreements. We reviewed the adjustments that have been made to the Utility Service District Boundaries (see Attachment A) and determined that the Urban Utility Boundaries and the methods for expansion and reduction of the USD boundaries were working well. The group determined that no changes were needed to the overall, core components of the Partnership Agreements.

The UAB has been updated regularly on the many changes and improvements made in operations and maintenance costs over the past few years. Leadership in both water and sewer have demonstrated a strong commitment to control costs.



* Total operating expenses reported in Comprehensive Annual Report (CAFR) less depreciation plus transfer out; does not include interest expense on debt.

The results of this commitment are shown in the chart by the reduction in operating costs between FY2008 and FY2014. Costs in sewer have fluctuated more due to the need to meet regulatory standards.

Operating costs in both water and sewer are expected to stabilize with no large, cost saving improvements in the foreseeable future. It is felt that attention will need to be placed on increasing usage in order to continue to moderate the ever-rising cost of service. In line with the core belief that urban sprawl is undesirable and should be controlled, members agreed that the urban utility boundaries should not be

increased to achieve an increase in customers. We also agreed that any recommendations for changes should not encourage the wasteful use of water in order to increase the amount of billed flow charged to customers.

We began a review of possible barriers to connection that customers may encounter. We find that system capacity is not a barrier and allows for the addition of new customers with available capacity of 15 MGD and 19 MGD in Water and Wastewater respectively (see insert).

WATER SYSTEM CAPACITY
PSI Pressure: Ranges from 35-85 PSI, with the majority of the service area at 55-75 PSI
Total System Capacity: 135 MGD (million gallons per day)
Available Capacity: 15 MGD with additional 30 MGD of intake and treatment capacity without system modifications.

WASTEWATER SYSTEM CAPACITY
Average Daily Flow: 42 MGD (million gallons per day)
Total System Capacity: 61.1 MGD
Available Capacity: 19 MGD
BOD Capacity: 60,000 lbs. per day in BOD capacity immediately available.

Some members felt that the cost of connection was a deterrent to utility connection. In order to determine the gap between the cost of public utility connection and the cost of connecting to private well and/or septic services, discussions took place with representatives from the Kent County Health Department.

Kent County officials indicated that new businesses or residences are required to connect to utility systems if infrastructure is available within 200 feet of the closest point of the property line. Well and septic permits will not be issued if a facility is closer than 200 feet to the public system. It was also learned that the State of Michigan requires connection to the public sewer system if infrastructure is available.

Health Department officials were asked about the possibility of adding ordinances mandating connection to public utilities for new construction, upon sale, or upon well or septic failure. They indicated that they do encourage compliance with all local ordinances and may be able to deny a permit depending on how such an ordinance is written. How far they can go to enforce a local ordinance may be limited by state laws that they must follow.

They indicated that, when an option is available, residents think the cost to connect to public utilities will be too expensive. They also look at the fact that they will have the cost of monthly utility bills if they connect to the public system. They are concerned that they won't be able to use as much water as they want because it will be metered; they don't want to connect because there will be chemicals added to their water; and they feel they have a right to use the water running below their property because they feel they own it. They look at the well/septic solution as a one-time cost and don't seem to consider the ongoing maintenance even when provided information on the proper maintenance for the systems.

The life span for wells and septic systems is estimated at about 25 to 30 years. Approximate costs for new installations are $8,000 to $9,000 for septic and $4,000-$6,000 for water or $12,000 -$15,000 on average for both. It was felt that the cost to connect to the public system would need to be less than this to encourage people to connect.

Water/Sewer Connection Estimate (20,000 sf base lot)	TOTAL ESTIMATED COSTS		
	Water	Sewer	
Front Footage Fee (100')	$7,800	$8,000	
Connection Fee	$2,873	$2,873	
Stub Fee	$2,800	$3,100	
Meter Setting Fee	$40	$0	
Inspection Fee	$55	$55	*
Lateral (50' setback)	$2,000	$2,000	
Street Opening Permit	$15	$15	**
Local Fees	$1,000	$1,000	
TOTAL	$16,583	$17,043	
Water/Sewer TOTAL	$33,626		

*Inside COGR would be $40)
**$30 Water and $30 Sewer in COGR)

Following this discussion we reviewed the total cost to connect to our public utilities (see insert) and found that it was substantially higher than connecting to a well and septic system. The total estimated cost for connection to water was determined to be over $16,500 and for sewer, over $17,000, with a total cost of over $33,000 to connect to both.

Armed with this information, we embarked on a review of each component of the cost of connection and how it is calculated.

Readiness-to-Serve Charge

Modeling was used to look at what would happen if a Balanced/Uniform Readiness-to-Serve charge was used across all communities and the impacts of reducing the Readiness-to-Serve Charge by 5%, 10% and 15% (see Attachment B). Changes in the Readiness-to-Serve Charge were shown to have minimal impacts. We, therefore, recommend that no change be made to the Readiness-to-Serve Charge.

Front Footage Charge

It was found that the City of Grand Rapids doesn't really receive front footage costs now because utilities are all built out for the most part. Other communities still have miles of undeveloped areas where utilities have not yet been extended. The front footage charge is used by partner communities to recoup the cost of providing infrastructure to incent development in certain areas. If front footage fees were eliminated there would need to be another way for communities to recoup their costs. The number and amount of payback agreements currently in existence were reviewed (Attachment D). Partner communities have agreements where they are still owed front footage charges from these agreements.

It was determined that the use of these agreements should not be discontinued. It should be up to the community to determine if they want to use them or not to pre-pay costs in order to incent growth. We determined that system wide, the elimination of these fees did not have a significant impact, but the impact on specific communities could be high. Attachment C includes a History of Front Footage Fees. As a result of our research, we recommend that no change be made to the current policy on Front Footage Charges.

Stub Fee

Our review showed that the stub fee has no impact on rates. We learned that the stub fee is hardly ever charged as a portion of the connection fee because the stub fees are usually paid by the developer as the property is developed. There is a benefit to the developer adding the stubs so the road doesn't have to be disturbed in order to add them later when the resident is connecting. There was discussion of providing the options of charging a stub fee to a developer that requests infrastructure be provided for their development and of not charging a stub fee upon connection when the community itself has chosen to build out an area to incent development. After completing our review, we recommend that the Water System Rules and Regulations be amended to provide this flexibility.

Integrated Connection Fee

The Integrated Connection Fee was one of the measures employed to achieve the concept of sustainable growth (growth pays for growth). People using more land pay a higher fee than those using a lesser

amount of land. The Water and Sewer Integrated Connection Fees were established to recognize capital improvements and debt related to the existing systems.

The question is whether the desire to incent current well/septic users and new customers to connect to the public system is consistent with sustainable growth practices.

The effect of the Utility Service District and its interaction with the Urban Utility Boundary has helped concentrate utility users effectively. However, people are using land differently now than they did in the past, and there are other factors that have probably had more impact on bringing this about than the connection fee. Attachment C includes a History of Connection Fees.

The one-time impact on water and sewer rates of complete elimination of the connection fee is estimated to be 2.0% for Water and 1.5% for Sewer. This is an area of interest for the subcommittee. A phased approach to reduction of the Integrated Connection Fee may be the most practical and most affordable.

Other Fees

The remainder of the cost of connection includes a meter setting fee, inspection fee, street opening permit, lateral fee, and various local fees. All together these fees were estimated to make up less than $5,000 of the total cost of connection. Taken individually, none were thought to have a substantial enough impact on the total cost of connection to make changes to any of them.

3 ANALYSIS

It was found that there were varying impacts achieved by eliminating the front footage fee, connection fee, and stub fee in different combinations. This modeling was done using a 20,000 square foot base lot (see insert).

The front footage fee is the highest fee and, therefore, has the greatest impact if totally eliminated. Its elimination also causes the most complexity with the untangling of payback agreements and ensuring that communities can still recoup investments in infrastructure made to incent development.

Water/Sewer Connection Estimate (20,000 sf base lot)	TOTAL ESTIMATED COSTS			W/O FRONT FOOTAGE FEE (FFF)		W/O CONNECTION FEE (CF)		W/O CF & FFF		W/O CF, FFF & Stub Fee	
	Water	Sewer		Water	Sewer	Water	Sewer	Water	Sewer	Water	Sewer
Front Footage Fee (100')	$7,800	$8,000		$0	$0	$7,800	$8,000	$0	$0	$0	$0
Connection Fee	$2,873	$2,873		$2,873	$2,873	$0	$0	$0	$0	$0	$0
Stub Fee	$2,800	$3,100		$2,800	$3,100	$2,800	$3,100	$2,800	$3,100	$0	$0
Meter Setting Fee	$40	$0		$40	$0	$40	$0	$40	$0	$40	$0
Inspection Fee	$55	$55	*	$55	$55	$55	$55	$55	$55	$55	$55
Lateral (50' setback)	$2,000	$2,000		$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
Street Opening Permit	$15	$15	**	$15	$15	$15	$15	$15	$15	$15	$15
Local Fees	$1,000	$1,000		$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
TOTAL	$16,583	$17,043		$8,783	$9,043	$13,710	$14,170	$5,910	$6,170	$3,110	$3,070
Water/Sewer TOTAL	$33,626			$17,826		$27,880		$12,080		$6,180	

*Inside COGR would be $40)

**$30 Water and $30 Sewer in COGR)

It was determined that the Integrated Connection Fee may no longer be needed. However, elimination of the Integrated Connection Fee alone only reduces the total cost to connect to about $28,000, which is still much higher than the average cost for well/septic connection.

Elimination of both the front footage fee and the Integrated Connection Fee may be needed to bring the cost to below the average cost for well/septic. The full elimination of the Integrated Connection Fee could

be a feasible method of reducing the cost of connection, but the full elimination of front footage fees would not be in the best interest of the partner communities due to the complexities of payback agreements. A partial reduction in front footage fees may be an option needing further examination.

Under the Partnership Agreement, communities have the option of using the front footage fee or reducing or waiving it to accomplish new investment. Grand Rapids Township currently offers financing options for the front footage fee.

After review of payback agreements currently in effect (Attachment D) and additional detail on the amount received by each community for Front Footage Fees (Attachment E), we concluded that a very small percentage of potential properties are subject to such requirements. The effective total cost of connection for the majority of the system would be as if there were no payback agreement in place. Payback agreements are akin to a special assessment in that they are direct arrangements between a partner community and a property owner or owners.

With that in mind, we began to focus, for now, on full elimination of the Integrated Connection Fee. If the fee were eliminated it would be a one-time loss in revenue in the year the change is made. It was determined that approximately 2,000 new residential water customers and 1,500 new residential sewer customers would be needed in that same year to keep rates constant. The addition of larger, commercial customers could reduce the number of customers needed. More modeling on the effects of phasing the elimination of the fee or phasing in the addition of new connections is recommended.

Equity was discussed for those that have paid a large Connection Fee in the past. Is it fair to just discontinue this fee for future connections? Would these previous customers now be expected to pay higher rates to cover the cost of the new, lower cost connections? It was determined that these types of changes to policy have been made in other areas with little to no impact as people understand the need to adjust policies and procedures due to changes that occur. Rates should actually be kept at a lower amount through the addition of new customers generated by this change.

DATA SUMMARY			
Community	Class	Water Only	Sewer Only
Cascade	Residential	1,222	68
	Commercial	16	4
Grand Rapids	Residential	152	65
	Commercial	69	10
Grand Rapids Township	Residential	410	128
	Commercial	12	5
Kentwood	Residential	50	59
	Commercial	12	3
Tallmadge	Residential	4	7
	Commercial	1	1
Walker	Residential	372	141
	Commercial	24	12
Wright	Residential	0	158
	Commercial	0	68
TOTALS		2,344	729

Preliminary work has been done to determine a base level where the Integrated Connection Fee could be set to cover any actual costs to the system. This work will be completed soon.

We have also begun to zero in on potential areas or specific properties that are not now connected to public utilities. A total of 2,344 water-only customers and 729 sewer-only customers were identified as potential customers to target for additional connections (see insert).

Specific addresses where infrastructure is available and aren't connected to either water or sewer and opportunities to add infrastructure within the USD to incent growth have yet to be identified.

4 CONCLUSIONS

After thorough review, the Rate Review Subcommittee believes that a phasing out or reduction in the connection fee is a feasible method to reduce the total cost of connection. The UAB is reminded that we

must remain cognizant of the impacts this will have on system revenues and the resulting impact on bond coverage ratio.

Recommendations we would like to discuss with the full Utility Advisory Board are as follows:

1. No change to the Readiness-to-Serve Charge as this charge has minimal impact on the cost of connection.
2. Continuation of the current policy on Front Footage Fees due to this fees limited impact in the service area and the significant financial impact for some individual communities.
3. Amendment of the Water System Rules and Regulations to allow options for when a stub fee is charged or when it can be waived.
4. Consideration of two options for reduction of the Integrated Connection Fee:
    a. A phased reduction of the Integrated Connection Fee over two years to reach ___% of its current level.
    b. A one-time reduction of the Integrated Connection Fee to ____% of its current level in the 2015 Rate Study.
    c. Either option would require an amendment to the partnership agreements.
5. Continued modeling be completed to determine the proper apportionment of the Integrated Connection Fee reduction and its timing.
6. Development, in conjunction with above modeling and implementation, of strategies for increasing the customer base or usage to offset the impact of the reductions in integrated connection fee.
7. Ordinances to require connection to the public water/sewer systems in certain circumstances. Connection to the public utility system provides social, economic and environmental benefits.
    a. A UAB Policy should be developed with affected stakeholders to guide connections; and
    b. A work group should continue to work on the development of a potential model ordinance.
8. Track and evaluate the impact of recommended changes.

ATTACHMENT A

WaterSewer USD Changes 2000 to Current Date

CITY OF GRAND RAPIDS, MICHIGAN

WATER/SEWER UTILITY SERVICE DISTRICT AREAS FOR UAB PARTNERS

KEY:
Reductions
Additions

WATER - RATE STUDY YEAR

UAB Partners	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Grand Rapids	45.30	45.30	**45.36**	45.36	45.36	45.36	45.36	45.36	45.36	45.36
Walker	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43
Kentwood	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Cascade	25.75	25.75	**23.53**	23.53	23.53	23.53	23.53	23.53	23.53	23.53
Grand Rapids Township	13.56	13.56	**14.08**	14.08	**14.42**	14.42	14.42	14.42	14.42	14.42
Tallmadge Township	7.75	7.75	**2.84**	2.84	2.84	**2.40**	2.40	**2.43**	**2.44**	2.44
East Grand Rapids	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37
Ada	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15
Total	142.31	142.31	135.76	135.76	136.10	135.66	135.66	135.69	135.70	135.70

UAB Partners	2010	2011	2012	2013	2014
Grand Rapids	45.36	45.36	45.36	45.36	45.36
Walker	25.43	25.43	25.43	25.43	25.43
Kentwood	14.00	14.00	14.00	14.00	14.00
Cascade	**20.45**	20.45	20.45	20.45	20.45
Grand Rapids Township	**10.73**	**10.93**	10.93	10.93	10.93
Tallmadge Township	2.44	2.44	2.44	2.44	**2.66**
East Grand Rapids	3.37	3.37	3.37	3.37	3.37
Ada	7.15	7.15	7.15	7.15	7.15
Total	128.93	129.13	129.13	129.13	129.13

SEWER - RATE STUDY YEAR

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Grand Rapids	45.30	45.30	**45.36**	45.36	45.36	45.36	45.36	45.36	45.36	45.36
Walker	19.26	19.26	19.26	**20.17**	20.17	20.17	20.17	20.17	20.17	20.17
Kentwood	14.00	14.00	14.00	14.00	14.00	14.00	**14.29**	14.29	**14.28**	14.28
Cascade	25.75	25.75	**23.53**	23.53	23.53	23.53	23.53	23.53	23.53	23.53
Grand Rapids Township	12.17	12.17	12.17	12.17	12.17	**11.82**	11.82	11.82	11.82	11.82
Tallmadge Township	7.75	7.75	**2.84**	2.84	2.84	**2.40**	2.40	**2.43**	**2.44**	2.44
Wright Township	-	-	-	**0.89**	0.89	0.89	0.89	0.89	0.89	0.89
East Grand Rapids	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37	3.37
Ada	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15
Meijer - Algoma	-	-	-	-	**0.20**	0.20	0.20	0.20	-	-
Total	134.75	134.75	127.68	123.48	123.68	128.83	123.18	123.21	123.01	123.01

	2010	2011	2012	2013	2014	2015
Grand Rapids	45.36	45.36	45.36	45.36	45.36	
Walker	20.17	20.17	20.17	20.17	20.17	
Kentwood	14.28	14.28	14.28	14.28	14.28	
Cascade	**16.21**	16.21	16.21	16.21	16.21	
Grand Rapids Township	**7.79**	**7.95**	7.95	7.95	7.95	**7.97**
Tallmadge Township	2.44	2.44	2.44	2.44	2.44	
Wright Township	0.89	0.89	0.89	0.89	0.89	
East Grand Rapids	3.37	3.37	3.37	3.37	3.37	
Ada	7.15	7.15	7.15	7.15	7.15	
Meijer - Algoma	-	-	-	-	-	
Caledonia Township*	-	-	-	-	-	
Total	117.66	117.82	117.82	117.82	117.82	

*contract being amended extending the date when they need to join to 12/31/15

CITY OF GRAND RAPIDS, MICHIGAN
2013 FINAL WATER/SEWER RATE STUDY
ANALYSIS OF COMMODITY CHARGES AS A PERCENT OF REVENUE REQUIREMENTS
WITH UNIFORM & BALANCED RTS CHARGES UNDER MULTIPLE RTS REDUCTION SCENARIOS
FOR RATES EFFECTIVE JANUARY 1, 2014

		Water					Sewer				
		Revenue Requirement			Residential Rates		Revenue Requirement			Residential Rates	
Community		Commodity	Total	Percentage	Comm per HCF	RTS per HCF	Commodity	Total	Percentage	Comm per HCF	RTS per HCF
Grand Rapids	**2013 Rate Study**	**$14,710,562**	**$22,974,830**	**64.029%**	**$1.70**	**$1.14**	**$21,757,168**	**$33,617,082**	**64.721%**	**$3.21**	**$2.70**
	Balanced/Uniform RTS	$14,703,891	$22,974,830	64.000%	$1.70	$1.14	$21,514,932	$33,617,082	64.000%	$3.17	$2.75
	5% RTS Reduction	$15,852,633	$22,974,830	69.000%	$1.83	$0.99	$23,195,787	$33,617,082	69.000%	$3.42	$2.38
	10% RTS Reduction	$17,001,374	$22,974,830	74.000%	$1.96	$0.83	$24,876,641	$33,617,082	74.000%	$3.67	$2.02
	15% RTS Reduction	$18,150,116	$22,974,830	79.000%	$2.10	$0.68	$26,557,495	$33,617,082	79.000%	$3.92	$1.65
Walker	**2013 Rate Study**	**$1,874,734**	**$3,087,410**	**60.722%**	**$1.57**	**$1.43**	**$2,211,105**	**$4,730,519**	**46.741%**	**$2.68**	**$5.58**
	Balanced/Uniform RTS	$1,975,942	$3,087,410	64.000%	$1.65	$1.31	$3,027,532	$4,730,519	64.000%	$3.67	$3.81
	5% RTS Reduction	$2,130,313	$3,087,410	69.000%	$1.78	$1.13	$3,264,058	$4,730,519	69.000%	$3.96	$3.30
	10% RTS Reduction	$2,284,683	$3,087,410	74.000%	$1.91	$0.94	$3,500,584	$4,730,519	74.000%	$4.24	$2.79
	15% RTS Reduction	$2,439,054	$3,087,410	79.000%	$2.04	$0.76	$3,737,110	$4,730,519	79.000%	$4.53	$2.27
Kentwood	**2013 Rate Study**	**$2,653,408**	**$4,065,885**	**65.260%**	**$1.52**	**$1.68**	**$3,184,313**	**$3,696,093**	**86.153%**	**$2.30**	**$1.26**
	Balanced/Uniform RTS	$2,602,166	$4,065,885	64.000%	$1.49	$1.74	$2,365,500	$3,696,093	64.000%	$1.71	$2.91
	5% RTS Reduction	$2,805,461	$4,065,885	69.000%	$1.61	$1.50	$2,550,304	$3,696,093	69.000%	$1.84	$2.54
	10% RTS Reduction	$3,008,755	$4,065,885	74.000%	$1.72	$1.25	$2,735,109	$3,696,093	74.000%	$1.98	$2.17
	15% RTS Reduction	$3,212,049	$4,065,885	79.000%	$1.84	$1.01	$2,919,913	$3,696,093	79.000%	$2.11	$1.79
Cascade Twp	**2013 Rate Study**	**$1,749,852**	**$2,945,147**	**59.415%**	**$2.08**	**$2.32**	**$1,018,936**	**$2,059,615**	**49.472%**	**$2.57**	**$5.82**
	Balanced/Uniform RTS	$1,884,894	$2,945,147	64.000%	$2.24	$2.05	$1,318,154	$2,059,615	64.000%	$3.32	$4.21
	5% RTS Reduction	$2,032,151	$2,945,147	69.000%	$2.42	$1.75	$1,421,134	$2,059,615	69.000%	$3.58	$3.65
	10% RTS Reduction	$2,179,409	$2,945,147	74.000%	$2.59	$1.44	$1,524,115	$2,059,615	74.000%	$3.84	$3.10
	15% RTS Reduction	$2,326,666	$2,945,147	79.000%	$2.77	$1.14	$1,627,096	$2,059,615	79.000%	$4.10	$2.54
Grand Rapids Twp	**2013 Rate Study**	**$1,180,394**	**$2,077,895**	**56.807%**	**$1.71**	**$1.77**	**$934,526**	**$2,369,285**	**39.443%**	**$2.34**	**$5.12**
	Balanced/Uniform RTS	$1,329,853	$2,077,895	64.000%	$1.93	$1.48	$1,516,342	$2,369,285	64.000%	$3.80	$3.08
	5% RTS Reduction	$1,433,748	$2,077,895	69.000%	$2.08	$1.28	$1,634,807	$2,369,285	69.000%	$4.09	$2.67
	10% RTS Reduction	$1,537,642	$2,077,895	74.000%	$2.23	$1.07	$1,753,271	$2,369,285	74.000%	$4.39	$2.25
	15% RTS Reduction	$1,641,537	$2,077,895	79.000%	$2.38	$0.87	$1,871,735	$2,369,285	79.000%	$4.69	$1.84
Tallmadge Twp	**2013 Rate Study**	**$87,276**	**$125,228**	**69.693%**	**$3.53**	**$0.81**	**$177,483**	**$266,625**	**66.567%**	**$10.53**	**$6.22**
	Balanced/Uniform RTS	$80,146	$125,228	64.000%	$3.24	$1.10	$170,640	$266,625	64.000%	$10.12	$6.69
	5% RTS Reduction	$86,407	$125,228	69.000%	$3.49	$0.85	$183,971	$266,625	69.000%	$10.91	$5.79
	10% RTS Reduction	$92,669	$125,228	74.000%	$3.75	$0.60	$197,303	$266,625	74.000%	$11.71	$4.89
	15% RTS Reduction	$98,930	$125,228	79.000%	$4.00	$0.34	$210,634	$266,625	79.000%	$12.50	$3.99

Note: Wright Twp is calculated using a monthly REU charge as opposed to a commodity charge.

ATTACHMENT C

City of Grand Rapids, Michigan

History of Front Footage & Connection Fees

RS Year	Water FF	Water Nonint-C	Water GR	Water Walker	Water Kentwood	Water Cascade	Water GRT	Water Tallmadge	Water Check-FF
76-77	$ 34,118	$ 133,535	$ 151,922	$ 20,121	$ 27,719	$ 22,496	$ 7,466	$ -	$ (62,071)
78	90,222	176,503	154,868	56,239	16,057	26,585	12,975	-	1
79	71,979	133,524	97,807	41,333	26,997	11,921	27,445	-	1
80	95,611	134,300							229,911
81	93,458	125,681	135,837	50,027	12,300	7,542	11,307	-	2,126
82	88,758	64,409	111,414	16,939	10,445	8,125	5,945	-	299
83	49,327	66,247	59,094	23,821	7,902	8,353	16,404	-	(0)
84	49,782	89,310	86,607	22,934	9,095	9,698	10,757	-	0
85	59,718	109,084	85,579	38,098	24,556	14,107	6,381	-	0
86	101,018	113,778	134,658	27,119	22,491	20,217	10,311	-	(0)
87	99,086	121,309	126,007	28,193	21,680	24,556	19,959	-	0
88	148,362	159,103	179,395	49,665	30,331	19,201	28,873	-	(0)
89	106,328	114,956	-	125,577	45,242	14,190	17,649	18,626	(0)
90	95,414	-	55,066	2,126	6,453	935	30,834	-	(0)
91	125,415	-	117,932	-	5,016	2,111	356	-	0
92	43,730	-	26,185	7,128	4,972	2,663	2,802	-	0
93	64,599	-	7,317	-	18,021	23,897	15,364	-	(0)
94	66,188	-	10,122	14,190	11,102	-	7,774	-	0
95	60,226	-	16,231	7,048	6,142	467	30,338	-	(0)
96	48,642	-	20,962	2,951	15,558	1,046	8,125	-	0
97	123,760	-	28,062	29,036	63,249	5,021	(1,608)	-	(0)
98	97,038	-	20,989	-	56,816	7,012	12,221	-	(0)
99	412,994	-	91,018	32,117	20,681	234,187	34,991	-	(0)
00	230,931	-	38,202	6,688	47,910	104,749	33,382	-	(0)
01	221,913	-	155,624	12,935	12,481	18,601	22,272	-	0
02	319,806	-	94,874	99,341	57,771	21,690	46,130	-	(0)
03	201,259	-	183,235	2,908	(2,980)	18,096	-	-	(0)
04	207,058	-	43,233	34,104	51,063	41,803	36,855	-	0
05	369,531	-	140,947	16,790	112,542	35,357	63,895	-	0
06	309,698	-	114,797	51,789	96,451	43,061	3,600	-	(0)
07	234,589	-	114,945	18,292	27,558	21,315	52,479	-	0
08	148,006	-	32,385	-	78,172	37,449	-	-	0
09	126,645	-	86,388	(4,200)	8,629	13,150	22,678	-	0
10	48,939	-	333	23,206	-	25,400	-	-	0
11	23,059	-	4,950	-	7,659	10,450	-	-	(1)
12	57,162	-	7,501	24,417	3,905	11,894	9,455	-	(0)
13	147,276	-	19,648	15,250	-	32,713	79,665	-	-
14	93,012	-	9,450	18,099	55,458	11,949	(1,944)	-	-
Totals	$ 4,964,655	$ 1,541,738	$ 2,786,564	$ 914,281	$ 1,019,444	$ 912,077	$ 685,136	$ 18,626	$ 170,285

RS Year	Sewer FF	Sewer Nonint-C	Sewer GR	Sewer Walker	Sewer Kentwood	Sewer Cascade	Sewer GRT	Sewer Tallmadge	Sewer Check-FF
76-77	$ 80,882	$ 136,204	$ 124,069	$ 23,219	$ 51,348	$ 20,280	$ 9,069	$ -	$ (8,899)
78	64,780	169,934	129,724	66,407	19,424	9,895	8,188	-	1,276
79	70,254	136,583	109,884	49,221	27,061	3,125	17,545	-	1
80	77,027	130,940	232,247	50,283	21,810	10,495	15,359	-	(119,227)
81	94,889	122,073	139,078	63,788	8,320	2,850	9,027	-	(6,101)
82	66,051	60,982	86,679	21,065	13,094	4,595	2,200	-	(0)
83	55,480	68,953	88,225	26,024	5,810	2,655	1,700	-	(0)
84	53,366	94,572	95,425	29,798	11,905	5,815	6,255	-	(1,260)
85	68,443	106,541	96,686	40,457	23,778	6,300	7,763	-	0
86	50,410	100,857	84,630	29,983	18,824	10,125	7,705	-	1
87	138,133	118,992	131,890	47,503	65,144	8,715	3,873	-	0
88	109,320	170,661	139,494	78,523	32,993	7,170	27,130		(5,329)
89	160,437	145,375	164,475	67,255	47,300	10,524	16,258	-	0
90	109,945	122,175	115,066	61,250	26,053	8,490	21,262	-	(1)
91	104,546	106,424	106,959	49,821	35,601	6,928	11,660	-	0
92	99,320	94,339	113,900	42,673	16,770	3,940	5,400	-	976
93	99,320	88,003	103,416	48,866	64,068	10,470	17,934	-	(57,431)
94	78,966	102,089	60,721	53,722	33,782	4,830	27,995	-	5
95	106,647	110,141	68,451	48,243	52,199	13,430	34,465	-	(0)
96	53,737	114,843	63,019	53,707	24,456	9,876	16,427	1,095	(0)
97	182,309	115,455	52,233	60,387	183,531	9,914	14,699	-	(0)
98	122,542	140,019	87,712	68,997	72,930	8,849	23,708	365	0
99	257,735	130,717	225,176	57,719	83,957	11,730	6,480	3,390	0
00	124,172	84,493	95,484	27,946	73,202	9,655	2,198	180	(0)
01	100,083	-	29,236	16,395	47,807	7,245	-	-	0
02	330,736	-	142,295	99,426	74,983	14,032	-	-	0
03	126,180	-	84,420	7,707	31,902	10,083	(7,932)	-	0
04	165,190	-	57,028	22,751	57,187	16,765	11,459	-	(0)
05	222,091	-	104,078	22,157	46,961	-	48,895	-	(0)
06	140,673	-	21,065	56,169	44,486	-	18,953	-	-
07	218,376	-	128,758	19,883	34,927	7,000	27,808		(0)
08	119,442	-	61,456	6,908	29,117	11,265	10,096	-	(0)
09	104,112	-	106,476	(4,900)	2,536	-	-	-	(0)
10	26,394	-	(12,558)	15,550	16,912	-	6,490	-	(0)
11	(18,037)	-	(42,415)	9,000	-	-	15,378	-	(0)
12	22,672	-	7,381	7,513	4,078	-	2,900	-	-
13	43,909	-	19,316	-	-	-	24,593	-	-
14	107,450	-	20,510	17,850	59,280	2,800	7,010	-	-
Totals	$ 4,139,163	$ 2,766,365	$ 3,441,689	$ 1,463,266	$ 1,441,336	$ 269,646	$ 480,550	$ 5,030	$ (195,990)

NOTE1: 1MFP & WWTP existed in 1976-77 RS.

NOTE2: Retail & Wholesale Water & Sanitary Sewer Service Agreements
- Executed 01/01/99
- Effective for 1999 RS and rates/charges on 01/01/00

NOTE3: First Amendment
- Executed Fall 2000
- Effective Fall 2000 (for 2000 RS and rates/charges on 01/01/01)
- Established integrated connection fees.

NOTE4: Second Amendment
- Executed 07/01/02
- Effective 07/01/02 (for 2002 RS and rates/charges on 01/01/03)
- Amended application of integrated connection fees and calculation of square footage.
- Amended determination and application of integrated system cost (SDS).

NOTE5: [shaded box] = Unreconciled difference in "Check-FF" column.
Otherwise, reconciled difference in "Check-FF" column (not attributable to front footage and/or connection fees).

City of Grand Rapids, Michigan
Active Payback Agreements Summary
As of 09/10/14

Agreement No	Type	Customer Community	Account Name	Project Name	Agreement Date	Expiration Date	Agreement Amount	Payback(s) Amount	Agreement Balance
1	Sewer	Grand Rapids	Alberts	East Leonard Trunk Sanitary Sewer	09/16/60	n/a	$ 4,782.84	$ -	$ 4,782.84
8	Water	Grand Rapids	David Gezon	Maryland Avenue Water Extension	09/16/60	n/a	$ 2,049.99	$ 1,366.66	$ 683.33
13	Sewer	Grand Rapids	Lear, Incorporated	Eastern Avenue	06/01/61	n/a	$ 39,360.00	$ 30,039.62	$ 9,320.38
16	Water	Grand Rapids	Arthur Romence	Romence Street Water Main	09/16/60	n/a	$ 1,138.44	$ 480.00	$ 658.44
26	Sewer	Ada	Ada Township	30" Trunk Sewer-Argo, Aylesworth, Patterson	11/25/74	n/a		$ 6,246.15	$ (6,246.15)
27	Sewer	-	Plainfield Township	Laterals in Arnold's Subdivision	05/08/79	n/a		$ 17,422.00	$ (17,422.00)
29	Water	Kentwood	Kentwood	Wingate Apartments	08/31/76	n/a		$ -	$ -
33	Sewer	EGR	East Grand Rapids	Borderline Streets	02/07/78	n/a		$ -	$ -
33	Water	EGR	East Grand Rapids	Borderline Streets	02/07/78	n/a		$ 7,469.82	$ (7,469.82)
34	Sewer	Cascade	Cascade Charter Township	Transmission Charge (NOT Front Footage)	04/04/78	n/a		$ 123,240.00	$ (123,240.00)
34	Water	Cascade	Cascade Charter Township	Transmission Charge (NOT Front Footage)	04/04/78	n/a		$ 248,136.92	$ (248,136.92)
51	Water	GRT	Kent Intermediate School	Lincoln School	08/03/82	n/a	$ 222,177.62	$ 70,650.73	$ 151,526.89
117	Sewer	Kentwood	Paris Meadows Condo	East Paris Avenue	06/21/05	06/21/15	$ 11,630.00	$ -	$ 11,630.00
118	Sewer	Walker	Dreamscape LLC	Dreamscape Phase 1	09/20/05	09/20/15	$ 40,961.00	$ -	$ 40,961.00
119	Sewer	Tallmadge	Land Acquisition LLC	Lake Michigan Estates Phase 1	06/05/07	06/05/17	$ 10,075.80	$ -	$ 10,075.80
120	Sewer	Cascade	MAAS Johnson Properties	Turnburry Development	01/26/10	01/26/20	$ 1,179,000.00	$ -	$ 1,179,000.00
121	Water	GRT	A&C Land Development	Rainbow Child Development	09/13/11	09/13/21	$ 36,322.50	$ 9,455.00	$ 26,867.50
122	Sewer	GRT	GR Charter Township	Dunnigan Avenue	08/14/12	08/14/22	$ 18,452.00	$ -	$ 18,452.00
122	Water	GRT	GR Charter Township	Dunnigan Avenue	08/14/12	08/14/22	$ 48,470.00	$ -	$ 48,470.00
123	Sewer	Cascade	Cascade Charter Township	Stoneshire Site Condo Phase 2	05/13/14	05/13/24	$ 56,785.00	$ -	$ 56,785.00
123	Water	Cascade	Cascade Charter Township	Stoneshire Site Condo Phase 2	05/13/14	05/13/24	$ 45,340.00	$ -	$ 45,340.00
124	Sewer	Kentwood	Steelcase	Steelcase Fisk Drain Interceptor (NOT Front Footage)	12/21/82	n/a	$ 459,000.00	$ -	$ 459,000.00
125	Sewer	Walker	City of Walker	Cambridge Grove Development	09/09/14	09/09/24	$ 45,000.00	$ -	$ 45,000.00
TOTALS							**$ 2,220,545.19**	**$ 514,506.90**	**$ 1,706,038.29**

NOTE1: City Engineering Office working with City Attorney's Office to expire and/or set expiration dates on open-ended payback agreements; formal action requirement through City Commision expected.
NOTE2: Negative agreement balances represent payback agreements with no absolute agreement amount.
NOTE3: Project names in red font are not Front Footage Agreements.
NOTE4: Payback agreements are on file in the City Engineer's Office and available upon request.

ATTACHMENT E

City of Grand Rapids, Michigan

History of Front Footage & Connection Fees

	Connection Fees - Water										Connection Fees - Sewer									
RS Year	Ada	Cascade	East GR	GR Twp	Grand Rapids	Kentwood	Tallmadge	Walker	Wright	Total	Ada	Cascade	East GR	GR Twp	Grand Rapids	Kentwood	Tallmadge	Walker	Wright	Total
13	55,539	162,310	15,678	187,115	174,630	133,883	23,061	55,080		807,296	45429	133,815	15,678	177,726	175,699	131,627	28,671	74,910	2,788	786,343
14	61,305	178,850	28,178	176,988	151,358	158,288	31,719	77,663		864,349	45,392	169,420	28,178	178,993	150,625	153,698	34,549	77,199		838,054
15	16,422	277,649	9,178	98,568	225,408	159,788	53,202	100,945		941,160	10,529	255,488	9,178	97,778	223,401	162,762	53,147	116,932	60	929,275

	Front Footage and Lateral Fees - Water										Front Footage and Lateral Fees - Sewer									
RS Year	Ada	Cascade	East GR	GR Twp	Grand Rapids	Kentwood	Tallmadge	Walker	Wright	Total	Ada	Cascade	East GR	GR Twp	Grand Rapids	Kentwood	Tallmadge	Walker	Wright	Total
13		32,713		22,137	19,648			7,625		82,123				21,793	19,316					41,109
14		2,574		7,511				7,725		17,810		2,800		7,010	20,510	30,880		7,210		68,410
15		141,324			9,108			13,955		164,387		10,625			7,055	4,400		5,940		28,020

1007 Lake Drive
Grand Rapids, MI 49506
616-451-3051
www.wmeac.org
fb.com/wmeac

January 22, 2015

Great Lakes Commission
Attn: Laura Kaminski
2805 South Industrial Highway
Ann Arbor, MI 48104

Dear Ms. Kaminski,

West Michigan Environmental Action Council (WMEAC) is happy to present a letter of support for the 12th Annual Mayors' Grand River Clean Up. This yearly event has grown to become the largest river clean up in West Michigan. Last year, 800 volunteers participated in the river clean up, removing more than 18,000 pounds of trash and recyclables from the Grand River, Plaster Creek and other tributaries in the Cities of Grand Rapids, Grandville, Walker, Wyoming, and Plainfield Township. This year's event will take place in mid-September.

WMEAC has been the leading source of environmental education and advocacy in West Michigan since 1968. We have worked diligently in that time to protect our freshwater resources and build sustainable communities.

We are proud to partner with the City of Grand Rapids and other partners to assist in coordinating the Mayors' Clean Up. WMEAC staff, interns, and volunteers will participate in the planning committee, organize event details, recruit volunteers, solicit sponsors, identify cleanup sites, and evaluate the event. We look forward to this event each year and are excited to continue our involvement.

Sincerely,

Rachel Hood

Rachel Hood
Executive Director