

# CITY OF DETROIT



## STORM WATER MANAGEMENT PROGRAM PLAN PROGRESS REPORT

December 2015



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## 1.0 INTRODUCTION

### 1.1 Purpose

This Storm Water Management Program Plan (SWMPP) has been prepared to fulfill the requirements of the NPDES permit issued to the City of Detroit for the stormwater discharged from the Municipal Separate Storm Sewer System (MS4). This document updates and supersedes the previous SWMPP which was prepared in November 2013, and is submitted to comply with the requirements of the NPDES permit dated February 25, 2003 which is currently in effect. A Certificate of Coverage was issued to the City of Detroit by the Michigan Department of Environmental Quality (MDEQ) on November 5, 2004. The Certificate of Coverage and Permit are included as **Appendix A**. Prior to November, 2010 Detroit's stormwater discharges were regulated under a new General Permit issued by MDEQ in 2008. However, the 2008 General Permit was subsequently withdrawn by MDEQ, leaving the 2003 Permit as the document which establishes the regulatory requirements for Detroit's stormwater discharges. A copy of the withdrawal notice from MDEQ for the 2008 General Permit is included as **Appendix B**.

This updated SWMPP summarizes the activities undertaken since the November 2013 document was submitted. The SWMPP addresses current permit requirements, and sets forth the implementation schedule for activities to be conducted over the next 2 years.

### 1.2 Regulatory Requirements

The City of Detroit's storm water discharges are currently regulated by the general storm water discharge permit issued on February 25, 2003 to individual municipalities (the "jurisdictional" general storm water permit, MIS040000). The discharge permit specifies that permittees are to develop, implement, and enforce a SWMPP to reduce the discharge of pollutants from the drainage system to the Maximum Extent Practicable (MEP). The MEP requirement must be met by implementing Best Management Practices (BMPs) to address the six "minimum measures" including:

1. Public education program - Education and outreach on storm water impacts;
2. Public involvement and participation;
3. Illicit discharge elimination program;
4. Post-construction storm water management program for new development and redevelopment projects;
5. Construction storm water runoff control;
6. Pollution prevention/good housekeeping for municipal operations.

The permit requires that the permittee's SWMPP list specific BMPs that will be implemented for each of the topics above. The SWMPP must include measurable goals for each listed BMP and the permittee must demonstrate that the goals are met. The permittee must also demonstrate the effectiveness of the public education program and illicit discharge elimination program.

### 1.3 Summary of Prior Submittals

The City of Detroit filed an application dated July 17, 2008 requesting coverage under MDEQ's General Stormwater Jurisdictional Permit, and the submittal included a list of 48 municipal separated storm sewer discharges. The drainage area for each outfall was reviewed by field investigation which determined that a number of the small outfalls were actually roadway underdrains or bridge foundation drains rather than storm sewers (see August 13, 2009 letter in **Appendix C**), leaving a total of 32 municipal storm sewer outfalls.

Subsequently, one new storm sewer with an outlet to the Rouge River has been constructed by the Department of Public Works at Ridge Road south of McNichols to handle roadway drainage. This results in a total of 33 municipally owned storm sewer outfalls which are covered by the NPDES permit. The inventory of municipal storm sewers is discussed in more detail in Section 2.2 of this report.

The City submitted an alternate approach for managing post-construction storm water runoff in a letter dated May 4, 2009 (see **Appendix C**) in response to new requirements imposed by the 2008 revised General Permit. Those requirements have since been eliminated due to MDEQ's withdrawal of the 2008 Permit.

Shortly after the issuance of Detroit's first storm water discharge permit, the City also submitted supplemental information to MDEQ regarding the City's legal authority to perform tasks which may need to be undertaken as part of the storm water management effort. This information was transmitted to MDEQ in a letter dated April 27, 2005 (see **Appendix D**).

As part of the April 2007 SWMPP, the City included documentation that the City has the legal authority to prohibit discharges into the storm drainage system. Copies of the applicable regulations are included in **Appendix E**.

### 1.4 Affected City Departments

Discharges from municipally-owned storm sewers within the City of Detroit are not the responsibility of a single municipal department or agency. Rather, several City departments have been actively involved in the development and implementation of the Storm Water Management Program, with the Detroit Water and Sewerage Department serving as the lead agency with the responsibility of coordinating the efforts to be undertaken to comply with the NPDES permit and the Certificate of Coverage. Other participating City agencies include the Recreation Department; the Planning and Development Department; the Department of Public Works; the Buildings, Safety Engineering and Environmental Department; the General Services Department; the Greater Detroit Resource Recovery Authority; and, the Law Department.

## **2.0 DETROIT'S EXISTING STORM WATER CONVEYANCE SYSTEM**

### **2.1 Storm Water Conveyed through Combined Sewers**

Most of the storm water runoff from the City of Detroit is conveyed through the City's combined sewer system which uses a single pipe to convey sanitary waste from residences, industries and businesses, along with storm water drainage. The combined sewer system services nearly the entire population of the City of Detroit, with a service area estimated at 139 square miles. . The combined sewers convey all dry weather flow, and a large portion of the wet weather flow to the wastewater treatment plant at 9300 W. Jefferson in accordance with NPDES permit MI0022802.

The wastewater treatment plant provides primary and secondary treatment with phosphorus removal, disinfection and dechlorination prior to discharge to the Detroit River. The NPDES permit for the wastewater treatment plant establishes effluent limits for several pollutant parameters, along with sampling and reporting requirements for the discharge. During dry weather periods, the plant processes approximately 600 million gallons per day, but has the capacity to accept wet weather flows up to 1,700 million gallons per day through the primary treatment process. In accordance with the permit, full secondary treatment is currently given to all flows up to 930 million gallons per day, with the excess wet weather flows above that threshold receiving primary treatment. All secondary and primary treated effluent flows discharged through the Detroit River Outfall receive disinfection. All excess intermittent primary effluent flows discharged through the Rouge River Outfall will receive disinfection beginning in 2019.

The NPDES permit authorizes the discharge of combined sewage during wet weather events when the transport and treatment capacity of the collection system and the wastewater plant is exceeded. DWSD is implementing a Long Term CSO Control Program to ensure that combined sewage discharges receive adequate treatment, consistent with state and federal environmental regulatory requirements. DWSD has constructed nine (9) CSO treatment facilities providing capture and retention of wet weather flows, as well as treatment and disinfection for flows in excess of the facility retention capacity. When wet weather events exceed the capacity of the transport and treatment systems, combined sewage is discharged at 56 permitted locations along the Detroit and Rouge Rivers.

Within the combined sewer system service area, there are several small tracts where separate storm sewers have been constructed and are utilized to convey storm water. However, these storm sewers reconnect to the combined sewer system at a downstream point, and do not discharge directly to receiving waters. As such, they are an integral part of the City's combined sewer system, and the resulting discharges of combined sewage through the permitted CSO outfalls are authorized by NPDES Permit MI0022802.

### **2.2 Municipally Owned Separate Storm Sewers**

Detroit's MS4 has a very limited service area consisting primarily of parkland with river frontage, and a small amount of roadway drainage from City streets adjacent to the Rouge River or from bridges over river crossings. A comprehensive investigation of the City's MS4 system has identified 33 municipally-owned storm sewers including 15 outfalls to the Detroit River and its tributaries, and 18 outfalls to the Rouge River. These storm sewer discharges are shown in Table 1.

The inventory of municipal storm sewers was updated as part of the November 2013 SWMPP report to reflect the construction of a new outfall on Ridge Road south of McNichols where roadway drainage is being conveyed to the Rouge River. The location of all of the storm sewer outfalls is displayed on Figures 1 - 5. As shown on Figures 1 – 5, these storm sewers serve an area which includes portions of Belle Isle, portions of Rouge Park and the City streets which traverse that area, portions of two other small parks, plus a few roadways adjacent to the Rouge River. In addition, there are four known storm sewer outfalls on property now owned by DWSD which was acquired from Detroit Marine Terminal. These four outfalls drain vacant land adjacent to the wastewater treatment plant facilities, and the property is not being used for wastewater treatment processes at this time.

### 2.3 Privately Owned Storm Sewers Discharging Directly to the River

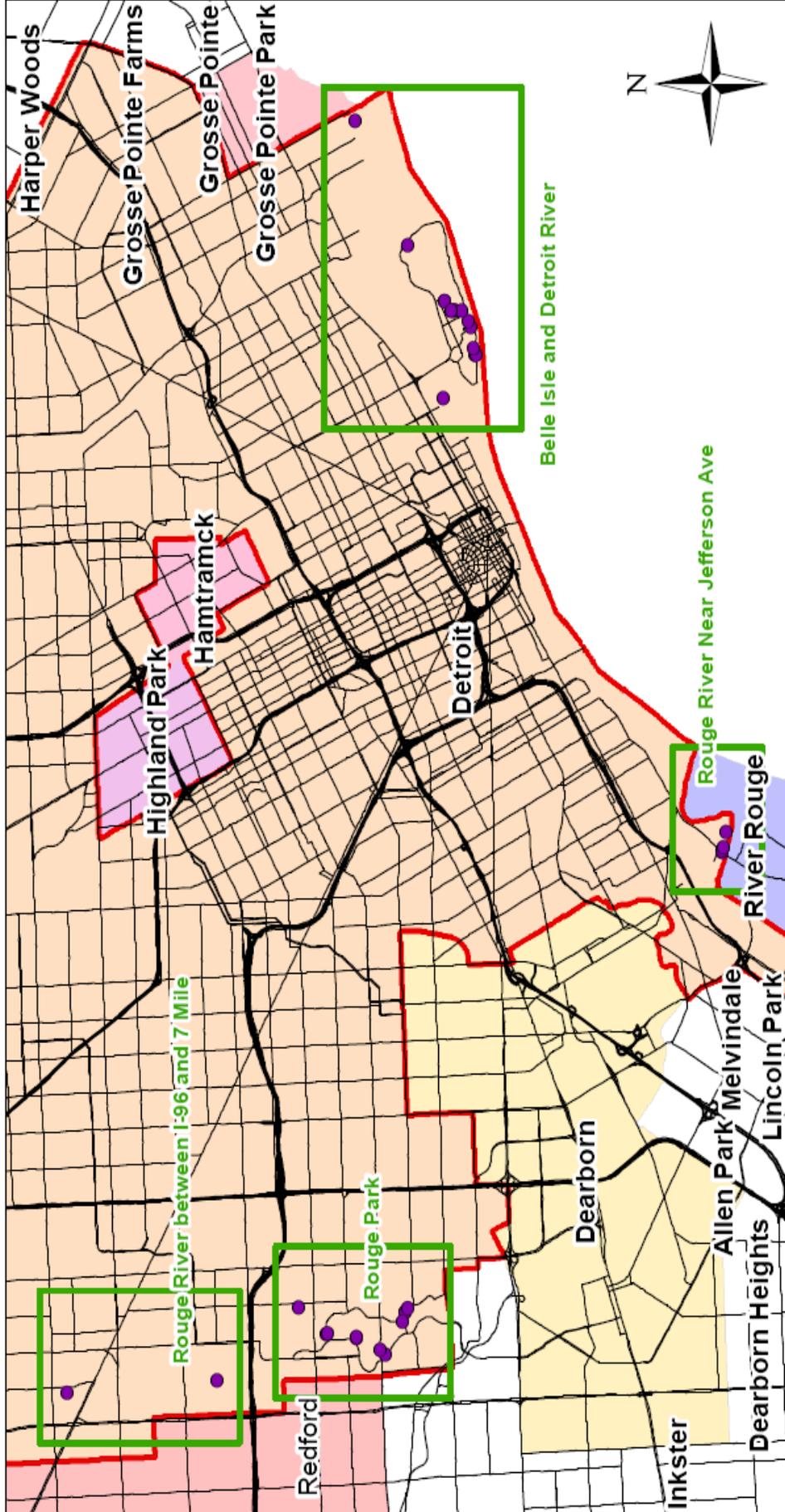
There are several private property owners along the Detroit and Rouge Rivers who convey storm water directly to a receiving water through a privately owned storm drainage system. The sanitary and process wastewater from these sites is typically connected to DWSD's combined sewer system. In some instances the facility may be inactive or out of business, or the property may be vacant, in which case there is no discharge of sanitary or process wastewater. The City of Detroit has no legal authority over the discharge of storm water from privately owned storm sewers, and has not inventoried or located these outfalls. Several private entities with storm sewers discharging directly to the river have applied for and received NPDES discharge permits for their storm water. These entities are listed in **Appendix F**.



**TABLE 1**  
**ESTIMATED DRAINAGE AREA FOR KNOWN STORM WATER OUTFALLS**  
**CITY OF DETROIT MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)**  
**PREPARED OCTOBER 19, 2011**

Outfall ID	Receiving Water	Location	Outfall Diameter	Land Use	Estimated Surface Drainage Area (Acres)	Drainage Area Comment
<b>Detroit River and Tributaries</b>						
D1	Trib to Detroit River	Lakewood East Park (#308) Bridge at Riverside Dr.	12"	roadway	0.38	
D2	Lake Muskoday	Belle Isle Storm Pump Station No. 7	6"	roadway/park	2.41	
D3	Nashua Creek	Behind athletic building, Lotier Way	4"	parking lot	0.63	
D4	Nashua Creek	Behind athletic building, Lotier Way - Pump Station	12"	athletic field	1.37	May serve underdrains, but for now assumed to drain tennis courts.
D5	Nashua Creek	Lotier Way behind former zoo	8"	lawn	0.36	
D6	Nashua Creek	Behind athletic building - former zoo	8"	service yard	0.35	
D7	Nashua Creek	DRD Service Yard	6"	service yard	1.93	
D7A	Nashua Creek	DRD Service Yard	<6"	service yard	0.26	
D8	Lake Tacoma	Strand St. & Picnic Way, E. of Bridge	8"	roadway	0.53	
D9	Lake Tacoma	Strand St.	6"	roadway	0.17	
D16	Lake Tacoma	Lake Tacoma off Strand St., West of sign	6"	roadway	0.01	Level of water in the manhole is higher than the near by lake, so outfall is likely plugged.
D17	Detroit River	Strand St. behind Casino	9"	roadway	0.04	Only flow is through manhole cover. Manhole has no other inlets.
D18	Lake Tacoma	Strand St. into pond behind Casino	6"	roadway	0.25	
D22	Detroit River	Mt. Elliott Park (#3)	12"	park; lawn	2.59	
D25	Nashua Creek	On opposite side of creek from basketball court	6"	service yard	1.11	
<b>Rouge River and Tributaries</b>						
R1	Rouge River	Glenhurst Ave. at Grayfield Ave.	15"	roadway	0.86	
R10	Rouge River	West of Lyndon & Bramell	12"	park; lawn	67.43	
R11	Rouge River	W. of Burt Rd at Pierson Ct. N.	36"	roadway	18.66	
R14	Rouge River	Immediately N. of Spinoza Dr. on west bank	18"	roadway	0.37	
R14A	Rouge River	Immediately S. of Spinoza Dr. on west bank	18"	roadway	0.37	
R16	Rouge River	Immediately N. of Joy, on east bank	18"	roadway	0.15	
R17	Ditch to Rouge River	Parkland Ave @ Constance Rd., S. of Joy Rd.	15"	roadway	7.61	
R18	Rouge River	Tireman Ave at Spinoza, S. of Bridge	18"	roadway	3.78	
R22	Rouge River	Rouge Park - S. of Tireman at Spinoza	36"	roadway	4.01	
R23	Rouge River	Rouge Park - Spinoza Ave near Tireman	12"	park; lawn	1.81	
R26	Rouge River	Detroit Marine Terminal	8"	paved areas	2.00	Drainage area combined with R32. Assume 1/2 to each outfall.
R27	Rouge River	Detroit Marine Terminal	36"	paved areas	4.42	
R28	Rouge River	Detroit Marine Terminal	24"	paved areas	6.15	
R29	Rouge River	N. End of Lahser Rd. - S. bank of river	12"	parking lot	0.72	
R30	Rouge River	N. End of Lahser Rd. - S. bank of river	12"	parking lot	0.98	
R32	Rouge River	Detroit Marine Terminal	6"	paved areas	2.01	Drainage area combined with R26. Assume 1/2 to each outfall.
R33	Rouge River	Rouge Park - Spinoza Ave near Tireman	36"	open field/wetland	5.85	Investigation in progress
R35	Rouge River	Ridge Road South of McNichols Road (new)				
Total Area:					139.57	

FIGURES 1 - 5  
 MAPS OF STORM SEWER INVENTORY

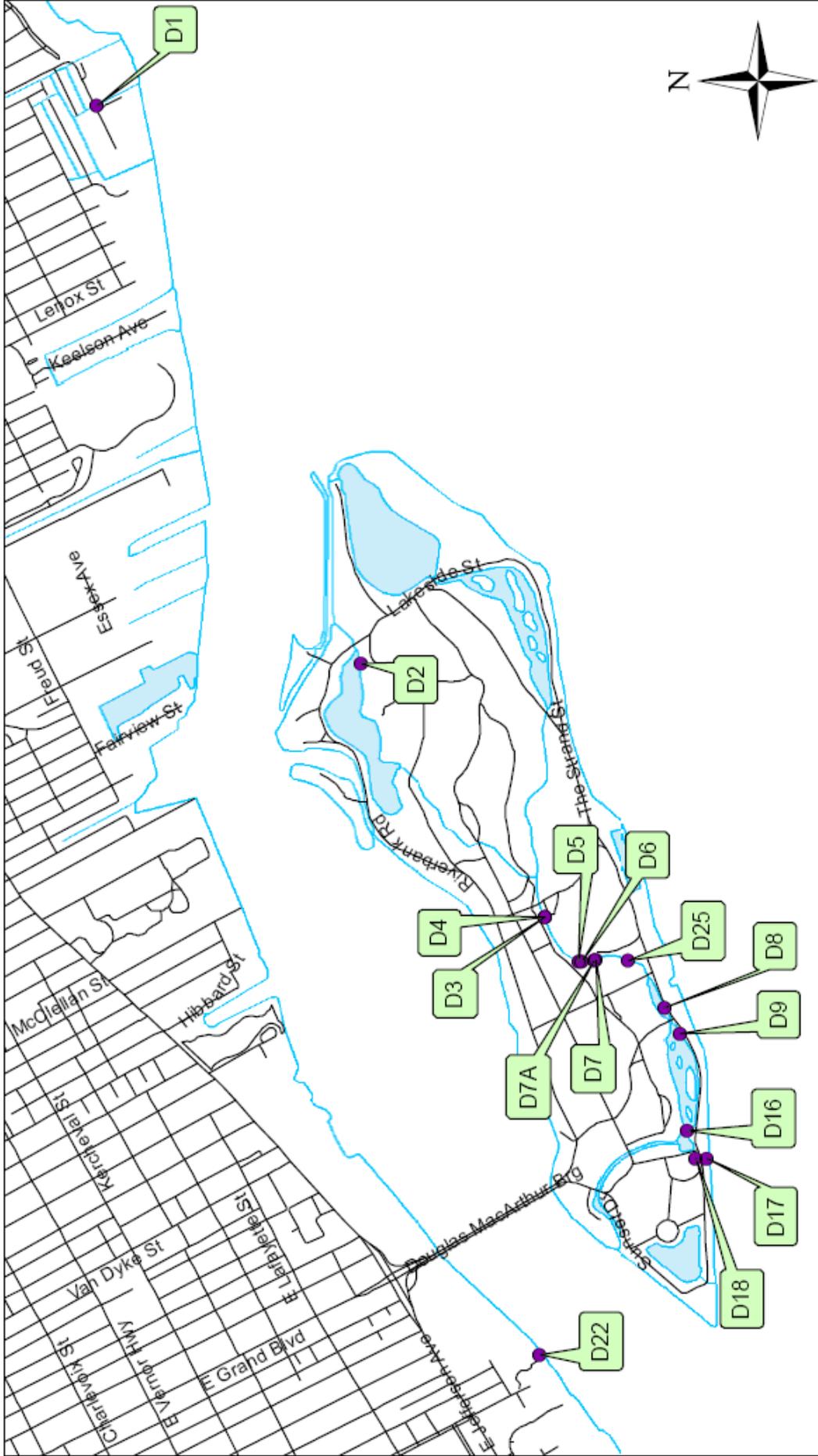


**Legend**

- Outfall Location
- Roads
- City Limits

Known City of Detroit  
 Separate Storm Sewer Outfalls  
 Index Map

**CDM**  
 Printed 2/25/10

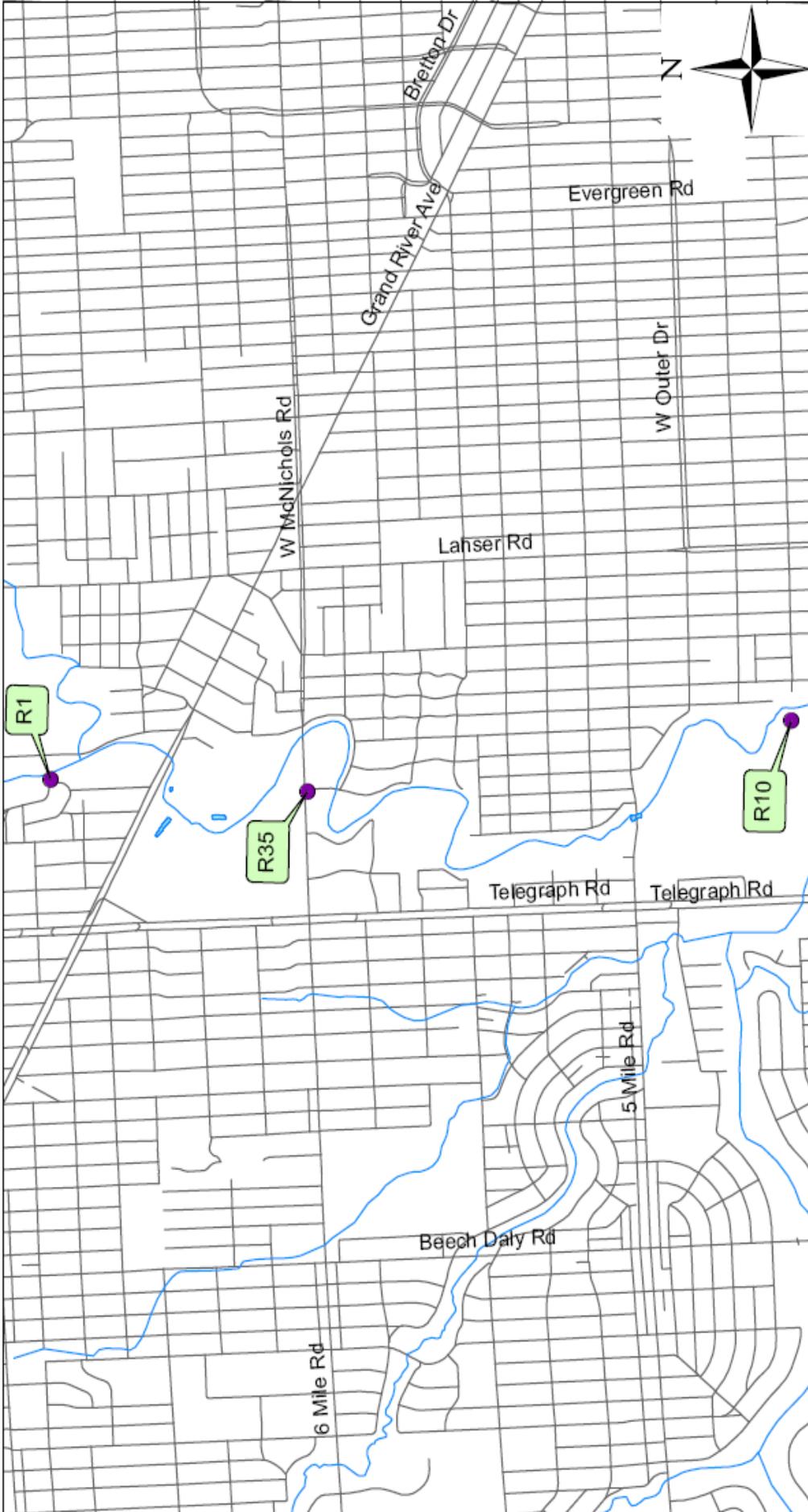


**Legend**  
 ● Outfall Location  
 — Roads

**Known City of Detroit  
 Separate Storm Sewer Outfalls  
 Belle Isle and Detroit River**

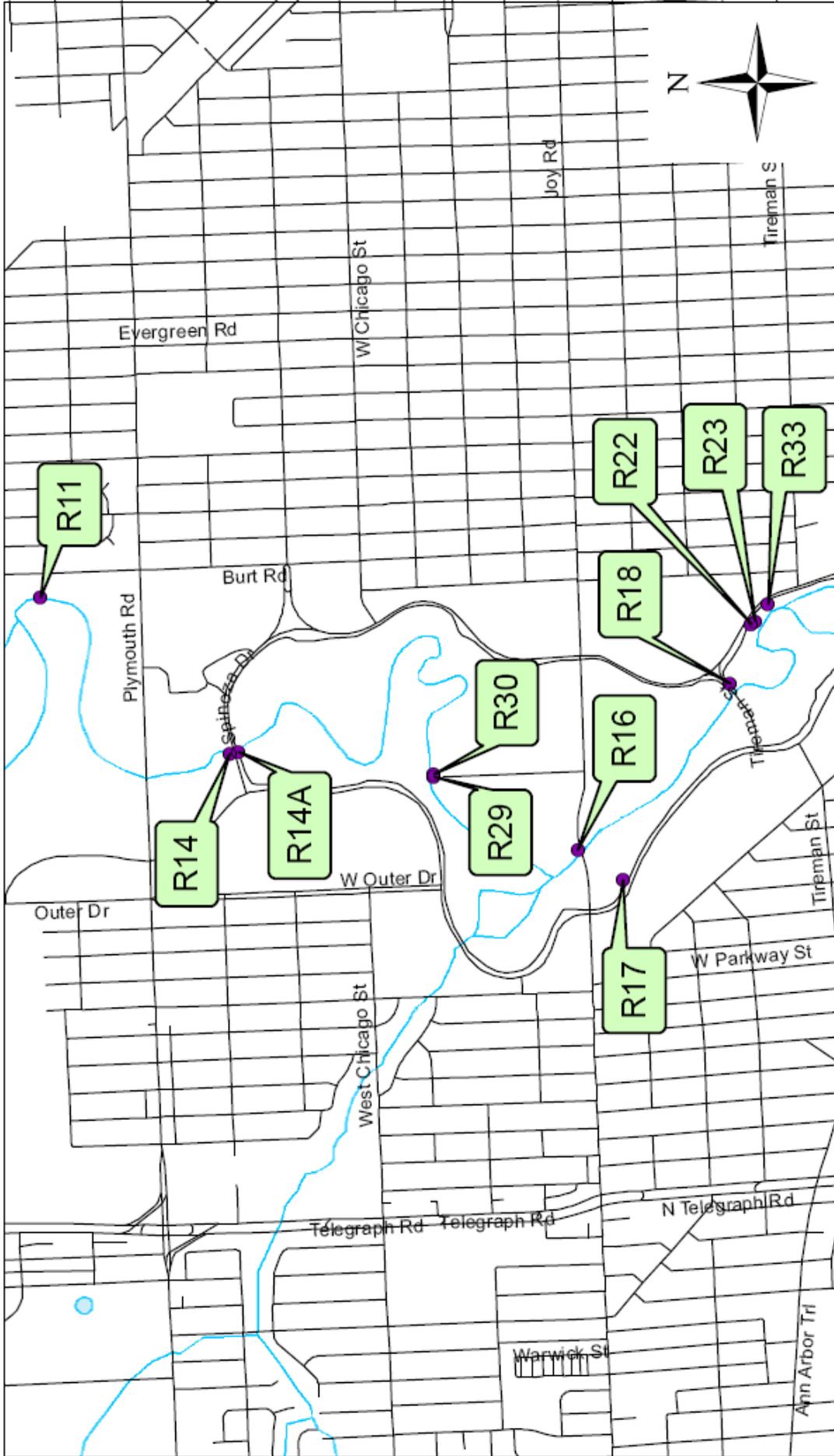


Printed 2/25/10



Known City of Detroit  
 Separate Storm Sewer Outfalls  
 Rouge River Between I-96 and 7 Mile

**CDM**  
 Printed 10/24/11



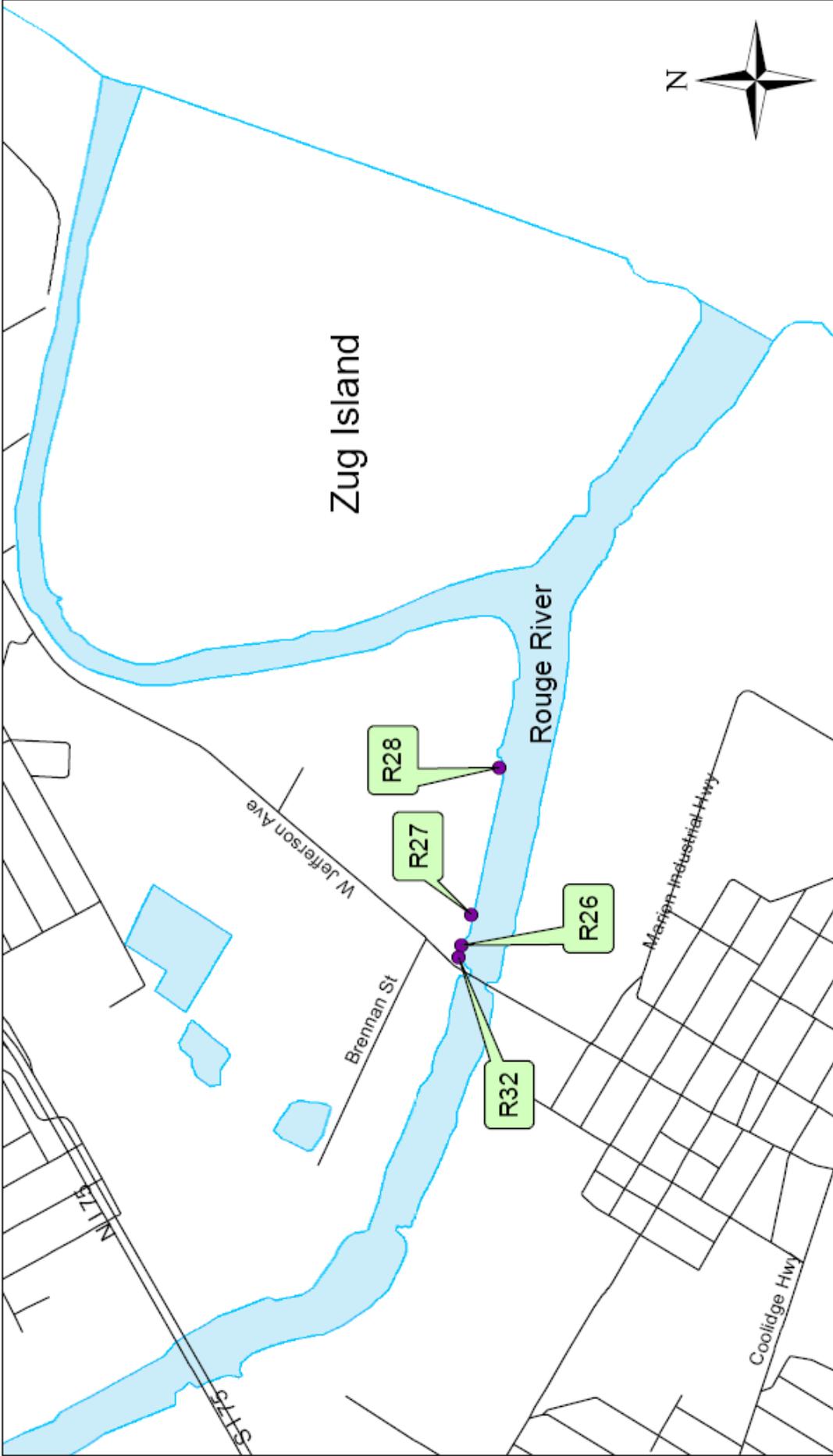
**Legend**  
 ● Outfall Location  
 — Roads

**Known City of Detroit  
 Separate Storm Sewer Outfalls**

**Rouge Park**



Printed 2/25/10



Known City of Detroit  
 Separate Storm Sewer Outfalls  
 Rouge River Near Jefferson Ave

- Legend**
- Outfall Location
  - Roads



Printed 2/25/10

### **3.0 NESTED JURISDICTIONS**

The City of Detroit has identified three “nested jurisdictional areas” where storm water discharge permits have been issued to other governmental entities within the City of Detroit. These include the Michigan Department of Transportation, Wayne County Roads, and Wayne County Drains. The City of Detroit has reviewed the storm water discharge permits issued to these three entities, and has determined that the City’s Storm Water Management Program can be implemented independent of the activities being undertaken by the three nested jurisdictions. Since the drainage areas are distinct and the tributary areas do not overlap or abut one another, there is no necessity to coordinate the storm water management efforts of these permittees with nested jurisdictions.

## 4.0 WATER QUALITY

### 4.1 Detroit River

The Detroit River is the connecting channel between Lake St. Clair and Lake Erie, and serves as the international border between United States and Canada. The average flow through the Detroit River is approximately 190,000 cfs, with velocities typically in excess of two feet per second. Extensive urban development has taken place along the shoreline, and the river receives numerous wastewater discharges from industrial and municipal treatment facilities.

Water quality of the Detroit River during dry weather periods is typically excellent, with dissolved oxygen levels consistently exceeding the state water quality standard of 7.0 mg/l. Minor fluctuations in dissolved oxygen concentrations have been observed at the head end of the Detroit River on an infrequent basis. Typically, these dissolved oxygen changes are very small, and have been attributed to changes in photosynthetic activity of biological organisms in Lake St. Clair during overcast periods. During wet weather periods, the Detroit River receives large volumes of treated and, to a significantly lesser extent, untreated combined sewage overflows at discharge points within the City of Detroit. River monitoring data shows that the dissolved oxygen level of the Detroit River continues to meet water quality standards during and after the combined sewer overflow (CSO) discharge events. The river is capable of assimilating these intermittent wet weather pollutant loads with relatively minor changes in dissolved oxygen levels.

By contrast, the intermittent combined sewage discharges frequently generate exceedances of water quality standards for bacteria (*E. coli*) during and after wet weather periods. Sampling studies along the Detroit River have shown that the CSO plume tends to follow the shoreline with very little transverse migration of pollutants across the channel because of the high velocity and strong current. There is only one bathing beach on the Detroit River which is situated at Belle Isle, and prior studies confirm that pollutants from Detroit's combined sewer overflows do not adversely affect the beach.

Other conventional pollutants, including nutrients, oil and grease, chloride and ammonia, are found in the Detroit River, but at relatively low concentrations. Advancements in municipal and industrial wastewater treatment facilities have led to a steady decline in concentrations of these pollutants over time.

Detectable levels of toxic organics and heavy metals can be found in the Detroit River, and in more concentrated amounts in sediment deposits at various locations along the river. Persistent bioaccumulative pollutants such as mercury, PCB and dioxin are a water quality concern due to the potential for uptake of these pollutants by biota and the eventual bioaccumulation in fish and other aquatic life. Fish consumption advisories have been issued for the Detroit River for some pollutants.



## 4.2 Rouge River

The Rouge River is a major tributary to the Detroit River covering a drainage area of approximately 467 square miles over portions of Wayne, Oakland and Washtenaw Counties. The watershed is home to more than 1.5 million people, and more than 66% of the area has been developed for residential, commercial, institutional, industrial and transportation uses. The Rouge River is the most urbanized and densely populated watershed in Michigan. There are four main branches to the Rouge River, including the Main Branch, the Upper Branch, the Middle Branch, and the Lower Branch. The Main Branch of the Rouge River is the portion of the watershed which lies predominantly within the City of Detroit, and which receives drainage from much of the City's west side.

Numerous water quality studies have been conducted on the Rouge River to assess water quality, including the Rouge River National Wet Weather Demonstration Project. These studies document the presence of poor water quality within the Main Branch of the Rouge River during both dry and wet weather periods, although the wet weather problems are more pronounced. Dissolved oxygen levels in the river fall below the 5.0 mg/l state water quality standard at times, and concentrations have approached zero on occasions near the confluence with the Detroit River. Improvements in dissolved oxygen concentrations have been recorded in recent years, most likely as a result of sewer separation and CSO treatment facilities which have been built in Detroit and at several upstream suburban locations. Several upstream communities are also working to identify and eliminate illicit connections to their storm sewers, and to undertake storm water pollution prevention activities.

Bacteria problems have been documented throughout much of the Rouge River, with violations of the state water quality standards being recorded during both dry and wet weather periods at many locations. Bacteria concentrations are in part attributable to the discharge of untreated combined sewage, as well as other sources within the watershed. Other problem parameters which affect water quality in the Rouge River include nutrients, heavy metals and organic pollutants, and high concentrations of suspended solids.

The Rouge River is subject to widely varying flow rates between dry and wet weather periods. In some areas, sediment deposits have been identified along the river bottom, and these deposits may be scoured out and washed downstream during some high flow events. Sediment deposits can include organic pollutants which exert an oxygen demand on the river during warm weather periods when decomposition occurs. In addition, riverbank erosion is problematic in various sectors of the Rouge River where the wet weather high flows may scour the stream bank.

The biological community within the Rouge River tends to reflect pollutant tolerant species and limited diversity of organisms. A portion of the Rouge River is a concrete lined channel for flood control purposes, and this further limits the habitat and minimizes the river's suitability for aquatic organisms. Dams and hydraulic power facilities also restrict fish passage through the Rouge River and constrain the migration of fish and other organisms moving upstream.

### 4.3 Factors Which Negatively Impact Water Quality

There are several factors which potentially impact water quality in the Detroit River, including combined sewer overflows (both treated and untreated), industrial and municipal wastewater discharges, pollutants from upstream sources (including point and non-point discharges to Lake St. Clair), releases from contaminated sediments in certain areas along the River, and ballast water discharges from commercial vessels. Combined sewer overflows are the primary source of elevated bacteria levels which are observed in the River during and immediately after large rain events. In addition, the Detroit River receives treated industrial and municipal wastewater from multiple permitted facilities which are authorized to discharge specified quantities of solids, BOD, various organic and inorganic chemicals, nutrients and heavy metals.

The persistent bioaccumulative toxic pollutants such as mercury and PCB which have been detected in the Detroit River and sediments are attributable to several potential sources including pollutants present in the flow coming into the river from Lake St. Clair, and trace concentrations in municipal and industrial wastewater effluents.

Dissolved oxygen concentrations in the Detroit River show occasional minor variations which are most likely the result of photosynthetic activity in Lake St. Clair. After several cloudy days, dissolved oxygen levels may drop slightly due to the die off and decomposition of algae in the water entering the Detroit River.

The storm water discharged from Detroit's MS4 is an extremely small and insignificant factor with respect to the overall quality of the Detroit River. Other pollutant sources are so large as compared to the storm water flows that the incremental impact of the storm water discharge is virtually undetectable in the Detroit River.

The water quality of the Rouge River is significantly impacted by a wide variety of sources. Treated and untreated combined sewage from the City of Detroit and from upstream communities has a considerable impact because of the magnitude and frequency of the overflows, and the relatively small amount of river flow available for dilution and assimilation. Similarly, storm water discharged from upstream communities is another major factor which influences the water quality in the Rouge River. Illicit connections have been identified as a problem in some areas, and sanitary sewer overflows (SSOs) have been reported from several upstream communities. Sediments have accumulated in certain portions of the river, particularly where flows are low and the scouring velocities are insufficient to carry suspended solids downstream. The organic pollutants which are often present in these sediments create a BOD load which may be exerted on the river, particularly during warm weather periods.

The Rouge River hydrology is such that there is comparatively little assimilative capacity for pollutant loads because of extremely flat slopes and a limited amount of re-aeration. The Rouge River is extremely responsive to wet weather events and the river flows fluctuate significantly with marked variations between base flow and peak wet weather flow. This condition results in stream bank erosion in some areas during wet weather periods, followed by relatively stagnant conditions during low flow periods.

The incremental amount of storm water discharged by Detroit's MS4 to the Rouge River is quite small in comparison to other pollutant sources which affect river water quality. Storm water from upstream communities is much more likely to have an effect because the drainage areas for the suburban separated sewer systems are much larger, and the quantity of storm water discharged is much greater. The storm water discharges from the City of Detroit are expected to have little or no incremental impact on water quality conditions in the Rouge River.

#### 4.4 Water Quality Stress Update

Detroit is not aware of any new water quality stresses since the last annual report. Conditions in the relatively small area within the City which is tributary to the municipal separated storm sewer system remain unchanged, and there has been no significant new development or activity in the MS4 tributary drainage area which would be likely to cause a change in water quality or become an additional stress on the receiving waters.

## **5.0 STORM WATER MANAGEMENT PROGRAM PLAN (SWMPP)**

The City of Detroit has developed and is implementing a SWMPP which is designed to reduce the discharge of pollutants from the drainage area tributary to the City's MS4 to the maximum extent practicable. The program includes the development and implementation of BMPs to address the measures set forth in the general storm water NPDES discharge permit. The program includes measurable goals for the each Best Management Practice ("BMP"), and establishes a schedule for implementation.

### **5.1 BMPs and Stormwater Management Activities through October 2015**

The BMPs established for the SWMPP reflect the specific conditions within the City of Detroit tributary to the MS4 system. A total of 33 storm sewer pipes have been identified as part of the City's inventory, including 15 discharges to the Detroit River and its tributaries, and 18 discharges to the Rouge River. A majority of the storm sewer pipes are found within City-owned parks. Four storm sewer pipes are located along the Rouge River on former commercial property which has been acquired by the Detroit Water and Sewerage Department from the Detroit Marine Terminal. This property is currently vacant, and is not utilized as an active part of the wastewater treatment process.

Based on these land uses and the fact that the drainage area tributary to the storm sewer discharges is extremely small, a limited number of storm water BMPs are being implemented. Storm water management activities are being undertaken by Detroit in a manner which is consistent with the development and implementation of the Long Term CSO Control Program pursuant to Permit No. MI0022802, since the combined sewer discharges occur to the same receiving waters and at the same time as the storm sewer discharges.

A discussion of the BMP stormwater management activities undertaken by Detroit since the submittal of the November, 2013 SWMPP is provided in Sections 5.1.1 – 5.1.7.

#### **5.1.1 Wet Weather Inspection and Sampling**

Wet weather inspection and sampling was previously conducted by Detroit on all of the outfalls classified as "large" sewers (i.e. >36" diameter) by MDEQ. Detroit attempted to inspect and sample all four of the "large outfalls", on two occasions (September 16, 2010 and November 23, 2010). As shown in Tables 2 and 3, outfall R27 was submerged on both days so it could not be sampled. No wet weather flow was observed from outfall R11 on either occasion. Table 3 shows that the discharges from outfall R22 and R33 were extremely small or non-existent and insufficient to sample for laboratory analysis. However the physical inspection indicated that the water present in the outfall was clear and odorless.

A survey of stormwater drains on Belle Isle was completed over the past 2 years by the MDNR Stewardship staff. This survey information is being assembled into a database of related information to develop a plan to reduce stormwater entering into combined sewers on the island.

**TABLE 2  
WET WEATHER INSPECTION RESULTS FOR STORMWATER OUTFALLS > 36" DIAMETER**

Outfall	Sampled	Flow	36" Outfall	Comment
R11	No	No	Yes	Pipe completely dry - no evidence that there was flow during wet weather.
R22	No	No	Yes	
R27	No	?	Yes	Submerged
R33	No	No	Yes	Standing water but no flow
Sites visited on 9/16/10 between 1:45pm - 2:45pm, none of the outfalls were flowing. A ~ 0.4 inch event was recorded that day between 3am - 10am.				

**TABLE 3  
WET WEATHER SAMPLING RESULTS FOR STORMWATER OUTFALLS > 36" DIAMETER**

Outfall	Sampled	Flow	36" Outfall	Comment
R11	No	No	Yes	Pipe nearly dry - no evidence that there was flow during wet weather.
R22	No	Trace	Yes	Trace, trickle amount of flow in the flange outfall - not sufficient for sampling. Water is clear and odorless.
R27	No	?	Yes	Submerged
R33	No	No	Yes	Standing water but no flow, evidence of up to 3-4 inches of flow during wet weather. Water is clear and odorless
Sites visited on 11/23/10 between 9:30am - 10:10am, none of the outfalls were flowing. A ~1.2 inch event was recorded from the previous day through 11/23/10 3:30am.				

DWSD intends to re-inspect the stormwater outfalls over the course of the next two years. DWSD is currently evaluating its ongoing and future projects to identify the suitable project through which the inspection work can be performed. A new contracting vehicle to perform re-inspection of the storm water sewers is necessary due to the newly created Great Lakes Water Authority (GLWA) and the restructuring of responsibilities between GLWA and DWSD. Beginning January 2016, the City of Detroit, with DWSD as the lead Department, will assume responsibility for managing the MS4 Permit including preparation of the biennial update of the SWMPP Progress Report. DWSD will also be the lead Department for managing the Green Infrastructure Program required under NPDES Permit MI-0022802; thereby providing coordination between these two complimentary major initiatives.

#### 5.1.2 BMP No. 1: Public Education Program

The goal of the public education program is to inform the public as to the existence of storm sewers in certain areas of Detroit, and to encourage the reduction of pollutants discharged in storm water. The public includes all persons who potentially could affect the quality of storm water discharges including residents, visitors to the area, public employees, businesses, industries, construction contractors and developers. The public that impacts Detroit's MS4 area is limited to park visitors and public employees that perform roadway and park maintenance. Therefore it has been determined that some permit requirements are not applicable, and others

have limited applicability as follows:

- The public education program is focused onto visitors in park areas where storm sewers have been identified, including Belle Isle and Rouge Park. Education of public employees is covered as part of the BMPs identified in section 5.1.7.
- The public education effort does not address application and disposal of pesticides, herbicides and fertilizers as none are applied in Detroit's MS4 area.
- The public education efforts do not address residential de-icer use, restaurant grease disposal, car washing, septic tanks or the role of native vegetation on residential properties as there are none in the MS4 area.

Public education efforts undertaken by Detroit include encouragement to report illegal dumping, household hazardous waste collection, compost waste pick up, and general public education regarding water quality responsibilities/stewardship. Detroit has successfully completed the identification of storm drain catch basins in order to discourage dumping of wastes into drains which go directly to the river with no treatment. Detroit has also posted signage at Belle Isle Park and Rouge Park regarding storm water management practices. Representative photos of the signage/stenciling installed at the Rouge Park are included in **Appendix G**.

Under the public education program component, Detroit has undertaken several BMPs including:

1. Encouraging reporting (e.g. illegal dumping or clogged drains) via the City web site and providing a new mobile application 'Improve Detroit' for reporting. People reporting issues are offered drop down menus and are asked to provide location, information that describes the concern, identify the license plate number of vehicles suspected of illegal dumping, and even upload photos to assist with follow up investigations and responses;
2. Continuing the City's household hazardous waste collection program for proper disposal of pesticides, herbicides, fertilizers, motor vehicle fluids, batteries, cleaners and other potentially hazardous materials. This program is managed by the Department of Public Works who accepts poisons, solvents, heavy metals at the Hazardous Waste Receiving Facility located at 2000 E. Ferry St near the I-96 and I-75 freeways. The facility is open year round Monday through Friday from 8:30 a.m. to 3:30 p.m. and is a free service to Detroit residents. The Department of Public Works coordinates with the Greater Detroit Resources Recovery Authority (GDRRA) regarding the household hazardous waste collection program. Information on the program is detailed on the GDRRA website as illustrated in **Appendix G**;
3. Continuing the household compostable waste program with regular trash pick-up. Collectable yard wastes include leaves, grass clippings and twigs which are picked up on a biweekly basis. Yard waste is normally placed in biodegradable paper bags, although residents may also use trash cans up to 32 gallons capacity. The City of Detroit website includes a link to the trash pick-up schedule as illustrated in **Appendix G**;

4. Educating the general public regarding responsibilities and stewardship in their watershed by:
  - A. Continuing to support SEMCOG's public education efforts. Detroit has maintained its membership with SEMCOG and participates in a leadership capacity with the organization including involvement in both stormwater and non-stormwater initiatives. Detroit is partnering with SEMCOG on a major public outreach and education program associated with development and implementation of a new "Green Infrastructure" effort;
  - B. Cooperating with education efforts through ongoing work and special events coordinated by Friends of the Rouge, Friends of Rouge Park, Friends of Belle Isle Park; and Friends of the Detroit River. City of Detroit staff have been actively engaged in several meetings with these groups including both formal public information meetings focusing on proposed NPDES Permits and proposed Storm Water Ordinance, and informal outreach sessions on topics such as Green Infrastructure, rates, capital improvements, water quality monitoring and response to pollution incidents and basement backups. The DWSD website includes links to the Friends of the Detroit River, Friends of the Rouge and SEMCOG. The DWSD website also includes a link to Wet Weather Pollution Information, which has information related to storm water. A view of the DWSD website listing the links is included in **Appendix G**;
  - C. Continuing public education on wet weather issues via the City's CSO public information program. DWSD has continued to sponsor and work with the Public Involvement Work Group which includes members from both the City and the Suburbs to better inform customers about important wet weather issues and developments. This work has included several Letters to the Editor on wet weather discharges, collaboration with MDEQ to improve the state's website which posts information on wet weather discharges and preparation of a video documenting how staff anticipates and responds to rain events so as to minimize the discharge of pollutants.
  - D. Issuing an annual progress report for the DWSD Green Infrastructure (GI) Program and posting it on the DWSD website. The GI program addresses municipal parks flow management and reports on tasks completed to manage storm water. Excerpts from the 2015 GI progress report are included in **Appendix G** for reference. Meetings are scheduled through the GI Program under DWSD's contract CS-1522 with parties that are involved in public education such as SEMCOG, Greening of Detroit, DPS Go Green Council, The Nature Conservancy and Friends of Rouge Park. A list of the meetings conducted through Contract CS-1522 is included in **Appendix G** for reference.
5. Making the "Improve Detroit" mobile phone application available to the public for download from Apple or Goggle Play stores as well as the City of Detroit website. The app can be used for reporting clogged drains, illicit dumping, running water, potholes,

damaged street sign and other issues. A view of the information available on the City of Detroit website is included in **Appendix G**. This app can be updated to include the capability of reporting storm water related issues.

6. DWSD issues press releases regularly to address various issues that the department has to deal with. Storm water issues are routinely addressed through these press releases. Examples of these releases are “DWSD Encourages Residents to Clear Catch Basins to Prevent Flooding during Heavy Rains” and “With more flooding possible, City asks residents and businesses to clear the storm drains in front of their property.” Views from the DWSD website showing these press releases are included in **Appendix G**.

### 5.1.3 BMP No. 2: Public Involvement/Participation

Due to the very small drainage area tributary to the City’s storm sewer system and the fact that this property is entirely within public ownership (i.e. parks, roadways and DWSD property), the SWMPP did not include the creation of new organizations or forums for purposes of public involvement/participation. However, the City has made copies of the SWMPP available to the public, including distribution of the plan to local stream and watershed protection organizations, and has continued current forums for public involvement/participation.

Detroit has undertaken a public involvement/participation program with BMPs which include:

1. Placing a copy of the revised SWMPP on DWSD’s web site, and distributing copies for public inspection at public libraries. A copy of the SWMPP was placed on file for public review at 23 Branch Libraries in March, 2010 and copies were also distributed to the 7 Neighborhood City Halls. To educate public employees, copies of the SWMPP were provided to each member of the Storm Water Management Committee which includes representation from 10 City Departments so City employees could familiarize themselves with the content of the plan. A view of the DWSD website indicating available access to the SWMPP to both the public and DWSD employees is included in **Appendix G**;
2. Distributing copies of the SWMPP to 6 different organizations involved with wet weather pollution control issues. This included the Friends of the Rouge, Friends of the Detroit River, Friends of Rouge Park, Friends of Belle Isle, SEMCOG, and the Alliance of Rouge Communities;
3. Encouraging public involvement/participation by:
  - A. Continuing to work with SEMCOG staff to assist with public involvement/participation efforts on a variety of issues affecting Detroit including stormwater management and training, Green Infrastructure, securing grants and/or loan assistance for proposed projects, and negotiation of NPDES permit terms and conditions;
  - B. Continuing to cooperate with and participate in the ongoing work and special events coordinated by Friends of the Rouge, Friends of Rouge Park, Friends of Belle Isle



Park; and Friends of the Detroit River. This effort encompassed several meetings focused on topics such as future permit requirements and the new Green Infrastructure program, including downspout disconnections;

- C. Continuing the City's significant effort with both its retail and wholesale customers on the development and implementation of the long term program for control of wet weather discharges such as combined sewer overflows and municipally owned storm sewers. This Work Group provides substantial opportunity for public involvement and participation and has focused on preparation of reports and informational pamphlets addressing treated and untreated wet weather discharges.

#### 5.1.4 BMP No. 3: Illicit Discharge Elimination Program

The Illicit Discharge Elimination Program focuses on the development and implementation of measures to identify and effectively eliminate illicit discharges to the City-owned storm sewers. All known outfalls have been inspected using outside contractors to provide field investigation support to the City. Field observations were conducted during dry weather periods to determine whether any supplemental investigation such as sampling and inspection is needed. The City already has the legal authority to prohibit discharges into the storm drainage system. Copies of the applicable regulations were previously provided to MDEQ and are included in **Appendix E**.

The previous field investigation work has confirmed that the City owned storm sewers are not located in areas where drainage from septic tanks needs be considered. The potential for a physical connection from a sanitary sewer to the storm sewer is also quite limited recognizing that most of the area tributary to the storm sewers is open land with no nearby combined or sanitary sewers. Very few of the 33 storm sewers are located within 100 feet of a combined/sanitary sewer. Given the very small probability of seepage infiltrating into the storm drainage system from a sanitary sewer or on-site sewage disposal system, Detroit has determined that establishing a new program to limit infiltration of seepage is not warranted or cost effective. In lieu of such a program, the City has opted to rely on an outfall screening process involving the collection of bacteria samples if a storm sewer outfall exhibits dry weather flow.

The Illicit Discharge Elimination Program BMPs includes:

1. Providing a map of all existing outfalls. The latest version of this map is included as Figures 1 - 5 of this report.
2. Detroit is prepared to conduct training for City staff for activities such as the identification of illicit discharges and related efforts such as sampling, source detection and elimination in the event that this activity is performed by City staff. However, to date all of this work has been conducted by outside personnel hired by Detroit to assist with the IDEP work;
3. Conducting field screening through visual inspection of each storm sewer outfall during dry weather periods;

4. Upon completion of field survey screening, collecting and analyzing samples of storm sewer discharges where visual inspections indicated a dry weather discharge or presence of suspicious indicators (i.e. oil stains, sewage odors, evidence of sanitary trash, etc.);
5. Where appropriate, investigating upstream drainage area to look for possible cross-connections, sanitary sewer seepage, or other illicit connection sources;
6. Taking corrective measures as appropriate to eliminate illicit connection sources;
7. Updating the inventory of City-owned storm sewers and the storm sewer maps as necessary to incorporate new or newly discovered storm sewers.
8. Coordinating with staff from DWSD's Industrial Waste Control (IWC) Division to identify relevant illegal sewer discharges. The IWC issues annual reports listing identified illegal sewer discharges. Excerpts from the IWC 2014 annual report are included in **Appendix G** for reference.

Detroit's consultant team conducted the dry weather stormwater outfall inspections and collected samples in July, 2010 and the results of that effort are shown in Table 4. As expected, most outfalls were not identified as having any dry weather flow and the laboratory results for surfactants, ammonia and E. Coli bacteria do not indicate the presence of sewage or wastewater. As indicated in Section 5.1.1, DWSD is planning on re-inspecting the MS4 outfalls within in the next two years. It should be noted that the City of Detroit is planning on discharging the Tireman bioswale (under design and construction) to an MS4 outfall in the future. The existing runoff from Tireman is collected in the storm drains and currently discharges to the combined sewer system. A photograph of Tireman bioswale is included in **Appendix G** for reference.

**TABLE 4  
DRY WEATHER STORMWATER OUTFALL INSPECTION AND TESTING**

Outfall	Sampled	Flow	36" Outfall	Date Inspected & Sampled	Comment	Surfactants	Ammonia-N	E. coli
D1		No		7/1/2010				
D2				7/1/2010 & 4/14/2011	partially submerged			
D3		No - see comment		7/1/2010	replaced by Belle Isle Pumping Station #8 - D3/D4 reconstructed within last year - only one 8" outfall exist now			
D4		No - see comment		7/1/2010	replaced by Belle Isle Pumping Station #8 - D3/D4 reconstructed within last year - only one 8" outfall exist now			
D5		No		4/14/2011	Suspected location found, pipe collapsed			
D6				7/1/2011 & 4/14/2011	unable to locate			
D7		No		7/1/2010				
D7A		No		7/1/2010				
D8		No		7/1/2010				
D9		No		7/1/2010				
D16		No		7/1/2010				
D17		No		7/1/2010				
D18		No		7/1/2010				
D22		No		7/1/2010				
D25		No		7/1/2010				
R1				7/1/2010	partially submerged, not sure if this is a CSO			
R10				4/14/2011	upstream manhole with stagnant water; outfall not found & has never been located			
R11		No	Yes	7/1/2010	Pipe partially collapsed/broken			
R14		No		7/1/2010	Tree Fallen Over Outfall, outfalls seems displaced from its original location			
R14A		No		7/1/2010				
R16				7/1/2010 & 4/14/2011	Fully submerged			
R17	Yes	1-2 gpm Flow		7/1/2010		ND (<0.05 mg/L)	0.05 mg/L	20 cfu/mL
R18		No		7/1/2010				
R22		No	Yes	7/1/2010				
R23		No		7/1/2010				
R26				7/1/2010 & 4/14/2010	not located, bank collapsed & covered with debris			
R27			Yes	7/1/2010 & 4/14/2011	submerged			
R28	Yes	Trace Flow		7/1/2010		0.16 mg/L	0.04 mg/L	70 cfu/mL
R29				7/1/2010 & 4/14.2011	partially submerged			
R30	Yes	2-3 gpm Flow		7/1/2010		ND (<0.05 mg/L)	0.10 mg/L	ND (<10 cfu/mL)
R32		No		7/1/2010				
R33		No	Yes	7/1/2010	outfall into wetland/underbrush ~ 30 ft from rough river bank			

ND = not detected

#### 5.1.5 BMP No. 4: Post-Construction New Development and Re-Development Projects

The goal of Detroit's storm water BMPs for new development and re-development projects in the MS4 tributary area is to establish appropriate processes to minimize the impacts from any discharges from new facilities through a separated storm sewer. As previously noted in communication with MDEQ (see **Appendix C**), there is very little opportunity for development or re-development in the MS4 area, so Detroit had originally determined that it will utilize its existing authority under the site plan review and approval process to accomplish these goals rather than developing and adopting a new storm water ordinance. To that end, any construction for projects disturbing one acre or more within areas tributary to the existing City-owned storm sewers are to be addressed through the site plan review process. The site plan review process also addresses projects less than one acre that are part of a larger common project that will disturb one acre or more. In addition, Wayne County continues to enforce its storm water management program to any new and re-development projects within its jurisdiction in Detroit's storm sewer area.

The BMPs for the post-construction Storm Water Management Program for new development and re-development projects include the following:

1. As part of the site plan review and approval process, ensure that appropriate post-construction storm water management practices are incorporated into any new or redevelopment project located in the MS4 area. This includes the requirement that a long-term operation and maintenance (O&M) plan be prepared and approved for any required storm water controls. Runoff controls for proposed discharges to the Detroit River will focus on quality of storm water discharge as quantity controls will provide a negligible benefit in this large receiving water;
2. At the completion of construction of all new and re-development projects for which post-construction storm water runoff controls are required, Detroit reviews the project to determine whether it conforms to the terms and conditions of the approved site plan and long-term O&M plan, including proper maintenance of any structural storm water controls if applicable.
3. In 2015, the City of Detroit started the process of developing a Storm Water Ordinance. This ordinance will address post construction controls including O&M requirements for redeveloped sites in both the combined and separated sewer areas.

Since the submittal of the November 2013 SWMPP, there have been no new or re-development projects initiated in the MS4 tributary area that we are aware of, so there is no BMP activity to report relating to this element of the program.

#### 5.1.6 BMP No. 5: Construction Storm Water Runoff Control

The MDEQ has determined that Part 91 of the Michigan Act and Michigan's Permit-by-Rule (Rule 323.9120) are qualifying local programs for the control of wet weather discharges from construction activities that result in land disturbance of greater than or equal to one acre, or

disturb less than one acre that is part of a larger common plan of development or sale. A qualifying local program provides control for soil erosion, off-site sedimentation, and other construction-related wastes, consistent with the Federal Phase 2 storm water control requirements for MS4 permittees.

Within the City of Detroit, authority for issuance of soil erosion and sedimentation control permits has been delegated to several qualifying local programs that include the Wayne County Department of Environment and several City Departments: the General Services Department; the Department of Public Works; Buildings, Safety Engineering and Environmental Department; and DWSD. The BMPs for construction site storm water runoff control under the jurisdiction of the Detroit Departments include:

1. Continue existing procedures which ensure that site plans adequately allow space for future soil erosion and sedimentation controls, as applicable;
2. Immediately notify the local SESC agency and MDEQ when soil and sediment are discharged to the MS4 from construction activity in violation of a soil erosion and sedimentation control permit. Also, immediately notify the MDEQ when other wastes are discharged from construction activity in violation of a permit;
3. In 2015, The City of Detroit started the process of developing a Storm Water Ordinance.
4. The BSEED/Environmental Affairs Division started the process of getting some of its staff certified for soil erosion and sediment control work. There are currently three certified staff members.

Since the submittal of the November 2013 SWMPP report, there have been no construction projects undertaken in the MS4 tributary area which warranted issuance of a Soil Erosion and Sedimentation Control Permit that we have knowledge of. Therefore, there is no activity to report for this BMP.

#### 5.1.7 BMP No. 6: Pollution Prevention/Good Housekeeping for Municipal Operations

The Pollution Prevention/Good Housekeeping efforts focus on minimizing the discharge of pollutants through the City's MS4 which are attributable to municipal operations. As required by the permit, the municipal properties which include one or more MS4 outfalls are listed below. The only structural storm water controls at these properties are catch basins.

- Rouge Park
- Detroit Marine Terminal
- Belle Isle Park
- Mt. Elliott Park
- Lakewood East Park
- Portions of several roadways

Some permit requirements are not applicable or have limited applicability as follows:

- The maintenance of structural controls is limited to catch basins since no other structural controls exist in the storm sewer area.
- The plan does not address the storage, handling and use of pesticides as none are stored or applied in the storm sewer areas.
- There are no vehicle maintenance facilities in the storm sewer area
- The March 2010 SWMPP noted the existence of a service yard on Belle Isle, which was operated by the General Services Department until the transfer for the operations and maintenance of Belle Isle to the Michigan Department of Natural Resources (MDNR) via lease agreement in 2013.
- During the period 2014 through 2015, 224 catch basins were cleaned on Belle Isle. Since the 2013 lease agreement, MDOT is responsible for road maintenance on Belle Isle.

As discussed in more detail below, subsequent field investigations by Detroit has determined that the storm water drainage from the Belle Isle service yard is conveyed through the combined sewer system, not Detroit's MS4 storm sewers. As such, the permit requirements relating to development of a Stormwater Pollution Prevention Plan and obtaining a Certified Storm Water Operator are not applicable.

Detroit's Pollution Prevention/Good Housekeeping Measures for Municipal Operations include the following BMPs:

1. Perform routine maintenance of all structural storm water controls in the MS4 area which consist of catch basins located in the MS4 portion of the municipal properties listed above. The only structural controls currently in place on Detroit's MS4 system are catch basins, and these are cleaned on an as-needed basis.
2. Perform street sweeping and application of salt/deicing materials in the MS4 area on a prescribed frequency based on available resources. For major streets, street sweeping is scheduled to be conducted at least annually or more frequently depending upon available resources. Disposal of the material collected through street sweeping is done through an outside contractor who charges the City based on weight of disposed material. A copy of the purchase order for hauling this material is included in **Appendix G** for reference.
3. Perform routine grass mowing in the parks. Buffer zones exist between the grass areas and the waterways to minimize impact on these waterways. The parks are not used for the purpose of snow stockpiling during winter.

In the summer of 2010 Detroit retained a contractor to conduct field investigations of the Belle Isle Service Yard to determine how stormwater runoff is conveyed off the site. Based on this study Detroit has determined that the stormwater is not transported through the nearby municipal storm sewers. Rather, the flow is routed through the combined sewers which are tributary to the Belle Isle Combined Sewer Retention Treatment Basin (RTB) which was placed into service in March, 2008. Photographs and a site plan sketch from the Belle Isle Service Yard field investigation is included in **Appendix H**. Because the Service Yard is not connected to the MS4,

the permit requirements for development of a Storm Water Pollution Prevention Plan and obtaining a certified storm water operator are not applicable.

## 5.2 Implementation Efforts for the Coming Year

### 5.2.1 Record Keeping/Schedule/Frequency/Responsible Agency

Detroit's Storm Water Management BMPs will be undertaken on a phased basis with involvement from several City Departments and agencies. Tables 5 through 10 list the individual BMPs along with the agencies responsible for each activity. These tables also show the anticipated schedule for implementation of the BMPs, the measureable goals, record keeping requirements and the responsible party. In some cases, activities are listed to be undertaken on an "as needed" basis. For example, the investigation of storm sewer outfalls for potential suspicious or illicit connections will be necessary only if the initial field observation indicates that there is dry weather flow present, or there is some other evidence of an illicit or suspicious connection.

**TABLE 5  
BMP #1: PUBLIC EDUCATION PLAN**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
Signage at MS4 Sites	Add signage/stenciling similar to the ones at the Rouge Park	2017	All MS4 sites have signage	Photographic	REC/GSD
Upgrade "Improve Detroit" App	Include feature providing capability to report illegal discharges into storm sewers	2016	Adding the feature to the app	Maintaining a log of reports	DWSD/DPW
Storm Water Ordinance	Finalize and issue the storm water ordinance	2016	Official ordinance enacted	Ordinance available on DWSD's website	DWSD
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
Provide Wet Weather Pollution Information to the Public	Post wet weather pollution information including storm water on DWSD's website	Ongoing	Information on DWSD's website	NA	DWSD
Provide Green Infrastructure (GI) Information to the Public	Issue GI annual progress reports for the Upper Rouge tributary areas and post on DWSD's website	Ongoing	Information on DWSD's website	NA	DWSD
Provide Technology Tools to Assist in Educating the Public	Make the "Improve Detroit" app available for download on DWSD's website	Ongoing	Information on DWSD's website	NA	City of Detroit IT
Keep the Public Informed about Relevant Storm Water Management Issues	Issue press releases relevant to storm water management	As needed	Information on DWSD's website	NA	DWSD
Provide Information about Watershed Protection Groups and Neighborhood Organizations	Provide DWSD website links to Friends of the Detroit River, Friends of the Rouge and similar neighborhood organizations	Ongoing	Links on DWSD's website	NA	DWSD
Collection and Disposal of Hazardous Waste	Provide weekly collection and proper disposal of household hazardous waste	Ongoing	Drop-off available 5 days a week	Collection dates and amount of collected waste	GDRRA
Disposal of Grass Clippings and Leaf Litter	Provide biweekly collection of compostable waste between April and November	Ongoing	Biweekly collection available	Collection data	DPW



**TABLE 6**  
**BMP #2: PUBLIC INVOLVEMENT AND PARTICIPATION PLAN**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
SWMPP to Public Libraries	Contact Detroit's public libraries to provide the updated SWMPP	2016	Copies of the latest SWMPP at the public libraries	Transmittal letters	DWSD
SWMPP to City Departments	Contact City Departments to provide the updated SWMPP	2016	Copies of the latest SWMPP at City Departments	Transmittal letters	DWSD
SWMPP to local Organizations	Contact local Organizations to provide the updated SWMPP	2016	Copies of the latest SWMPP at FoTR, SEMCOG, FORP, FODR, FOBI	Transmittal letters	DWSD
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
SWMPP Available to the Public	Post the latest SWMPP on the DWSD Website	Ongoing	Link to SWMPP on the DWSD website	NA	DWSD
Participate in Watershed Protection Groups and Neighborhood Organization Meetings	Support ongoing work by the groups and organizations	Ongoing	Provide City of Detroit employee assistance at selected events	List of events with City participation	DWSD/Public Affairs

**TABLE 7  
BMP #3: ILLICIT DISCHARGE ELIMINATION PROGRAM**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
Inspection of Outfalls	Re-inspect the outfalls and sample, if necessary	2017	All MS4 outfalls re-inspected	Re-inspection report	DWSD
Report Illegal Discharges to the Storm Sewers	Evaluate Mechanisms to Get Notified by IWC in Case of Illegal Discharges	2016	Established mechanism for reporting	Database for reports of illegal discharges	DWSD
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
None					

**TABLE 8  
BMP #4: POST CONSTRUCTION CONTROLS FOR DEVELOPMENT AND RE-DEVELOPMENT**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
Storm Water Ordinance	Finalize and issue the storm water ordinance	2016	Ordinance enacted	NA	DWSD
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
Review of Site Plans	DWSD to review site plans and provide input to BSEED	Ongoing	Site plan reviews	Documenting site review comments	DWSD/BSEED

**TABLE 9  
BMP #5: CONSTRUCTION STORM WATER RUNOFF CONTROL**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
Storm Water Ordinance	Finalize and issue the storm water ordinance	2016	Ordinance enacted	NA	DWSD
Review and Approval of Preliminary Site Plans	In addition to BSEED, DWSD will review the site plans to identify any applicable GI credits	2016	Participation of DWSD in the review process	Documentation of reviews	DWSD/BSEED
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
Review and Approval of Preliminary Site Plans	Continue current review process by BSEED with input from DWSD regarding GI credits	Ongoing	Number of site plan reviews	Documentation of reviews	BSEED/DWSD

**TABLE 10  
BMP #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

<b>Topic</b>	<b>Implementation BMP</b>	<b>Timeframe</b>	<b>Measurable Goal</b>	<b>Recordkeeping</b>	<b>Responsible Party</b>
<b>New BMP Topics Identified for Implementation in 2016/2017</b>					
Catch Basin Cleaning	Add a feature in the "Improve Detroit" App to allow public to report catch basin clogging in MS4 areas	2016	App updated	Database for public reporting catch basin clogging	DPW
<b>Ongoing BMP Topics Implemented in 2014/2015</b>					
Street Sweeping and Material Disposal	Continue current practices for street sweeping and material disposal in the MS4 areas	Ongoing	Periodical street sweeping with material disposal by an outside contractor	Maintain log of street sweeping and material disposal	GSD/DPW
Lawn Mowing	Continue current practices for lawn mowing in the MS4 areas with buffer zones between the lawns and water bodies	Ongoing	Periodical lawn mowing	NA	GSD/DPW
Catch Basin Cleaning	Continue current practice of catch basin cleaning	Ongoing	Number of catch basins cleaned during reporting period	224 catch basins were cleaned on Belle Isle during 2014 – 2015,	MDOT

## **6.0 SUMMARY**

The City of Detroit's Storm Water Management Program Plan has been developed through a coordinated multi-agency effort by representatives from several City Departments. Because storm water is not the sole responsibility of any one Department, the SWMPP activities will involve many entities including the Water and Sewerage Department, the Recreation Department, the Planning and Development Department, the Department of Public Works, the Buildings, Safety Engineering and Environmental Department, the Greater Detroit Resource Recovery Authority, the General Services Department and the Law Department.

Management and control of storm water discharge will be achieved in a manner consistent with the efforts already underway by the City of Detroit to control wet weather discharges from its combined sewer system. Once the Long Term CSO Control Plan has been completed and the Storm Water Management Program Plan has been implemented, it is anticipated that the wet weather impacts on the Detroit River and the Rouge River will have been minimized to the maximum extent possible.

# **APPENDIX A**







MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER BUREAU  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
Authorized by Michigan Act 451, Public Acts of 1994, as amended, Part 31

CERTIFICATE OF COVERAGE

Under General Permit No. MIS040000  
MS4 Jurisdiction General Permit

CERTIFICATE OF COVERAGE NO.: MIS040066  
DESIGNATED NAME: Detroit MS4-Wayne  
PERMITTEE MAILING ADDRESS: Detroit Water and Sewerage Department  
735 Randolph Street  
Detroit, Michigan 48226

This certificate of coverage authorizes the Detroit Water and Sewerage Department to discharge storm water through a separate storm water drainage system to waters of the state, including but not limited to the Rouge River, Detroit River, Lake Muskoday, and Lake Tacoma River.

The permittee shall submit Appendix A of the permit application (Associated Permittee Information), if applicable, on or before May 1, 2005. The permittee shall submit the first annual progress report on or before November 1, 2005, which shall include an approvable storm water management program plan. The permittee shall submit subsequent annual progress reports beginning on or before November 1, 2006, and annually thereafter. The permittee shall begin implementation of the Public Education Program (Part I.B.1. of the permit) and the Illicit Discharge Elimination Program (Part I.B.3. of the permit) upon receiving approval from the Department, or beginning 90 days after submittal, whichever comes first. The permittee shall begin implementation of the remaining four minimum measures (Parts I.B.2., I.B.4., I.B.5., and I.B.6. of the permit) on or before November 1, 2006.

References in the general permit to the Department shall be defined as the Southeast Michigan District Supervisor of the Water Bureau. The Southeast Michigan District Office is located at 38980 Seven Mile Road, Livonia, Michigan 48152-1006, telephone: 734-953-8905, fax: 734-953-1467.

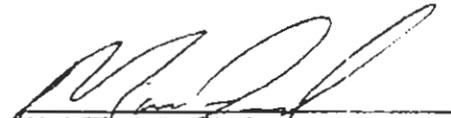
Any party who is aggrieved by this certificate of coverage may file a sworn petition for a contested case hearing on this certificate of coverage with the Office of Administrative Hearings of the Michigan Department of Environmental Quality in accordance with the provisions of R323.2192(c) of the Michigan Administrative Code. The Department may reject any petition filed more than 60 days after issuance as being untimely.

This certificate of coverage is based on a complete application received by the Department of Environmental Quality on November 3, 2004. The permittee is subject to all conditions specified in General Permit No. MIS040000 issued February 25, 2003, expiring April 1, 2008. This certificate of coverage may be modified, terminated, reissued, or revoked as allowed for in General Permit No. MIS040000.

This certificate of coverage takes effect on the date of issuance.

November 5, 2004  
Date Issued

EQP 4877 (9/03)

  
Mark Fife, Acting Chief  
Lakes Erie and Huron Permits Unit  
Permits Section  
Water Bureau

Note: Pursuant to the August 11, 2004 reorganization of the Department, all references to the "Water Division" in this permit should now be interpreted as the "Water Bureau".

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WASTEWATER DISCHARGE GENERAL PERMIT**

**Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4s)  
With Controls Based on Six Minimum Measures**

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Part 31, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18, storm water discharges from municipal separate storm water drainage systems are authorized to be discharged by permittees specified in individual "certificates of coverage" in accordance with conditions set forth in this general National Pollutant Discharge Elimination System (NPDES) permit (the "general permit").

The applicability of this general permit shall be limited to discharges of storm water and non-storm water (as specified in Part I.A.1.) by municipal separate storm sewer water drainage system operators which have submitted complete notices of intent (NOI) for coverage under this general permit. Discharges that may cause or contribute to a violation of a water quality standard, or that have been determined by the Michigan Department of Environmental Quality (the "Department") to need an individual NPDES permit, are not authorized by this general permit.

In order to constitute a valid authorization to discharge, this general permit must be complemented by a certificate of coverage issued by the Department. The certificate of coverage will include the submittal dates for the identification of shared permit responsibilities and the first annual progress report (including the storm water management program plan), and implementation dates for the illicit discharge elimination plan and public education plan. A separate submittal date may be specified for the storm water management program plan if the Department requires submittal on a different due date than the first annual progress report.

Unless specified otherwise, all contact with the Department required by this general permit shall be made to the District Supervisor of the Water Division as identified in the certificate of coverage. Unless specified otherwise, all Department approvals specified in this general permit shall be by the District Supervisor.

The terms and conditions of this general permit shall apply to the permittee on the effective date of a certificate of coverage issued to the permittee. The Department may grant a contested case hearing on this general permit in accordance with the Michigan Act. Any person to whom this general permit is not acceptable may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the general permit which are being challenged and specifying the grounds for the challenge. The Department may grant a contested case hearing on the certificate of coverage issued to an individual facility under this general permit in accordance with Rule 2192(c) (Rule 323.2192 of the Michigan Administrative Code).

The provisions of this general permit are severable. After notice and opportunity for a hearing, this general permit may be modified, suspended or revoked in whole or in part during its term in accordance with applicable laws and rules. This general permit shall take effect on April 1, 2003.

In accordance with Section 324.3118 of the Michigan Act, the permittee shall make payment of an annual storm water fee to the Department. In response to the Department's annual notice, the permittee shall remit the fee to the address on the notice, postmarked no later than March 15 of each year.

This general permit shall expire at midnight, April 1, 2008.

Issued February 25, 2003.

-ORIGINAL SIGNED-

D. Steven Eldredge  
Chief, Surface Water Permits Section  
Water Division

## PART I

### Section A. Authorizations and Coverage Provisions

#### 1. Authorized Discharges

a. Eligible Permittees

Except as excluded below, any public body that has ownership or control of discharges through separate storm water drainage systems (“drainage systems”) may be eligible for coverage under this general permit.

A city, village, or township (primary jurisdiction) permittee may have, within its political or territorial boundaries, “nested” drainage systems owned or operated by public bodies that include, but are not limited to, public school districts; public universities; or county, state, or federal agencies. If the primary jurisdiction and the nested jurisdiction agree to cooperate in carrying out the responsibilities for control of the drainage system, the nested jurisdiction does not need to apply for a separate storm water drainage system permit. Otherwise, the nested jurisdiction shall apply for a permit.

b. Ineligible Entities

Non-governmental entities, such as individuals, private institutions, or industrial or commercial entities are not eligible for coverage under this general permit.

c. Storm Water Discharges by the Permittee

This general permit authorizes the discharge of storm water from municipal separate storm water drainage systems to the waters of the state. Following approval of the storm water management program plan (Part I.B.), the discharge of storm water from newly constructed point sources operated by the permittee are authorized only if the permittee controls the discharge of pollutants from those point sources to the maximum extent practicable in accordance with the approved storm water management program plan.

d. Discharges Authorized under other NPDES Permits

The discharge of storm water commingled with discharges authorized under other NPDES permits is authorized under this general permit.

e. Non-Storm Water Discharges

The following non-storm water discharges do not need to be prohibited by the permittee unless they are identified as significant contributors of pollutants to the regulated separate storm water drainage system:

- 1) water line flushing,
- 2) landscape irrigation runoff,
- 3) diverted stream flows,
- 4) rising groundwaters,
- 5) uncontaminated groundwater infiltration [as defined by 40 CFR 35.2005(20)],
- 6) pumped groundwater (except for groundwater cleanups not specifically authorized by NPDES permits),
- 7) discharges from potable water sources,
- 8) foundation drains,
- 9) air conditioning condensate,
- 10) irrigation water,
- 11) springs,

## PART I

### Section A. Authorizations and Coverage Provisions

- 12) water from crawl space pumps,
- 13) footing drains,
- 14) lawn watering runoff,
- 15) water from non-commercial car washing,
- 16) flows from riparian habitats and wetlands,
- 17) residential swimming pool water and other dechlorinated swimming pool water providing any filter backwash water that is present is treated,
- 18) residual street wash waters.

Discharges or flows from emergency fire fighting activities are exempt from prohibition by the permittee but shall be addressed by the permittee if they are identified as significant sources of pollutants to waters of the state.

A swimming pool operated by the permittee shall not be discharged to a storm sewer or to waters of the state without specific NPDES permit authorization from the Department.

## PART I

### Section A. Authorizations and Coverage Provisions

#### 2. Discharges Requiring Separate Authorizations

a. Tracer Dye Discharges

This general permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department in accordance with Rule 1097 (Rule 323.1097 of the Michigan Administrative Code).

b. Water Treatment Additives

This general permit does not authorize the discharge of water additives without approval from the Department. Water additives include any material that is added to water discharged through the drainage system to condition or treat the water.

In the event a permittee proposes to discharge water additives, the permittee shall submit a request to discharge water additives to the Department for approval. Such requests shall be sent to the Surface Water Quality Assessment Section, Water Division, Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909, with a copy to the Department. Instructions to submit a request electronically may be obtained via the Internet (<http://www.michigan.gov/deq> and on the left side of the screen click on Water, Water Quality Monitoring, Assessment of Michigan Waters; then click on the Water Treatment Additive List which is under the Information banner). Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water additive usage and discharge information:

- 1) Material Safety Data Sheet;
- 2) the proposed water additive discharge concentration;
- 3) the discharge frequency (i.e. number of hours per day and number of days per year);
- 4) the monitoring point from which the product is to be discharged;
- 5) the type of removal treatment, if any, that the water additive receives prior to discharge;
- 6) product function (i.e., microbiocide, flocculant, etc.);
- 7) a 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp.*, *Daphnia sp.*, or *Simocephalus sp.*); and
- 8) the results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2) of the Water Quality Standards.

Prior to submitting the request, the permittee may contact the Surface Water Quality Assessment Section by telephone at 517-335-4184 or via the Internet at the address given above to determine if the Department has the product toxicity data required by items 7) and 8) above. If the Department has the data, the permittee will not need to submit product toxicity data.

c. Waste Load Allocations

Where a total maximum daily load (TMDL) establishes effluent limitations for the permittee's storm water based on a waste load allocation, the permittee shall seek authorization for the discharge of storm water under an individual NPDES permit or an alternative general permit within 180 days of receipt of notice, unless the Department approves a later date.

## PART I

### Section B. Storm Water Management Program – Minimum Measures

The permittee shall develop, implement and enforce a storm water management program designed to reduce the discharge of pollutants from the drainage system to the Maximum Extent Practicable (MEP), to protect the designated uses of the waters of the state, to protect water quality and to satisfy the appropriate water quality requirements of the Federal Act and the Michigan Act.

If a water body has a Total Maximum Daily Load (TMDL) established by the Department for a particular pollutant and a corrective action plan has been developed so as to achieve the TMDL, the appropriate water quality requirements for that pollutant are defined in the corrective action plan. In that event, and except for cases where the TMDL establishes effluent limitations for the permittee's storm water based on a waste load allocation, MEP includes, but is not limited to, the development, implementation and enforcement of storm water controls designed to meet the permittee's responsibilities defined in the corrective action plan to achieve the TMDL.

The permittee shall implement Best Management Practices (BMPs) to comply with the six minimum measures identified in this section, and any corrective action plans for TMDLs if applicable. Minimum measures shall be carried out in a manner that is environmentally beneficial, technically feasible, and within the permittee's legal authority. If the permittee does not have the power or authority to comply with all minimum measures or parts thereof, the permittee may rely on another permittee to carry out minimum measures or parts of minimum measures on the permittee's behalf. A description of the specific measure(s) and the area or portion of the drainage system that will be addressed by another permittee shall be identified in the annual progress report [see Part I.C.1.a.6)]. The MEP requirement shall be met by the following:

- 1) implementation of BMPs to comply with the minimum measures in Part I.B., including cooperation with other permittees as necessary to assure compliance;
- 2) implementation of BMPs to comply with storm water related requirements established for the permittee under any corrective action plans to meet TMDLs if applicable; and
- 3) demonstration of effectiveness or environmental benefit for each BMP implemented by the permittee [see Part I.C.1.a.1)b)].

An approvable storm water management program plan shall be submitted with the first annual progress report in accordance with Part I.C.1.a. (the Department may specify a different submittal date on the COC for the storm water management plan in accordance with Part I.C.8. or as it deems appropriate). Upon Departmental approval of the BMPs for public education and illicit discharge elimination (see Parts I.B.1. and I.B.3.), the permittee shall begin implementation of those plans. If the Department does not approve or comment on the plans for public education and illicit discharge elimination within 90 days of submittal, the permittee shall begin implementation of these plans as submitted. The Department may notify the permittee at any time that the plans do not meet minimum requirements. Such notification shall identify why the plan does not meet minimum requirements. The permittee shall make the required changes to the plans within 90 days after such notification. The permittee shall submit written certification of the changes to the Department as part of the annual progress report.

The permittee shall begin implementation of the BMPs for the remaining four minimum measures in Part I.B. not later than one year after submittal of the plan. The Department may specify a different implementation schedule during review and approval of these minimum measures. The permittee shall fully develop and implement the storm water management program within 5 years of the effective date of the certificate of coverage issued under this general permit.

#### 1. Education and Outreach on Storm Water Impacts - Public Education Program

The permittee shall have a program to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water. The public education program may involve combining or coordinating existing programs for public stewardship of water resources. Pollution prevention shall be encouraged. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.a.

"Public" shall be defined to include all persons who potentially could affect the quality of storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

## PART I

### Section B. Storm Water Management Program – Minimum Measures

The public education program shall be designed to:

- a. Educate the public on the following, as appropriate based on the potential impact on receiving waters:
  - 1) Hazards associated with illicit discharges and improper disposal of waste. Encourage public reporting of the presence of illicit discharges or improper disposal of materials into the permittee's drainage system, and develop and publicize a hotline for public reporting. Common illicit discharges are construction site wastes and sediment, carpet cleaner wastes, household wastes and motor vehicle fluids from home owners, septage and other commercially transported wastes, and commercial power washing (except street washing that is exempted from prohibition under Part I.A.1.e.).
  - 2) The water body that would be potentially impacted by improper actions at or near a person's home.
  - 3) The availability, location and requirements of facilities for collection and/or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids.
  - 4) Acceptable application and disposal of pesticides, herbicides, and fertilizers.
  - 5) Preferred car cleaning agents and procedures for non-commercial car washing.
  - 6) Proper septic system maintenance.
  - 7) Management of riparian lands to protect water quality.
  - 8) Public responsibilities and stewardship in their watershed.
  - 9) The water quality impacts of residential de-icer use and how to minimize the impacts.
  - 10) The role of native vegetation on residential properties as a ground cover alternative to turfgrass.
- b. Educate commercial, industrial and institutional entities likely to have significant storm water impacts. At a minimum, educate commercial food service entities to prevent grease and litter discharges to storm drains.

## 2. Public Involvement and Participation

Public input shall be encouraged in all aspects of the storm water management program. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.a. The following minimum actions shall be taken to encourage public input:

- a. The permittee shall follow local public notice requirements, as appropriate, when notifying the public that a storm water management program must be implemented. Copies of the approvable storm water management plan shall be available for public inspection, and the public shall be notified of when and where it is available.
- b. The permittee shall participate in a citizen advisory committee for the purpose of encouraging public involvement in all aspects of the storm water management program. The permittee may participate in an existing citizen advisory committee or may establish and implement its own.
- c. The permittee shall pursue cooperation with local stream or watershed protection organizations, if any exist, by informing them of activities under the storm water management program, providing copies of the storm water management program plan and pursuing input on the plan, seeking volunteer assistance including water quality monitoring assistance, and seeking ways to meet general permit requirements by assisting the local organizations with their ongoing programs for water resource protection and enhancement.

## PART I

### Section B. Storm Water Management Program – Minimum Measures

#### 3. Illicit Discharge Elimination Program

The permittee shall develop, implement and enforce a program to prohibit and effectively eliminate illicit discharges, including discharges of sanitary wastewater, to the permittee's drainage system as defined in Part I.B.3.a. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.

“Illicit discharge” means any discharge (or seepage) to the separate storm water drainage system that is not composed entirely of storm water or uncontaminated groundwater. Examples of illicit discharges include, but are not limited to, dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, or animal wastes, or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste into a separate storm water drainage system.

“Illicit connection” means a physical connection to the drainage system that 1) primarily conveys illicit discharges into the drainage system or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit).

At a minimum, the illicit discharge elimination program shall include the following:

- a. The permittee shall submit a listing or map of the known storm water point sources for which coverage is requested and identify the receiving waters to which these point sources discharge. This element of the program shall be submitted with the Notice of Intent. City, village, or township permittees may take into account that certain MS4s within their political or territorial boundaries are operated by other entities (nested jurisdictions). Location of such MS4s shall be identified in the Notice of Intent for this general permit, with a final list identified in the first annual progress report in accordance with Part I.C.1.a.5).
- b. A schedule for providing, as expeditiously as practicable, a map showing the location of all point source discharges the permittee operates (this includes outfalls to waters of the state and points of discharge into another MS4), a description of the conveyances leading to these point sources, and the names and location of all waters of the state that receive discharges from the drainage system operated by the permittee.
- c. A program to find, prioritize, and eliminate illicit connections and minimize illicit discharges to the municipal drainage system or waters of the state from commercial, industrial, private educational, public, and residential sources. Unless the Department approves an alternative approach, the program to find illicit discharges and illicit connections shall include:
  - 1) a strategy to conduct routine dry weather screening of enclosed storm water point sources (i.e., outfalls from the separate storm water drainage system to waters of the state and point sources discharging into separate storm water drainage systems operated by other public bodies); and
  - 2) a plan to reinspect each storm water point source every five years.
- d. A program to limit infiltration of seepage from sanitary sewers and on-site sewage disposal systems into the drainage system, if applicable.



## PART I

### Section B. Storm Water Management Program – Minimum Measures

- e. The legal authority to prohibit discharges into the drainage system operated by the permittee. The permittee shall have the legal authority, which may be a combination of state statute, municipal statute, ordinance, permit, order, rules, regulations, or other means available to the permittee, for the purpose of:
- 1) regulating the contribution of pollutants to the drainage system;
  - 2) prohibiting and requiring the elimination of illicit connections and illicit discharges including the direct dumping or disposal of materials other than storm water into the drainage system;
  - 3) requiring compliance with ordinances, permits issued by the permittee, contracts or orders; and
  - 4) conducting all inspection, surveillance and monitoring procedures necessary to determine compliance with ordinances, permits issued by the permittee, contracts, orders, and the terms and conditions of this general permit.

### 4. Post Construction Storm Water Management Program for New Development and Redevelopment Projects

The permittee shall develop, implement and enforce a program to address storm water discharges into the drainage system from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more. The program shall ensure that controls are in place that will prevent or minimize water quality impacts. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.a.

Under the program for new development and redevelopment projects, the permittee shall:

- a. Develop and implement a comprehensive storm water management plan for development, implementation, and enforcement of controls across the permittee's entire urbanized area to protect the designated uses in all receiving waters from the effects commonly associated with urbanization. Common effects of urbanization to be considered under the comprehensive management plan include stream "flashiness" (higher peak flow and lower base flow), stream-bank erosion, increased stream temperature and pollutant load, reduced stream-bank vegetation, and degraded fish and aquatic habitat. Example comprehensive management plan controls for prevention of impacts from urbanization include policies and ordinances that provide requirements and standards for directing growth to identified areas, protecting sensitive areas such as wetlands and riparian areas, maintaining and/or increasing open space (including a dedicated funding source for open space acquisition), encouraging infill development in higher density urban areas and areas with existing infrastructure, establishing in-stream maximum flow targets designed to minimize stream bank erosion and maintain healthy fish populations, and coordinating release volumes and rates from detention basins to achieve in-stream maximum flow targets.
- b. Develop and implement ordinances or other regulatory mechanisms to address post construction storm water runoff from new development and redevelopment projects to the extent allowable under state or local law. Objectives of the ordinances or other regulatory mechanisms should be to protect receiving water quality from the impacts of development. The ordinances or other regulatory mechanisms shall include the following:
  - 1) Requirements for implementation of appropriate non-structural and/or structural BMPs. Non-structural BMPs are preventative actions that involve management and source controls. Examples include: buffer preservation along water bodies, establishment of easements for vegetative filters and infiltration, education programs for developers and the public about project designs that minimize water quality and quantity impacts, minimum disturbance of soils and vegetation, planting native vegetation, restrictions on directly connected impervious areas, and incentives for reducing imperviousness. Structural BMPs are physical controls that improve water quality, including storage practices. Examples of structural BMPs include: wet ponds and extended-detention outlet structures; vegetative buffers; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins, bioinfiltration, infiltration trenches, rain gardens, and infiltration islands in parking lots.

## PART I

### Section B. Storm Water Management Program – Minimum Measures

- 2) Requirements for adequate long-term operation and maintenance of BMPs.
  - 3) Requirements to control sediment discharges from new developments and redevelopments that result from soil erosion after the local soil erosion and sedimentation permit and the State of Michigan's Permit by Rule are no longer in effect.
  - 4) Requirements for regulating the rate at which storm water flows into the drainage system.
- c. Develop and implement a process for review of post-construction storm water BMPs in initial site plans, as applicable.
  - d. Minimize the occurrence of illicit discharges and spills into the drainage system by reviewing site plans for commercial operations to ensure that storm drain inlets are adequately isolated from pollutant sources. Equipment washing and waste material handling shall not result in discharge of wastes to the drainage system. Polluting materials, as defined in the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code), shall be stored only in areas that provide secondary containment in accordance with state and federal law.

### 5. Construction Storm Water Runoff Control

Storm water discharges from construction activity that results in land disturbance of greater than or equal to one acre, or disturb less than one acre but are part of a larger common plan of development or sale that would disturb one acre or more, shall be controlled.

- a. **Qualifying Local and State Soil Erosion and Sedimentation Controls**  
The permittee shall prohibit storm water discharges into MS4s from construction activities that are not in compliance with the following requirements of the State of Michigan's Permit by Rule (Rule 323.2190):
  - 1) The construction site developer or recorded easement holder shall be subject to soil erosion and sedimentation control requirements under Part 91 of the Michigan Act.
  - 2) The construction site developer or recorded easement holder shall control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
  - 3) Potential water quality impacts shall be considered during site plan reviews for construction activities.
  - 4) Sites shall be inspected during construction and control measures shall be enforced.
- b. **Additional Construction Controls**  
The permittee shall develop, implement and enforce a program to address storm water runoff from areas of construction activity that discharge into the permittee's separate storm water drainage system. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.a.

## PART I

### Section B. Storm Water Management Program – Minimum Measures

Under the Construction Storm Water Runoff Control Program, the permittee shall:

- 1) Notify the appropriate Soil Erosion and Sedimentation Control Agency and the Department verbally, within 24 hours, if a construction activity results in a deposit or imminent threat to deposit solids or other waste materials into the drainage system that may endanger health or the environment. Any other soil erosion or sedimentation violations at regulated construction sites shall be reported in accordance with Part I.C.2.a. of this general permit.
- 2) Review preliminary site plans to ensure that adequate space will be allotted for soil erosion and sedimentation controls during construction as well as permanent storm water controls, as appropriate.
- 3) Have a procedure to receive and provide follow up on complaints or other information submitted by the public regarding construction site storm water runoff leading to the drainage system. This requirement may be met in conjunction with the illicit discharge reporting hotline in Part I.B.1.a.

### 6. Pollution Prevention/Good Housekeeping for Municipal Operations

Municipal operations cover a wide variety of activities and land uses that are potential sources of storm water pollutants. These include but are not limited to roadways; parking lots; transportation and equipment garages; warehouses; stockpiles of salt and other raw materials; open ditches and storm sewers; turf and landscaping for administrative, recreational, and park lands; and waste handling and disposal areas.

The permittee shall develop, implement, and ensure compliance with a program of operation and maintenance BMPs with the ultimate goal of preventing or reducing pollutant runoff from municipal operations to the maximum extent practicable. The permittee shall ensure that employees properly handle wastes, recyclables, chemicals, and equipment used on the job; maintain a clean work area; regularly maintain storm water controls; and identify and report various storm water pollution sources including illicit discharges, malfunctioning post-construction controls, and poor soil erosion and sedimentation controls at construction sites. The permittee shall provide guidance or operation manuals, employee training and testing, equipment, and any other resources necessary to prevent and reduce storm water pollution through proper implementation of BMPs in accordance with this minimum measure. The program may be developed and implemented using BMP guidance and training materials that are available from federal, state or local agencies, or other organizations. Appropriate BMPs for this minimum measure and measurable goals for each BMP shall be submitted to the Department in accordance with Part I.C.1.a.

The program, and all approved updates, shall meet the following requirements:

- a. **Structural Controls**  
Structural controls such as storm drain catch basins, vegetated swales, infiltration basins, sedimentation basins, and any controls installed or operated by the permittee to remove pollutants from storm water shall have routine maintenance, maintenance schedules, and long-term inspection procedures adequate to provide pollution removal effectiveness to the maximum extent practicable. Structural controls and cleaning schedules may need to be added or enhanced in the future if existing structural or non-structural measures fail to adequately reduce the discharge of sediments, floatables and other pollutants that may be found in or discharging to or from drainage systems.

The permittee shall describe and implement procedures for the proper disposal of operation and maintenance waste such as dredge spoil, accumulated sediments, floatables, and other debris the permittee removes from the drainage system. Wastes removed from a catch basin sump or other parts of a storm water drainage system shall not be discharged in a manner that would result in a violation of water quality standards.

**PART I****Section B. Storm Water Management Program – Minimum Measures****b. Roadways**

The permittee shall construct, operate and maintain its streets, roads, highways, parking lots and other large paved surfaces in a manner so as to reduce the discharge of pollutants, including those related to deicing activities, into the drainage system.

The permittee shall, at a minimum, maintain effective street cleaning and catch basin maintenance programs. The street cleaning and maintenance program, catch basin maintenance program, and illicit discharge elimination program shall be parts of an overall plan to reduce the discharge of sediments, floatables, and associated pollutants into the roadway drainage system. Salt and sand applied for improved traction shall be prevented from entering receiving streams to the maximum extent practicable. Good housekeeping shall be required at salt and sand storage facilities to eliminate discharge of salt and sand from these areas.

The permittee shall not discharge to waters of the state any wastewater generated from cutting, grinding, drilling or hydrodemolition of concrete or asphalt without authorization under an NPDES wastewater discharge permit.

**c. Fleet Maintenance**

The permittee shall assure that vehicle maintenance activities do not pollute storm water runoff. Vehicle maintenance activities include adding or changing fluids including fuel, lubrication, mechanical repairs, parts degreasing, and vehicle or equipment washing. Discharge of wash water is not authorized by this general permit. Vehicles and equipment shall be maintained for clean and effective operation to prevent impacts on storm water quality.

**d. Storm Sewer Labeling**

The permittee shall provide permanent identification (e.g., label, color coding, or other identifying characteristic) for any outfall structure that the permittee constructs or installs after March 10, 2004, that discharges storm water to waters of the state. Following the addition of permanent identification, the primary operator of the drainage system shall be readily identifiable by observation of the outfall structure.

**e. Flood Control Projects**

The permittee shall ensure that new flood management projects assess the impacts on the water quality of the receiving water and, whenever possible, shall examine existing projects for incorporation of additional water quality protection BMPs.

**f. Pesticides and Fertilizers**

The permittee shall minimize the discharge of pollutants related to the storage, handling and use of pesticides, herbicides, and fertilizers on land that the permittee manages. BMPs required under this measure include a turf management plan for maintaining public lands and parks, employee training, and soil testing for nutrients (nitrogen/phosphorus/potassium) to determine appropriate fertilizer usage on all lands that the permittee maintains by adding fertilizers. Fertilizers shall be applied only in accordance with recommendations based on soil test results.

## PART I

### Section C. Program Assessment and Reporting

#### 1. Submittals and Reporting

##### a. First Year Progress Report

Approximately one year after the effective date of the certificate of coverage (by the date specified in the certificate of coverage), the first annual progress report shall be submitted to the Department for approval. The report shall include all of the following. If an approvable storm water management program plan [Part I.C.1.a.1)] was submitted earlier according to a date specified in the certificate of coverage, or with the Notice of Intent in accordance with Part I.C.8., then this requirement of the first annual progress report has already been fulfilled.

##### 1) Storm Water Management Program Plan

An approvable storm water management program plan shall consist of descriptions and schedules for BMPs and measurable goals .

##### a) BMPs

The storm water management program plan shall include a listing of the BMPs that will be or have been implemented for each of the minimum measures identified in Part I.B. of this general permit. The submittal shall also identify the years (and months as appropriate) that proposed BMPs will be implemented, and the frequency of actions, such as the maintenance frequency for structural BMPs and the implementation frequency of non-structural BMPs.

##### b) Measurable Goals (interim and final)

The storm water management program plan shall include a description of the measurable goals for each listed BMP. Every BMP shall have a final measurable goal, and may have one or more interim milestones for tracking progress toward the final measurable goal.

##### (1) Final Measurable Goals

Final measurable goals shall demonstrate results that relate to an environmental benefit. Examples of results that relate to an environmental benefit include the number and types of illicit connections identified and corrected; survey results showing a change in public awareness of storm water issues; the mass or volume of solids removed during street sweeping and catch basin cleaning operations, or measured improvements in water quality.

##### (2) Interim Milestones

Interim milestones may be reported as interim results or may be descriptions of actions taken.

- Interim results means results received prior to meeting the final measurable goal. For examples, see Part I.C.1.a.1)b)(1) “Final Measurable Goals”.
- Descriptions of actions taken means a quantifiable, if possible, description of the BMP implementation. Example descriptions of actions include: number of outfalls or buildings inspected for illicit discharges; number of fliers mailed or informational programs conducted for public education; number of volunteers for in-stream biological surveys or extent of stream surveyed; and number of streets swept or catch basins cleaned as a pollution prevention activity.

Data on interim milestones shall be reported in annual progress reports.

## PART I

### Section C. Program Assessment and Reporting

#### 2) Receiving Water Quality Status

The permittee shall provide a description of the status of the water quality in the waters of the state within the permittee's political, territorial, property, or right of way boundaries. The description of water quality status may be narrative or numeric, or both. Narrative descriptions may include but are not limited to reports of unnatural physical properties such as turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits, presence or absence of indicator animals, algae or bacteria; presence of trash and floatables; and streambank and streambed conditions. For numeric descriptions, the Department encourages the permittee to seek alternatives to instream water chemistry monitoring or to limit chemical monitoring to a small number of parameters. Biological indices are acceptable numeric descriptions. The permittee may gather its own information; join a group to gather information; or report information collected by someone else, including county, state or federal governments.

#### 3) Receiving Water Quality Stresses

The permittee shall identify and prioritize the stresses on the waters of the state within the permittee's political, territorial, property, or right of way boundaries. Stresses are negative impacts on surface water quality, navigation, industrial water supply, public water supply at the point of water intake, fish and other indigenous aquatic life and wildlife, human body contact recreation (i.e., public health violations), and agricultural uses. Water quality stress reporting shall consist of descriptions of the known or suspected pollutant sources leading to water quality concerns, if any, that were reported under Part I.C.1.a.2).

#### 4) Upcoming Activities

The permittee shall provide a summary of the storm water activities scheduled for implementation during the next annual reporting cycle.

#### 5) Notice of Drainage System Operators Nested Within Community Boundaries

A city, village, or township (primary jurisdiction) shall update the list that was originally submitted with the Notice of Intent for this general permit, which identified the nested jurisdictional areas or drainage systems that should have their own permit authorization for discharges through a separate storm water drainage system. Additionally, the primary jurisdiction may submit documentation of its efforts to notify the nested jurisdictions that they need to either get their own permit authorization or work cooperatively under one permit authorization. The primary jurisdiction shall be responsible for assuring compliance with this general permit for those nested jurisdictions with which they have entered into an agreement and listed as part of the Notice of Intent for this general permit. County drainage districts, county roadways, and Michigan Department of Transportation roadways may be nested jurisdictions but do not need to be reported by the primary jurisdiction under this paragraph.

#### 6) Nested Jurisdictions as Associated Permittees

In some cases, a primary jurisdiction and a nested jurisdiction will each have a permit but either may lack the individual power or authority to comply with all terms and conditions of its permit. In this case, permit responsibilities may be shared, and each permittee shall report the permit responsibilities that will be shared and shall identify the other permittee with whom they will be shared. Failure to report under this part, if applicable, is a violation of this general permit.

#### a) Notice of Reliance on Another Permittee.

The permittee shall notify the Department of all permitted drainage system operators that will be relied upon to satisfy terms and conditions of this general permit for the permittee. Notification shall include the name of the other permittee (or other MS4 operator in cases where the operator has not yet received permit coverage) and a description of the general permit terms and conditions for which the other permittee or MS4 operator will be responsible. One example of reliance on another permittee or MS4 operator is a drain commissioner that relies on a township to seek out and eliminate sources of illicit discharges which originate outside the county drain right-of-way. Conversely, a township may rely on a drain commissioner to do the dry weather screening in the outfalls of the drainage system through which the township discharges.

## PART I

### Section C. Program Assessment and Reporting

The permittee is solely responsible for meeting the terms and conditions of this general permit unless a notice as described in this part is received by the Department. The permittee shall also send a copy of the notice to the other permittee or MS4 operator named therein.

- b) **Notice of Obligation to Another Permittee.**  
The permittee shall notify the Department if it has agreed to be responsible for any terms and conditions of a permit held by another permittee. Notification shall include the name of the other permittee and a description of the general permit terms and conditions for which the permittee will take responsibility.

The permittee shall send a copy of the notice to the other permittee named therein.

**b. Mid-Year Progress Reports**

1) On or before six months after the effective date of the certificate of coverage, the permittee shall submit identification of general permit responsibilities that will be shared with other permittees [see description under Part I.C.1.a.6)]. Identification of the permitted entities with which responsibilities will be shared shall also be submitted at that time if that information is known.

2) On or before one and one-half years after the effective date of the certificate of coverage, and annually thereafter, a mid-year progress report shall be completed and retained by the permittee. The mid-year progress report shall include a brief summary of compliance information collected in accordance with Part I.C.1.c.1) for the period following the latest annual progress report.

**c. Subsequent Annual Progress Reports**

A progress report shall be submitted to the Department on or before two years after the effective date of the certificate of coverage, and annually thereafter. The Department may approve an alternate date for annual progress report submittal if requested and adequately justified by the permittee. The annual progress reports shall contain the following information:

1) **Compliance Assessment**

The permittee shall describe the status of compliance with general permit conditions for public education, public involvement and participation, illicit discharge elimination, post construction storm water management, construction storm water runoff control, and pollution prevention/good housekeeping for municipal operations. The report shall include a description of illicit discharges and illicit connections removed, shall assess the appropriateness of all identified BMPs, and shall describe the progress towards achieving the identified measurable goals for each of the BMPs.

Failure to attain a measurable goal for a BMP implemented to meet a minimum measure (Part I.B.) is not a violation of this general permit if the Department has not provided or issued a menu of BMPs for that minimum measure. If no menu of BMPs is provided or issued, the permittee shall comply with other requirements of this general permit, including good faith implementation of BMPs designed to comply with the minimum measures.

2) **Water Quality Assessment**

The permittee shall provide an updated assessment of the water quality conditions within their jurisdiction. Use of data collected by other sources or participation in a group monitoring program is encouraged. Narrative descriptions or a combination of narrative and numeric descriptions may be submitted. The purpose of this update is to show any obvious changes in the receiving waters since the previous progress report.

3) **Water Quality Stress Update**

The permittee shall provide a description of any water quality stresses newly identified since the previous annual progress report.

## PART I

### Section C. Program Assessment and Reporting

4) Data and Results

The permittee shall provide a summary of all information collected and analyzed, including monitoring data, if any, during the annual reporting cycle.

5) Upcoming Activities

The permittee shall provide a summary of the storm water activities to be implemented during the next annual reporting cycle. The summary shall include schedules for elimination of any illicit connections identified but not disconnected prior to annual progress report submittal.

6) BMP and Measurable Goal Changes

The permittee shall describe any planned changes in identified BMPs or measurable goals for any of the minimum measures. The permittee shall change or add measurable goals if the Department provides a list of measurable goals for BMPs that the permittee is implementing or proposes to implement, and those measurable goals were not available within a reasonable timeframe to have them identified in the previous annual progress report.

7) Notice of Changes in Reliance on Permitted Drainage System Operators.

The permittee shall describe any changes in the need to rely on other permitted drainage system operators to satisfy the terms and conditions of this general permit, as defined in Part I.C.1.a.6). A city, village or township permittee shall also identify any nested jurisdictions that enter into or terminate permit agreements with the permittee following the first annual progress report [see Part I.C.1.a.5)].

8) Storm Water Drainage System Changes

The permittee shall provide an update on areas added to the drainage system due to annexation or other statutory processes (if applicable).

9) Special Reporting Requirements

The University of Michigan (Ann Arbor Campus), the Michigan Department of Transportation, and the Cities of Ann Arbor, Flint, Grand Rapids, Livonia, Sterling Heights, and Warren shall submit the following additional information:

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

The permittee shall provide an assessment of the pollution reduction and probable receiving water quality impacts associated with program implementation. When applicable, a statement shall be included regarding any negative water quality impacts that may have occurred as a result of any illicit discharges or accidental spills during the report cycle.

b) Revised Fiscal Analysis [40 CFR 122.42(c)(3)]

The permittee shall provide a summary of revisions, if necessary, to the fiscal analysis reported during the previous permit, pursuant to permit application requirements [40 CFR 122.26(d)(2)(vi)].

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

The permittee shall provide the previous reporting cycle's expenditures and proposed budget for the reporting cycle following the report

d. Contact Person

The permittee shall notify the Department within ten days after the replacement of the storm water contact person.

e. Signatory Requirements

All reports required by this general permit and other information requested by the Department shall be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative of that person in accordance with 40 CFR 122.22(b).



## PART I

### Section C. Program Assessment and Reporting

#### 2. Notification Requirements

a. Regulated Discharges into the Drainage System

The permittee shall notify the Department, verbally, within 24 hours of becoming aware of any discharges to the municipal separate storm water drainage system that the permittee suspects may endanger health or the environment if the discharges are from facilities/sites that are not complying or will be unable to comply with the following:

- 1) requirements of an NPDES permit, including an individual permit, a general permit, or the Permit-by-Rule for storm water discharges from construction sites;
- 2) requirements of a State of Michigan permit for soil erosion and sedimentation control pursuant to Part 91 of P.A. 451 of 1994;
- 3) requirements of a State of Michigan permit for discharge of liquid wastes to groundwater pursuant to the Michigan Act;
- 4) requirements of Part 5 Rules for polluting materials (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); or
- 5) Water Quality Standards.

Notification should include (if known) the name of the regulated discharger, location of the discharge into the storm water drainage system and location of the outfall from that portion of the system, nature of the discharge and the pollutants, clean-up and recovery measures taken or planned. If the notice is provided after regular working hours call the Department of Environmental Quality's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706. Non-compliance as described above that does not pose imminent danger to health or the environment, shall be reported by the permittee, either verbally or in writing, within five (5) days of the time the permittee becomes aware of it.

b. Non-Compliance Notification

The permittee shall submit written documentation to the Department within five (5) days of having knowledge of any reason the permittee is not complying with or will be unable to comply with any condition specified in this general permit. Written documentation shall include the following information:

- 1) a description of the circumstances, including the type of noncompliance;
- 2) the period of noncompliance (if known), including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance; and
- 3) for illicit discharges to the system, the estimated volume of discharge, a description of the type of pollutants in the discharge, the location of the discharge into the system, the location of the municipal outfall from which the discharge enters waters of the state, identification of the parties responsible for the discharge, if known, and the facility or the construction site from which the discharge originated, if known.

c. Untreated Sewage Discharge Notification

If untreated sewage or partially treated sewage is discharged from the drainage system, the permittee shall comply with Section 324.3112a of the Michigan Act, including notification of the Department, the local health department, and one or more daily newspapers of general circulation within 24 hours after the discharge begins.

## PART I

### Section C. Program Assessment and Reporting

#### 3. Identification of Additional Point Source Discharges of Storm Water

If the permittee becomes aware of any separate storm water drainage system discharges which were not identified in the Illicit Discharge Elimination Plan (Part I.B.3), the permittee shall provide the following information to the Department as part of the annual progress report (Part I.C.1.c.):

- a. the location of the discharge of storm water for which coverage is requested,
- b. the receiving water for the discharge, and
- c. any necessary updates to the map of the coverage area.

These requirements can be satisfied by providing an updated map of the permittee's separate storm water drainage system.

#### 4. Recordkeeping

The latest approved version of the storm water management program plan developed in accordance with this general permit shall be retained by the permittee and available for inspection in accordance with Part II.D.7. of this general permit. All records and information resulting from the preparation of previous storm water management program plans, or the annual or mid-year progress reports, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained by the permittee for a minimum of three years, or longer if requested by the Department or the Regional Administrator.

#### 5. Storm Water Management Program Modification

- a. Modifications Requested by the Permittee

The approved storm water management program may be modified by the permittee as follows:

- 1) Modifications adding (but not replacing or subtracting) components, controls, or requirements to the approved storm water management program may be made by the permittee at any time upon written notification to the Department. Notification shall include a description of the modification.
- 2) Modifications replacing an ineffective or unfeasible BMP specifically identified in the storm water management program with an alternative BMP may be requested at any time by written notification to the Department. Unless denied by the Department, the modification shall be deemed approved and may be implemented by the permittee 60 days from submittal of the request. Such requests must include the following:
  - a) an analysis of why the BMP is ineffective or unfeasible (including cost prohibitive);
  - b) a measurable goal for the replacement BMP; and
  - c) an analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.
- 3) Modifications subtracting an ineffective or unfeasible BMP specifically identified in the storm water management program may be requested by written notification to the Department. The identified BMP shall not be subtracted from the storm water management program unless the subtraction is approved by the Department. The request shall include the following:
  - a) an analysis of why the BMP is ineffective or unfeasible (including cost prohibitive);
  - b) an analysis of why the subtraction of the BMP will not hinder the permittee's ability to comply with the minimum measures of the general permit, or achieve a TMDL if applicable.

## PART I

### Section C. Program Assessment and Reporting

- b. Modifications Required by the Permitting Authority:  
The Department may require the permittee to modify the storm water management program as needed to:
- 1) address contributions by the drainage system discharges which impair receiving water quality;
  - 2) include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements; or
  - 3) include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Federal Act or the Michigan Act, including the requirement to reduce the discharge of pollutants from the drainage system to the maximum extent practicable.

### 6. Expiration and Reissuance

If the permittee wishes to continue a discharge authorized under this general permit beyond the general permit's expiration date, the permittee shall submit a written request to the Department on or before October 4, 2007. A person holding a valid certificate of coverage under an expired general permit shall continue to be subject to the terms and conditions of the expired general permit until the general permit is terminated, revoked, or reissued.

If this general permit is modified or reissued, the permittee shall: a) request coverage under the modified or reissued general permit, b) apply for an individual NPDES permit, or c) request termination of discharge authorization. Lacking an adequate response, the permittee's authorization to discharge shall expire on the effective date of the reissued or modified general permit.

If this general permit is terminated or revoked, all authorizations to discharge under the general permit shall expire on the date of termination or revocation.

### 7. Requirement to Obtain Individual Permit

The Department may require any person who is authorized to discharge by a certificate of coverage and this general permit, to apply for and obtain an individual NPDES permit if any of the following circumstances apply:

- a. the discharge is a significant contributor to pollution as determined by the Department on a case-by-case basis;
- b. the discharger is not complying or has not complied with the conditions of the general permit;
- c. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of waste applicable to the point source discharge;
- d. effluent standards and limitations are promulgated for point source discharges subject to this general permit; and
- e. the Department determines that the criteria under which the general permit was issued no longer apply.

Any person may request the Department to take action pursuant to the provisions of Rule 2191 (Rule 323.2191 of the Michigan Administrative Code).

### 8. Switching from Another MS4 General Permit

Any permittee who has coverage under another MS4 general permit such as the Watershed Based General Permit (Permit No. MIG610000 or Permit No. MIG619000), under which a watershed management plan was already developed and submitted to the Department as a permit requirement, and wishes to seek coverage under this general permit instead, shall submit an approvable storm water management program plan as described in Part I.C.1.a. of this general permit to the Department as part of the Notice of Intent for coverage under this general permit, or in accordance with another schedule set by the Department.

## PART II

### Section A. Definitions

This list of definitions may include terms not applicable to this general permit.

**Best Management Practices** means structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water flows, to direct the flow of storm water, or to treat polluted storm water flows.

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

**Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services** mailing address is P.O. Box 30195, Lansing, Michigan 48909.

**Drainage System Operator**: See “Municipal Separate Storm Water Drainage System Operator”.

**Municipal Separate Storm Water Drainage System Operator** means a public body that owns a separate storm water drainage system, or has the power or authority to implement or carry out any of the minimum measures for storm water pollution control as listed in Part I.B. of this general permit. There may be multiple drainage system operators within the same geographic area or for the same separate storm water drainage system.

**On-Site Sewage Disposal System** means a natural system or mechanical device used to collect, treat, and discharge or reclaim wastewater from one or more dwelling units without the use of community-wide sewers or a centralized treatment facility.

**Phase I Permittees** include the cities of Ann Arbor, Flint, Grand Rapids, Livonia, Sterling Heights, and Warren, the University of Michigan - Ann Arbor campus, and the Michigan Department of Transportation for its rights-of-way within the political or territorial boundaries of the Phase I cities and university.

**Point source** means an outfall from a drainage system to waters of the state, or a point where a storm water drainage system discharges into a system operated by another public body.

**POTW** is a publicly owned treatment works as defined at 40 C.F.R. §403.3.

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

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

**Separate Storm Water Drainage System** means a system (including but not limited to roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels) that is designed or used for collecting or conveying storm water; is not a combined sewer where storm water mixes with sanitary wastes; and is not part of a POTW. The term does not include separate storm water drainage conveyances that serve an individual building or comparable discrete area. The system may convey the non-storm water discharges specified in Part I.A.1.d. and e.

**Storm water** means storm water runoff, snow melt runoff, and surface runoff and drainage.

## PART II

### Section A. Definitions

**Waters of the State** means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:

- The Great Lakes and their connecting waters,
- All inland lakes,
- Rivers,
- Streams,
- Impoundments,
- Open drains, and
- Other surface bodies of water within the confines of the state.

**Water Quality Standards** means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

## PART II

### Section B. Monitoring Procedures

#### 1. Representative Samples

Samples and measurements shall be representative of the volume and nature of the monitored discharge or water body.

#### 2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this general permit. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this general permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Surface Water Permits Section, Water Division, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773. The permittee may use such procedures upon approval.

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

#### 3. Instrumentation

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

#### 4. Recording Results

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

#### 5. Monitoring by Permittee

If the permittee monitors any pollutant from the storm water point source discharges identified in the Notice of Intent or in the map pursuant to Part I.B.3.a., the results of such monitoring shall be provided to the Department with the annual progress reports required by Part I.C.1.

## PART II

### Section C. Reporting Requirements

#### 1. Compliance Dates Notification

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

#### 2. Noncompliance Notification

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

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

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

#### 3. Spill Notification

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

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

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

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

## **PART II**

### **Section C. Reporting Requirements**

#### **5. Transfer of Ownership or Control**

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this general permit by letter, a copy of which shall be forwarded to the Department 30 days prior to the actual transfer of ownership or control.



## PART II

### Section D. Management Responsibilities

#### 1. Duty to Comply

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

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

#### 2. Facilities Operation

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

#### 3. Power Failures

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

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

#### 4. Adverse Impact

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

#### 5. Containment Facilities

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

## PART II

### Section D. Management Responsibilities

#### 6. Waste Treatment Residues

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

#### 7. Right of Entry

The permittee shall allow the Michigan Department of Environmental Quality, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

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

#### 8. Availability of Reports

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

## PART II

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

#### 1. Discharge to the Groundwaters

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

#### 2. Facility Construction

This general permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground or marina shall be from the Water Division, Michigan Department of Environmental Quality. Approval for such construction for a hospital, nursing home or extended care facility shall be from the Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services upon request.

#### 3. Civil and Criminal Liability

Nothing in this general permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

#### 4. Oil and Hazardous Substance Liability

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

#### 5. State Laws

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

#### 6. Property Rights

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



# **APPENDIX B**





JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT  
LANSING



REBECCA A. HUMPHRIES  
DIRECTOR

November 30, 2010

Detroit Water and Sewerage Department  
735 Randolph Street  
Detroit MI 48226

Dear Permittee:

**SUBJECT:** National Pollutant Discharge Elimination System (NPDES)  
Municipal Separate Storm Sewer System (MS4) General Jurisdictional  
Permit No. MIS049000 and General Watershed Permit No. MIG610000

On May 22, 2008, the Department of Natural Resources and Environment (DNRE) issued MS4 General Jurisdictional Permit No. MIS049000 and MS4 General Watershed Permit No. MIG610000. Since these permits are the subject of a contested case hearing, there was never a final agency decision made by the DNRE regarding the permits. Thus, the DNRE has elected to withdraw these permits to resolve the contested case. The Detroit Water and Sewerage Department's Certificate of Coverage No. MIS040066 issued under the MS4 General Jurisdictional Permit No. MIS049000 is rendered void. Enclosed is a copy of the withdrawal statement for MS4 General Jurisdictional Permit No. MIS049000.

The Detroit Water and Sewerage Department filed a timely application with the DNRE to continue the authorization to discharge storm water from its MS4 to surface waters. Based on this timely application, your authorization to discharge storm water from your MS4 to surface waters of the state remains in effect.

The DNRE is hosting an informational session to discuss this action and future MS4 permits on December 20, 2010, from 1:00 p.m. to 4:00 p.m. in the G. Mennen Williams Building (photo identification required to enter building), 525 West Ottawa Street, Lansing, Michigan 48933.

If you have any further questions regarding this matter, please contact Mr. Michael Bray, Permits Section, Water Resources Division, at 517- 241-1341; or by email at [BrayM@michigan.gov](mailto:BrayM@michigan.gov); or DNRE, P.O. Box 30458, Lansing, Michigan 48909-7958.

Sincerely,

William Creal, Chief  
Water Resources Division  
517-335-4176

Enclosure

cc: Mr. Michael Bray, DNRE  
Ms. Hae-Jin Yoon, DNRE

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT

IN THE MATTER OF

NPDES PERMIT NO. MIS04-9000

National Pollutant Discharge Elimination System (NPDES)  
Municipal Separate Storm Sewer System (MS4)  
Jurisdictional General Permit No. MIS049000

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WITHDRAWAL OF PROPOSED NPDES MS4 GENERAL JURISDICTIONAL  
PERMIT

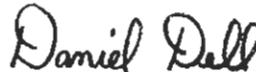
To Whom It May Concern:

On May 22, 2008, the Department of Natural Resources and Environment (DNRE) issued MS4 General Jurisdictional Permit No. MIS049000. The permit is the subject of this contested case, which included approximately 70 municipalities seeking the withdrawal of the MS4 General Jurisdictional Permit No. MIS049000. As a result of the contested case, there was no final agency decision rendered with respect to MS4 General Jurisdictional Permit No. MIS049000. The DNRE has elected to withdraw the MS4 General Jurisdictional Permit No. MIS049000 to resolve the contested case.

MS4 General Jurisdictional Permit No. MIS049000 issued on May 22, 2008, is hereby withdrawn effective on the date below.

11-30-10

Date



Daniel Dell, Chief  
Permits Section  
Water Resources Division



PERMIT NO. MIS049000

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

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WASTEWATER DISCHARGE GENERAL PERMIT**

**Storm Water Discharges from  
Municipal Separate Storm Sewer Systems (MS4s) – Jurisdictional General Permit**

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4, and 1995-18, storm water discharges from MS4s are authorized to be discharged by permittees specified in individual "certificates of coverage" in accordance with the conditions set forth in this general National Pollutant Discharge Elimination System (NPDES) permit (the "permit").

The applicability of this permit shall be for discharges of storm water by MS4 owners or operators that have submitted complete applications for coverage under this permit. Discharges that have been determined by the Michigan Department of Environmental Quality (the "Department") to need an individual NPDES permit, are not authorized by this permit.

In order to constitute a valid authorization to discharge, this permit must be complemented by a Certificate of Coverage (COC) issued by the Department. The items to be identified in the COC are listed on the following page.

Unless specified otherwise, all contact with the Department required by this permit shall be to the position indicated in the COC.

**This permit shall take effect upon issuance.**

The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules.

This permit shall expire at midnight, **April 1, 2013**.

Issued May 22, 2008.

  
\_\_\_\_\_  
William Creal, Chief  
Permits Section  
Water Bureau

## PERMIT FEE REQUIREMENTS

In accordance with Section 324.3118 of the Michigan Act, the permittee shall make payment of an annual storm water fee to the Department for each January 1 the permit is in effect regardless of the occurrence of a discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by March 15 for notices mailed by February 1. The fee is due no later than 45 days after receiving the notice for notices mailed after February 1.

## CONTESTED CASE INFORMATION

The terms and conditions of this permit shall apply to an individual permittee on the effective date of a COC for the permittee. The Department of Labor and Economic Growth may grant a contested case hearing on this permit in accordance with the Michigan Act. Any person who is aggrieved by this permit may file a sworn petition with the State Office of Administrative Hearings and Rules of the Michigan Department of Labor and Economic Growth, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Labor and Economic Growth may grant a contested case hearing on the COC issued to an individual permittee under this permit in accordance with Rule 2192(c) (Rule 323.2192 of the Michigan Administrative Code).

## ITEMS TO BE IDENTIFIED IN THE COC

All of the following will be identified in the COC.

- Submittal dates for the Storm Water Management Program (SWMP) plan or plan revisions
- Receiving waters to which the permittee discharges
- Implementation date for the SWMP plan or plan revisions, if other than implementation upon submittal. Individual parts of the plan may be authorized for implementation on different dates
- Approved Total Maximum Daily Loads (TMDLs) and the pollutants applicable to the receiving waters and storm water discharges
- Any nested jurisdictions for which the permittee is assuming responsibility for permit requirements
- Submittal dates for the Progress Reports

## PUBLIC PARTICIPATION IN A PROPOSED COC

Proposed COCs, their applications, and other documents related to requests for coverage under this permit will be posted on the Department Web site for a period of 14 days prior to issuance of each COC. Any person may file comments with the Department on these documents. Any person may request a public hearing on a proposed COC. The Department may reject as untimely any comments or public hearing requests filed after the 14-day public notice period.

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## PART I

### Section A. Effluent Limitations and Monitoring Requirements

#### 1. Authorized Discharges

##### a. Eligible Permittees

Except as excluded below, any public body that owns or operates an MS4 may be eligible for coverage under this permit.

A permittee may have within its political or territorial boundaries "nested" MS4s owned or operated by public bodies that include, but are not limited to, public school districts; public universities; or county, state, or federal agencies. If the permittee assumes responsibility for the permit requirements where a nested jurisdiction owns or operates an MS4, including identification of the discharge points for the nested jurisdiction's MS4, then the nested jurisdiction does not need to apply for an MS4 permit and the permittee is authorized for the MS4 discharges from the nested jurisdiction. Otherwise, the nested jurisdiction shall apply for a permit.

##### b. Storm Water Discharges by the Permittee

This permit authorizes the discharge of storm water from MS4s to the surface waters of the state, only from those discharge points identified in the application submitted by the permittee for coverage under this permit. The discharge points authorized include those identified as a set of discharge points by category in the application. The permittee may obtain authorization for additional discharge points by providing an updated list of discharge points to the Department's Water Bureau, Permits Section.

##### c. Discharges Authorized under Other NPDES Permits

This permit does not prohibit the use of an MS4 for other discharges authorized under other NPDES permits, or equivalent Department approval under the Michigan Act or the Federal Act.

#### 2. Discharge Point Requirements

##### a. Discharge Point Location

The permittee shall identify the location of each storm water discharge point (i.e., points discharging directly to the surface waters of the state or to any other entity's separate storm sewer system) from the MS4 it owns or operates, as follows:

1) For discharge points identified, constructed, or installed after submittal of the application, the permittee shall provide an updated map clearly showing the location of the discharge point, a unique identification code or number assigned to the discharge point, the latitude and longitude of the discharge point, and the receiving surface waters of the state. Submittals of information for discharge points identified, constructed, or installed after submittal of the application are required for obtaining authorization from the Department to discharge from those discharge points.

2) Permittees that have identified a set of discharge points by category related to their MS4s in their permit applications shall identify the location of each discharge point for which specific location information has not yet been determined as follows:

(a) For permittees with less than 1,500 estimated discharge points to identify, this requirement shall be completed by the due date for discharge point locations in the permittee's COC issued under this permit. For each discharge point identified, the permittee shall include in the progress report at Part I.B.1.b.4, the latitude and longitude of the discharge point, a unique identification code or number, and the receiving surface water of the state.

(b) For permittees with more than 1,500 estimated discharge points to identify, this requirement shall be completed within this and the next permit cycle by the due date for discharge point locations in the permittee's COC issued under this permit. For each discharge point identified, the permittee shall include in the progress report at Part I.B.1.b.4, a latitude and longitude of the discharge point, a unique identification code or number, and the receiving surface water of the state.

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

In both cases, reasonable and regular progress shall be made in the identification of discharge points. Such progress shall be documented in the progress reports.

All discharge point locations shall be submitted to the Chief of the Permits Section, Water Bureau, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909-7773.

b. MS4 Discharge Point Labeling

The permittee shall provide permanent identification (e.g., label, color coding, or other identifying characteristic) for any discharge point structure that the permittee constructs or installs after March 10, 2004, that discharges storm water to the surface waters of the state. Following the addition of permanent identification, the primary operator of the MS4 shall be readily identifiable by observation of the discharge point.

**3. Storm Water Management Program (SWMP) Plan**

a. General Requirements

The permittee shall implement Best Management Practices (BMPs) to comply with the standard requirements identified in Part I.A.3.-10. of this permit. The permittee shall revise/develop, implement, and enforce a SWMP plan to accomplish the following.

1) Reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP). The MEP requirement shall be met by the following:

- Implementing BMPs to comply with the requirements in Part I.A.3.-10. of this permit
- Demonstrating that measurable goals were met for individual BMPs
- Demonstrating the effectiveness of the Public Education Program and Illicit Discharge Elimination Program required by this permit

2) Reduce pollutants in storm water discharges from the MS4 as appropriate to be consistent with Total Maximum Daily Loads (TMDL) approved by the United States Environmental Protection Agency (USEPA). Applicable TMDLs and pollutants are identified in the permittee's COC.

b. SWMP Development and Implementation

1) A SWMP plan or revisions to the permittee's existing SWMP plan to meet the standard requirements of this permit shall be submitted to the Department on or before the date specified in the COC issued under this permit. The permittee shall implement the SWMP plan upon submittal. The permittee is encouraged to collaborate with the Department on major SWMP components prior to SWMP plan submittal. A SWMP shall be considered complete and approved upon submittal if it meets the requirements identified in Part I.A.3.-10. of this permit.

2) Revisions to the SWMP may include schedules for phasing in storm water management actions to meet the standard requirements during the term of this permit.

3) All actions shall be implemented (i.e., put into action, operation, service, or practice) over the term of this permit unless the permittee has a shortened permit term and the Department agrees to another schedule.

c. Reopener Clause

The Department may notify the permittee that the SWMP is deficient in meeting the permit requirements and request modification of the SWMP to address specific permit requirements. The permittee shall be given 90 days to address the specific concerns, unless a longer timeframe is agreed to by the Department.

The Department may, after notice and opportunity for hearing, modify permit coverage for the permittee, including requiring an individual permit pursuant to Parts I.B.4. and I.B.6. of this permit.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

#### 4. Total Maximum Daily Loads (TMDL)

In order for the SWMP to be consistent with the requirements and assumptions of the TMDL approved by the USEPA, as identified in the COC issued under this permit, the SWMP shall identify and prioritize actions to reduce pollutants in storm water discharges from the MS4 in order to make progress in meeting the Water Quality Standards.

In addition, the following specific actions shall be taken by the permittee:

- a. E. coli. For MS4 discharges to waterbodies that are covered by a TMDL for the pollutant E. coli; the permittee shall conduct the following activities:
  - 1) Within three years of COC issuance, the permittee shall take at least one representative sample of a storm water discharge from at least 50 percent of the major discharge points discharging directly to surface waters of the state within the portion of the TMDL watershed in the urbanized area. A major discharge point is a pipe or open conveyance measuring 36 inches or more at its widest cross section. At a minimum, the sample shall be analyzed for E coli.
  - 2) The permittee shall retain these results and report them in the second progress report.
  - 3) The permittee shall use these results and other available information to develop and prioritize actions to reduce the discharge of E. coli to be consistent with the TMDL. These prioritized actions shall be reported to the Department in the second progress report, with implementation targeted during the five-year permit cycle that begins in 2013.
  - 4) In the event that the permittee already has information and a plan for prioritizing and controlling the discharge of E. coli consistent with the TMDL, other than the standard requirements under Part I.A.7. of this permit, that plan may be submitted as an alternative approach to paragraphs 1) through 3) above.
- b. For MS4 discharges to waterbodies that are covered by a TMDL for the pollutant Total Phosphorus, the permittee shall conduct the following activities:
  - 1) Within three years of COC issuance, the permittee shall take at least one representative sample of a storm water discharge from at least 50 percent of the major discharge points discharging directly to surface waters of the state within the portion of the TMDL watershed in the urbanized area. A major discharge point is a pipe or open conveyance measuring 36 inches or more at its widest cross section. At a minimum, the sample shall be analyzed for Total Phosphorus.
  - 2) The permittee shall retain these self-monitoring results and report them in the second progress report.
  - 3) The permittee shall use these results and other available information to develop and prioritize actions to reduce the discharge of Total Phosphorus to be consistent with the TMDL. These prioritized actions shall be reported to the Department in the second progress report, with implementation targeted during the five-year permit cycle that begins in 2013.
  - 4) In the event that the permittee already has information and a plan for prioritizing and controlling the discharge of Total Phosphorus consistent with the TMDL, other than the standard requirements under Part I.A.7. of this permit, that plan may be submitted as an alternative approach to paragraphs 1) through 3) above.

#### 5. Public Education Program (PEP) - Education and Outreach on Storm Water Impacts

The PEP shall promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce or prevent the discharge of pollutants in storm water to the maximum extent practicable. Combining or coordinating existing PEPs for public stewardship of water resources is encouraged.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

To assist permittees with the PEP requirement, the Department has developed a "Public Education Plan (PEP) Guidance" document. It is available on the internet at [www.michigan.gov/deqstormwater](http://www.michigan.gov/deqstormwater); under Information; select "Municipal Program / MS4 Permit Guidance."

- a. At a minimum, conduct public education on the following topics, as appropriate, based on the potential impact on the receiving waters:
  - 1) Hazards associated with illicit discharges and the improper disposal of waste. Encourage public reporting of the presence of illicit discharges or the improper disposal of materials into the permittee's MS4, and develop and publicize a hotline for public reporting. Common illicit discharges are construction site wastes and sediment, carpet cleaner wastes, household wastes and motor vehicle fluids from home owners, septic and other commercially-transported wastes, and commercial power washing (except residual street washing water discharges that are allowable under Part I.A.7).
  - 2) The water body that would be potentially impacted by improper actions at or near a person's home
  - 3) The availability, location, and requirements of facilities for the collection and/or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids
  - 4) The acceptable application and disposal of pesticides, herbicides, and fertilizers, including the use of phosphorus-free fertilizer alternatives, as appropriate
  - 5) Preferred car cleaning agents and procedures for noncommercial car washing
  - 6) For property owners with a septic system, proper septic system maintenance and how to recognize system failure
  - 7) For permittees with riparian land owners, management of riparian lands to protect water quality
  - 8) Public responsibilities and stewardship in their watershed
  - 9) The benefits of using native vegetation instead of non-native vegetation
  - 10) Educate commercial, industrial, and institutional entities likely to have significant storm water impacts. At a minimum, commercial food services, primarily restaurants, shall be educated to prevent grease and litter discharges to MS4s
- b. For all applicable topics, the PEP shall identify the:
  - 1) Target audience(s).
  - 2) Key message(s).
  - 3) Delivery mechanism(s).
  - 4) Timetable.
  - 5) Responsible party (or parties).
- c. Describe a method for determining the effectiveness of the implemented PEP.

### 6. Public Involvement and Participation

Public input shall be encouraged in all aspects of the SWMP. The following minimum actions shall be taken to encourage public input:

- a. The permittee shall follow local public notice requirements, as appropriate, when notifying the public that a SWMP is or will be implemented. Copies of the SWMP plan shall be available for public review, and the public shall be notified of when and where it is available.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

- b. The permittee shall participate in a citizen advisory committee for the purpose of encouraging public involvement in all aspects of the SWMP. The permittee may participate in an existing citizen advisory committee or may establish and implement its own.
- c. The permittee shall foster cooperation with local stream or watershed protection organizations, if any exist, by informing them of activities under the SWMP; providing copies of the SWMP plan and pursuing input on the plan; seeking volunteer assistance, including water quality monitoring support; and seeking ways to meet permit requirements by assisting the local organizations with their ongoing programs for water resource protection and enhancement.

### 7. Illicit Discharge Elimination Program (IDEP)

The permittee shall develop, implement, and enforce a program to detect and eliminate illicit connections and discharges to MS4s. Illicit discharges are not authorized by this permit.

The following non-storm water discharges are not authorized by this permit, but do not need to be prohibited by the permittee in accordance with Part I.A.7.a.2. below, unless the permittee identifies them as significant contributors of pollutants:

- Water line flushing and discharges of potable water sources
- Landscape irrigation runoff, lawn watering runoff, and irrigation waters
- Diverted stream flows and flows from riparian habitats and wetlands
- Rising groundwaters and springs
- Uncontaminated groundwater infiltration [as defined by 40 CFR 35.2005(20)]
- Pumped groundwaters (except for groundwater cleanups not specifically authorized by NPDES permits), foundation drains, water from crawlspace pumps; footing drains, and basement sump pumps
- Air conditioning condensates
- Waters from noncommercial car washing
- Residual street wash waters
- Discharges or flows from emergency fire fighting activities
- Dechlorinated swimming pool waters from single, two, or three family residences. Water from a swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to the surface waters of the state without specific NPDES permit authorization from the Department.

At a minimum, the IDEP shall include the following:

- a. An ordinance and program, or other regulatory mechanism where an ordinance is not feasible or appropriate, to effectively prohibit illicit discharges into the MS4 owned or operated by the permittee that implements appropriate enforcement actions. At a minimum, the ordinance or other regulatory mechanism shall:
  - 1) Regulate the contribution of pollutants to the MS4 owned or operated by the permittee.
  - 2) Prohibit illicit discharges, including the direct dumping or disposal of materials into the MS4 owned or operated by the permittee.
  - 3) Establish the authority to investigate, inspect, and monitor suspected illicit discharges into the MS4 owned or operated by the permittee.
  - 4) Require and enforce elimination of illicit discharges and connections into the MS4 owned or operated by the permittee.
- b. A program to find and eliminate illicit connections and discharges to the MS4 from commercial, industrial, private educational, public, and residential sources. The program to find and eliminate illicit discharges and connections shall include the following:



**PART I**

**Section A. Effluent Limitations and Monitoring Requirements**

1) A storm sewer system map, showing the location of all discharge points the permittee owns or operates, and the names and location of all the surface waters of the state that receive discharges from the permittee’s MS4. A separate storm sewer system includes: roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, and man-made channels. Maps may include available diagrams such as certification maps, road maps showing rights-of-way, as-built drawings, diagrams, or other hard copy or digital representation of the storm sewer system.

By the date identified in the COC for the first progress report, or another date as agreed to by the Department for a portion of the storm sewer system, the permittee shall have the above information. The information shall be retained by the permittee and made available to the Department upon request. System information shall be maintained and updated as discharge points are identified or added.

2) Identification of areas prioritized by the permittee for dry-weather screening or other investigation methods for the purpose of maximizing the detection and elimination of illicit discharges. Prioritization shall consider the criteria in Table 1. Highest priority criteria are generally listed toward the top of the table, but a permittee’s priority order may vary and some criteria may not be applicable.

**TABLE 1**

<b>Prioritization Criteria</b>	<b>Key Characteristics to Consider for Prioritization</b>
Poor dry weather water quality	Areas where TMDLs have been developed to address pollutants that could originate from illicit discharges or where the available data shows that dry-weather water quality criteria are exceeded two or more times in a year are high priorities.
Density of aging on-site sewage disposal systems (OSDS)	Older private septic systems that exceed their design life may have failure rates of 25 to 30 percent or more. Areas where the OSDS designs would not be permitted today because of poor soils or small lot sizes, but where older OSDS are still in operation, have a high illicit discharge potential.
Aging or failing sewer infrastructure	Areas where sewer age exceeds its design life, and where clusters of pipe breaks, spills, overflows, or infiltration and inflow are known problems, should be given a high priority.
Discharge complaints and reports	Any MS4s owned or operated by the permittee with a history of discharge complaints should be given a high priority.
Age and density of industrial operations	Older industrial operations often have floor drains, waste handling areas, gray water, and sanitary facilities connected to storm sewers. Industrial areas also commonly have storm water pollutants related to poor housekeeping practices, so a higher density of industrial activities increases the likelihood of contaminated discharges.
Age of development	Areas where the average age of the majority of the development exceeds 50 years should be given a higher priority.
MS4 discharge point density	A density of more than 20 of the permittee’s MS4 discharge points per stream mile (include both sides of the stream) indicates a high illicit discharge potential. Count just the discharge points that discharge directly to the surface waters of the state.
Sewer conversion areas	Areas where sanitary sewers were added in the last 30 years, and residents switched from septic systems, have a high potential for illicit taps of sanitary water to MS4s.
Historic combined sewer systems	Sewer systems that were once combined, but were subsequently separated, have a high illicit discharge potential if oversight of the projects was not documented.
Type of commercial activity	Non-industrial businesses, especially those that handle liquids, including oils and greases (e.g., auto maintenance, food service, and carpet cleaners) may remain unaware of storm water pollution concerns from improper waste disposal and “hopper juice” from trash compactors.
Other potential pollutant-generating sites	Conditions unique to the permittee’s jurisdiction should be considered.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

3) A plan and procedures to perform dry-weather screening of each MS4 discharge point at a minimum of every five (5) years, beginning on the due date for the SWMP plan submittal, unless the permittee submits an alternative plan for approval. Alternatives should be based on the identification of priority areas in Table 1, and shall demonstrate that other methods for identifying illicit connections and discharges will be at least as effective as dry-weather screening every five (5) years.

At a minimum, dry-weather screening shall include recorded observations of MS4 discharge point flows and receiving water characteristics, including: water clarity, color, and odor; the presence of suds, oil sheens, sewage, floatable materials, bacterial sheens, algae, and slimes; staining of the banks and unusual vegetative growth. MS4 discharge structures shall be observed for unusual vegetative growth, staining, undocumented connections, and integrity of the structure.

If flow is observed from the MS4 discharge point, then the permittee shall do one of the following:

- Where an illicit discharge and its source are obvious, it shall be eliminated, and additional analysis or sampling is not required, or
- Conduct a field assessment of the dry-weather flow to analyze, at a minimum: pH, ammonia, surfactants, and temperature. The analysis may be conducted using a field kit.

4) If an illicit discharge is detected, but the source has not been identified, the source shall be confirmed by one or more of the following methods: indicator parameter testing, which may include chemical and bacterial sampling; dye testing; video testing; smoke testing; documented visual observation or physical indicators; homeowner surveys and surface condition inspections for on-site sewage disposal systems; and drainage area investigations. The discharge of tracer dyes shall be authorized in accordance with Part I.A.11.a. of this permit.

5) Procedures for eliminating illicit discharges and pursuing enforcement action, including responding to spills and emergency situations. The procedure shall specify measures for expeditious response to, and elimination of, each identified illicit discharge, spill, and emergency situation. If not already existing, the permittee shall develop a system to track the elimination status of illicit discharges and enforcement actions. The system shall also track confirmation that illicit connections are removed or the discharge permanently ceased. The permittee shall make records associated with this activity available to the Department upon request.

c. A program to train staff, especially those involved in illicit discharge-related activities and those who have field jobs with the potential for witnessing illicit discharges and connections. At a minimum, the training shall include the following:

- The definition of illicit discharges, illicit connections, and sanitary seepage
- Techniques for locating illicit discharges, including field screening, source identification, and recognizing illicit discharges and connections
- Methods for eliminating illicit discharges and the proper enforcement response
- Proper procedures for responding to spills and emergency situations
- A training schedule and a requirement for the initial training of appropriate staff, with refresher training every three (3) years

## 8. Post-Construction Storm Water Control for New Developments and Redevelopment Projects

The permittee shall develop, implement, and enforce standards through an ordinance or other regulatory mechanism to address post-construction storm water runoff from all new and redeveloped projects that disturb one (1) acre or more, including projects less than one (1) acre that are part of a larger common plan of development or sale that would disturb one (1) acre or more. The program shall include the following general requirements:

- *A minimum treatment volume standard* to address water quality impacts
- *Channel protection criteria* to address resource impairment resulting from flow volumes and rates

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

- Operation and maintenance requirements
- Enforcement mechanisms with recordkeeping procedures
- A requirement for the project developer to prepare and implement site plans, which shall incorporate the requirements of this section of the permit

The permittee shall retain records associated with this activity in accordance with Part II.C.2. of this permit.

The permittee shall establish structural storm water BMP design standards by meeting any of the following:

- The permittee identified in its application a schedule to develop and place in effect an ordinance or other regulatory mechanism that incorporates the *minimum treatment volume standard* and the *channel protection criteria* listed in a) and b) below.
- The permittee identified in its application for coverage under this general permit its applicable local ordinance or other regulatory mechanisms that implement a standard for storm water treatment and criteria for stream channel protection that existed before the permittee submitted its application.
- The permittee identified in its application for coverage under this general permit applicable local procedures that implemented a standard for storm water treatment and criteria for channel protection criteria that existed before submittal of its application, and these local procedures will be converted into an ordinance or other regulatory mechanism by the date specified in the COC for SWPPI submittal.
- The permittee submits with the SWMP an alternative approach based on low-impact development (LID) that provides an equivalent or greater level of water quality and stream channel protection. The alternative is subject to Department approval.

Any combination of existing regulatory mechanism or procedure, approved alternative approach, or adoption of an ordinance or regulatory mechanism in accordance with the requirements of a) and b) below, may be used to establish the necessary minimum treatment volume standard and channel protection criteria, provided that they are applied to all new developments and redevelopment projects that disturb one (1) acre or more, including projects less than one (1) acre that are part of a larger common plan of development or sale that would disturb one (1) acre or more. Amendments made to ordinances or other regulatory mechanisms do not have to be submitted to the Department if the amendments do not reduce the level of channel protection or water quality treatment that were provided prior to the amendment.

a. The *minimum treatment volume standard* shall be either:

- 1) One inch of runoff from the entire site, or
- 2) The calculated site runoff from the 90 percent annual non-exceedance storm for the region or locality according to (a) or (b) below, respectively:
  - a) The statewide analysis by region for the 90 Percent Annual Non-Exceedance Storms is summarized in a memo dated March 24, 2006, which is available on the Internet at [www.michigan.gov/deqstormwater](http://www.michigan.gov/deqstormwater); under Information, select "Municipal Program/MS4 Permit Guidance," then go to the Storm Water Control Resources heading.
  - b) The analysis of at least ten years of local published rain gauge data following the method in the memo "90 Percent Annual Non-Exceedance Storms" cited above. This approach is subject to review by the Department.

Treatment methods shall be **designed** on a site-specific basis to achieve the following:

- A minimum of 80 percent removal of total suspended solids (TSS), as compared with uncontrolled runoff, or
- Discharge concentrations of TSS not to exceed 80 milligrams per liter (mg/l)

A *minimum treatment volume standard* is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80 mg/l.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

- b. The *channel protection criteria* established in this permit is necessary to maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. Where more restrictive channel protection criteria already exists, or is needed to meet the goals of reducing runoff volume and peak flows to less than existing levels on lands being developed or redeveloped, permittees are encouraged to use the more restrictive criteria rather than the standard permit requirements.

An acceptable source of rainfall data for calculating runoff volume and peak flow rate is *Rainfall Frequency Atlas of the Midwest*, Huff & Angel, NOAA Midwest Climate Center and Illinois State Water Survey, 1992.

Methods for estimating pre- and post-development runoff shall follow curve number evaluations as described in guidance available on the Internet at [www.michigan.gov/deqstormwater](http://www.michigan.gov/deqstormwater). Select "Municipal Program/MS4 Guidance," then go to the Storm Water Control Resources heading and select "Guidance for Calculating Runoff Volume and Peak Flow Rate."

The permittee shall request approval from the Department to use other rainfall data sources and runoff models.

*Channel protection criteria* shall be required for all surface waters of the state within regulated urbanized areas except in the following water bodies:

- The Great Lakes or connecting channels of the Great Lakes
- The Rouge River downstream of the Turning Basin
- The Saginaw River
- Mona Lake and Muskegon Lake in Muskegon County
- Lake Macatawa and Spring Lake in Ottawa County

- c. All structural and vegetative BMPs installed as a requirement under this section of the permit shall include a plan for maintaining maximum design performance through long-term operation and maintenance (O & M). The permittee shall develop, track, and enforce a program through the ordinance or other regulatory mechanism to ensure long-term O & M plans for the water quality treatment and channel protection controls the permittee requires. The permittee shall make records associated with this activity available to the Department upon request.

## 9. Construction Storm Water Runoff Control

The Department has determined that Part 91 of the Michigan Act and Michigan's Permit-by-Rule (Rule 323.2190) are qualifying local programs for the control of wet weather discharges from construction activities that result in land disturbance of greater than or equal to one (1) acre, or disturb less than one (1) acre that is part of a larger common plan of development or sale. A qualifying local program provides control for soil erosion, off-site sedimentation, and other construction-related wastes, consistent with the Federal Phase 2 storm water control requirements for MS4 permittees.

To ensure adequate protection of the MS4, the permittee shall develop and implement the following:

- a. A procedure to provide notice as follows when pollutants are discharged from construction activity in violation of Section 9116 of Part 91 of the Michigan Act, Michigan's Permit-by-Rule at R 323.2190(2)(a), or the prohibition of non-storm water discharges in Part I.A.7.a.2. of this permit; and the pollutants enter the MS4 owned or operated by the permittee:
- 1) Notify the Part 91 permitting entity and the Department when soil and sediment are discharged, or
  - 2) Notify the Department when other wastes are discharged.

If the permittee suspects the discharge may endanger public health or the environment, the violations shall be reported in accordance with Part I.B.2.a. of this permit.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

- b. A procedure to ensure that preliminary site plans adequately allow space for future soil erosion and sedimentation controls, as applicable.
- c. A procedure for the receipt and consideration of complaints or other information submitted by the public regarding construction activities discharging wastes to the MS4.

### 10. Pollution Prevention/Good Housekeeping for Municipal Operations

Municipal operations cover a wide variety of activities and land uses that are potential sources of storm water pollutants. These operations include, but are not limited to, roadways, parking lots, transportation and equipment garages, fueling areas, warehouses, stockpiles of salt and other raw materials, open ditches and storm sewers, turf and landscaping for all municipal properties, including parks, and waste handling and disposal areas.

The permittee shall develop, implement, and ensure compliance with a program of operation and maintenance of BMPs, with the ultimate goal of preventing or reducing pollutant runoff to the maximum extent practicable from municipal operations that discharge storm water to the surface waters of the state. The permittee is encouraged to use BMP guidance and training materials that are available from federal, state, or local agencies, or other organizations.

The program shall meet the following requirements:

a. **Employee/Contractor Training**

The permittee shall ensure there is training for appropriate staff on topics that affect the water quality entering the MS4, such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, storm water system maintenance, and any other activity included in the standard requirements of Part I.A.10.b-f. (below). Timing for training shall include the following:

- For existing employees, one (1) training session prior to the expiration of this general permit
- For new employees, one (1) training session during the first year of employment
- For contractors, the permittee shall ensure that they are trained before they perform the contract work. Permittees may conduct the training or provide training materials relating to storm water management activities, which may include local pollution control specifications, before they perform work for the permittee.

b. **Structural Storm Water Control Effectiveness**

Structural storm water controls include, but are not limited to, vegetated swales; infiltration, sedimentation and bioretention facilities; storm water devices (e.g., catch basins and oil/water separators); and any controls installed or operated by the permittee to remove pollutants from storm water. They shall have routine maintenance performed, and maintenance schedules shall be adequate to maintain pollution removal effectiveness at design performance and to ensure that the controls are maintained in a condition (e.g., adequately stabilized, seeded, functional) to reduce contribution of pollutants to the surface waters of the state.

- 1) The permittee shall inspect all such controls at a frequency appropriate for the BMP design and site conditions. Inspection frequencies shall be identified in the SWMP.
- 2) The permittee shall include in the SWMP a summary list of municipal properties and structural storm water controls owned or operated by the permittee. The list shall include the type and number of municipal properties and structural storm water controls. The permittee shall have location information for all municipal properties and structural storm water controls by the date specified in the COC for the submittal of the first progress report. The location information shall be updated whenever new municipal properties and structural storm water controls are added. The location information shall be retained by the permittee and, upon request, provided to the Department for review.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

The following are examples of municipal properties: police or fire station(s), library(ies), administration building(s) (e.g., city or township hall), public works facility(ies) such as maintenance garages or storage yards, park(s), cemetery(ies), waste disposal areas or unregulated landfills/dumps, open or vacant land, or any other type (describe) of property maintained by the permittee.

3) The permittee shall describe and implement procedures to dispose of the following materials in accordance with Part 111 (hazardous waste), Part 115 (solid waste), and Part 121 (liquid industrial waste) of the Michigan Act: operation and maintenance waste, such as dredge spoil, accumulated sediments, floatables, and other debris the permittee removes from the MS4. Options for the disposal of wastes removed from catch basin sumps or other parts of an MS4 are included in the Department publication entitled "Guidance for Catchbasin Cleaning Activities," which is available on the Internet at: [www.michigan.gov/deqstormwater](http://www.michigan.gov/deqstormwater), under the information link named "Municipal Program/MS4 Permit Guidance."

4) When the permittee adds facilities or structural controls for water quantity or pollution treatment or removal, it shall design and install the controls based on the *minimum treatment volume standard, channel protection criteria*, and requirements for operation and maintenance established under Part I.A.8. of this permit. Permittees are encouraged to upgrade and rehabilitate existing facilities or structural controls based on the treatment volume standard, channel protection criteria, and requirements for operation and maintenance in Part I.A.8.

#### c. Roadways, Parking Lots, and Bridges

1) The permittee shall construct, operate, and maintain its streets, roads, highways, parking lots, and other permittee-owned or operated impervious infrastructure in a manner so as to reduce the discharge of pollutants into the MS4 and the surface waters of the state, including pollutants related to snow removal practices.

2) The permittee shall reduce the runoff of TSS from all of its paved surfaces to the maximum extent practicable, with a goal of reducing the annual TSS loading from paved surfaces to surface waters by 25 percent, as compared to annual loading from runoff with no suspended solids controls.

TSS reductions may be achieved by any combination of pollution prevention (e.g., improved materials handling, or altered land uses or traffic patterns), removal (cleaning streets and catch basins), or treatment (settling filtration or infiltration).

Reductions of sediment from activities otherwise regulated or prohibited, such as sediment track-out or runoff from construction sites, shall not be counted toward the TSS reduction goal. As a method of assessing progress in storm water pollution prevention, the permittee's progress reports shall provide an estimate of the TSS loading reduction achieved.

3) Salt and sand applied for improved traction shall be prevented from entering MS4s and receiving streams to the maximum extent practicable. Good housekeeping shall be required at salt and sand storage facilities to prevent the discharge of salt and sand from these areas. The permittee shall also comply with the salt storage requirements of the Part 5 Rules (Rules 324.2001 to 324.2009 of the Michigan Administrative Code).

4) The permittee shall investigate and implement appropriate BMPs to control dust and suspended solids in runoff from unpaved roads and parking lots.

5) The permittee shall not use coal tar emulsions to seal asphalt surfaces.

#### d. Fleet Maintenance and Storage Yards/Facilities

1) A Storm Water Pollution Prevention Plan (SWPPP) shall be implemented for all municipal fleet maintenance and storage yards/facilities that are not regulated as industrial activities. The SWPPP shall be developed in accordance with the Appendix to this permit.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

The MS4 owner or operator shall have a certified storm water operator, in accordance with Part II.D.2, to oversee storm water controls at all facilities with SWPPPs.

2) The permittee's SWMP shall identify its fleet maintenance and storage yard facilities (including those for nested jurisdictions, if applicable), and shall indicate if a SWPPP has been developed for each facility and if it was implemented under the supervision of a certified storm water operator.

3) The completed SWPPP shall be signed by the facility manager and the certified storm water operator or Storm Water Program Manager, as applicable, and retained on-site at the facility which generates the storm water discharge. The permittee shall retain the SWPPP, reports, log books, storm water discharge sampling data (if collected), and supporting documents in accordance with Part II.C.2 of this permit.

4) Fleet maintenance activities include, but are not limited to, adding or changing vehicle fluids, including fuel, lubrication, mechanical repairs, parts degreasing, and vehicle or equipment washing. Storage yards include, but are not limited to, areas where vehicles are stored or impounded, and where vehicle and road maintenance materials and other chemicals in bulk are stored and handled. Discharge of vehicle or maintenance facility wash water is not authorized by this permit. Vehicles and equipment shall be maintained for clean and effective operation to prevent impacts on storm water quality.

5) The permittee shall also investigate and implement appropriate BMPs to prevent the discharge of pollutants to the MS4 from the storage, collection, transport, and disposal of refuse by the permittee or for the permittee under contract.

e. **Managing Vegetated Properties**

The permittee shall minimize the discharge of pollutants related to the management of vegetation on land that the permittee owns or operates. BMPs required under this measure include:

1) A process to train employees and contractors on the proper storage, handling, and use of pesticides, herbicides, and fertilizers before they handle or apply them

2) Use of only phosphorus-free fertilizers on turfgrass. Phosphorus may be added to turfgrass only if soils are tested for nutrients (nitrogen/phosphorus/potassium) a minimum of every four (4) years and a need for phosphorus is demonstrated. Phosphorus fertilizers shall be applied to lands that the permittee owns or operates only as prescribed in the soil test results.

3) A program to minimize storm water impacts from all of the permittee's managed vegetated properties

## 11. Discharges Requiring Separate Authorizations

a. **Tracer Dye Discharges**

This permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department.

b. **Water Treatment Additives**

This permit does not authorize the discharge of water additives without approval from the Department. Water additives include any material that is added to water discharged through the MS4 to condition or treat the water.

## PART I

### Section A. Effluent Limitations and Monitoring Requirements

In the event a permittee proposes to discharge water additives, the permittee shall submit a request to discharge water additives to the Department for approval. Such requests shall be sent to the Surface Water Assessment Section, Water Bureau, Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909-7773, with a copy to the Department. Instructions to submit a request electronically may be obtained via the Internet (<http://www.michigan.gov/deq>; on the left side of the screen click on Water, Water Quality Monitoring, Assessment of Michigan Waters; then click on the Water Treatment Additive List, which is under the Information banner). Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water additive usage and discharge information:

- 1) Material Safety Data Sheets
- 2) The proposed water additive discharge concentration
- 3) The discharge frequency (i.e., the number of hours per day and the number of days per year)
- 4) The monitoring point from which the product is to be discharged
- 5) The type of removal treatment, if any, that the water additive receives prior to discharge
- 6) Product function (i.e., microbiocide, flocculant, etc.)
- 7) A 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia sp.*, *Daphnia sp.*, or *Simocephalus sp.*)
- 8) The results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2) of the Water Quality Standards

Prior to submitting the request, the permittee may contact the Surface Water Assessment Section by telephone at 517-335-4184 or via the Internet at the address given above to determine if the Department has the product toxicity data required by items 7) and 8) above. If the Department has the data, the permittee will not need to submit product toxicity data.

c. Wastewater Associated with Concrete

The permittee shall not discharge to the surface waters of the state any wastewater generated from cutting, grinding, drilling, or hydrodemolition of concrete without authorization under an NPDES wastewater discharge permit.



## PART I

### Section B. Program Assessment and Reporting

#### 1. Submittals and Reporting

##### a. SWMP Plan

A SWMP plan submitted on or before the date specified in the COC for this permit shall include the following:

##### 1) BMPs

The SWMP plan shall include descriptions of the BMPs that will be or have been implemented for all of the standard requirements in Part I.A. of this permit. The plan shall identify the years (and months as appropriate) that BMPs are proposed to begin and the frequency of the actions, if appropriate, such as the maintenance frequency for structural BMPs and the implementation frequency of nonstructural BMPs, so that the SWMP will be implemented within five (5) years of the effective date of the COC.

##### 2) Measurable Goals

The SWMP plan shall include a description of the measurable goals for each listed BMP. Measurable goals for an individual BMP may include a description of BMP *actions* and/or *results* related to an environmental benefit.

a) Example descriptions of *actions* include the number of MS4 discharge points or buildings inspected for illicit discharges, the number of fliers mailed or informational programs conducted for public education, the number of volunteers for in-stream biological surveys or the extent of the stream surveyed, and the frequency of street sweeping or catch basin cleaning as a pollution prevention activity.

b) Examples of *results* related to an environmental benefit include the number and types of illicit connections identified and corrected, survey results showing a change in public awareness of storm water issues; the mass or volume of solids removed during street sweeping and catch basin cleaning operations, or the measurable or observable improvements in water quality, aquatic habitat, or biological diversity.

##### 3) Receiving Water Quality Status

The permittee shall provide a description of the status of the water quality in the surface waters of the state within the permittee's political, territorial, property, or right-of-way boundaries. The description of water quality status may be narrative or numeric, or both. Narrative descriptions may include, but are not limited to, reports of unnatural physical properties such as turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits; the presence or absence of indicator animals, algae, or bacteria; the presence of trash and floatables; and streambank and streambed conditions. For numeric descriptions, the Department encourages the permittee to seek alternatives to instream water chemistry monitoring or to limit chemical monitoring to a small number of parameters. Biological indices are acceptable numeric descriptions. The permittee may gather its own information; join a group to gather information, or report information collected by someone else, including county, state, or federal governments.

##### 4) Receiving Water Quality Stresses

The permittee shall identify and prioritize the stresses on the waters of the state within the permittee's political, territorial, property, or right-of-way boundaries. "Stresses" mean negative impacts on surface water quality, navigation, industrial water supply, public water supply at the point of water intake, fish and other indigenous aquatic life and wildlife, human body contact recreation (i.e., public health violations), and agricultural uses. Water quality stress reporting shall consist of descriptions of the known or suspected pollutant sources leading to water quality concerns, if any.

##### 5) Upcoming Activities

The permittee shall provide a summary of the storm water activities scheduled for implementation during the next reporting cycle.

##### 6) Notice of MS4 Operators Nested within Community Boundaries

A city, village, township, or county (primary jurisdiction) shall identify in its SWMP plan nested jurisdictions with which it has established cooperative agreements. The primary jurisdiction shall be responsible for ensuring compliance with this permit for those nested jurisdictions with which they have entered into an agreement.

## PART I

### Section B. Program Assessment and Reporting

#### 7) Sharing Permit Responsibilities

Permittees may share permit responsibilities when two or more permittees coexist in the same geographical area. Each permittee shall report the permit responsibilities that will be shared and shall identify the other permittee with whom they will be shared.

#### b. Progress Reports

Progress reports shall be submitted to the Department twice during the permit period, by the dates identified in the COC issued under this permit. The Department may approve alternate dates for progress report submittal if requested and adequately justified by the permittee. The progress reports shall contain the following information:

##### 1) Compliance Assessment

The permittee shall describe the status of compliance with the standard permit requirements in Part I.A. and any approved alternatives. The report shall describe the progress made towards achieving the identified measurable goals for each of the BMPs, and specific evaluation criteria for the PEP, the IDEP, and TSS reduction as follows:

- a) For the PEP, provide a summary of the evaluation of the PEP's overall effectiveness, using the evaluation methods prescribed in the PEP.
- b) For the IDEP, in addition to evaluating the progress made toward the measurable goal, provide documentation of the actions taken to eliminate illicit discharges. For identified illicit discharges, the permittee shall summarize the total estimated volume and pollutant load eliminated for the main pollutant(s) of concern, and the location(s) of the discharge(s) into both the permittee's MS4 and the receiving water.
- c) Assess TSS reduction in accordance with Part I.A.10.c.2. of this permit by reporting the following:
  - Describe the current level of control related to TSS discharges from paved surfaces
  - Estimate the load reduction from existing controls
  - In the second annual report, identify needs to achieve the goal of 25 percent TSS load reduction

##### 2) Water Quality Assessment

The permittee shall provide an updated assessment of the water quality conditions within its jurisdiction. Use of data collected by other sources or participation in a group monitoring program is encouraged. Narrative descriptions or a combination of narrative and numeric descriptions may be submitted. The purpose of this update is to show any obvious changes in the receiving waters since the previous progress report.

##### 3) Water Quality Stress Update

The permittee shall provide a description of any water quality stresses identified since the previous progress report.

##### 4) Discharge Point Location

The permittee shall provide updated information, in accordance with Part I.A.2.a. of this permit, that was not previously submitted for newly identified, constructed, or installed MS4 discharge points.

The permittee shall provide an update on areas added to or removed from the MS4 due to annexation, other statutory processes (if applicable), or properties bought or sold.

##### 5) Data and Results

The permittee shall provide a summary of all of the information collected and analyzed, including monitoring data, if any, during the reporting cycle.

##### 6) Upcoming Activities

The permittee shall provide a summary of the storm water activities to be implemented during the next reporting cycle.

##### 7) BMP and Measurable Goal Changes

The permittee shall describe any planned changes in identified BMPs or measurable goals for any of the standard permit requirements.

## PART I

### Section B. Program Assessment and Reporting

8) Notice of Changes in Nested Jurisdiction Agreements or Reliance on Permitted MS4 Operators  
The permittee shall identify any nested jurisdictions that enter into or terminate permit agreements with the permittee which were not identified in the SWMP plan. All permittees shall describe any changes in the need to rely on other permitted MS4 operators to satisfy the terms and conditions of this permit, as described in Part I.B.1.a.7.

c. Phase I Annual Reporting Requirements (Phase I Permittees Only)

The operator of a large or medium separate storm sewer system who was permitted under Phase 1 of the Federal storm water regulations shall submit the following information annually, on or before the anniversary date of the COC's issuance:

1) Implementation Status [40 CFR 122.42(c)(1)]

The permittee shall describe the status of implementing the components of the SWMP.

2) Environmental Impacts [40 CFR 122.42(c)(7)]

The permittee shall provide an assessment of the pollution reduction and probable receiving water quality impacts associated with program implementation. When applicable, a statement shall be included regarding any negative water quality impacts that may have occurred as a result of any illicit discharges or accidental spills during the report cycle.

3) Revised Fiscal Analysis [40 CFR 122.42(c)(3)]

The permittee shall provide a summary of revisions, if necessary, to the fiscal analysis reported during the previous permit. Permit application requirements at 40 CFR 122.26(d)(2)(vi) may be used to guide reporting.

4) Data Summary [40 CFR 122.42(c)(4)]

The permittee shall provide a summary of data, including monitoring data, that is accumulated throughout the reporting year.

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

The permittee shall provide the previous reporting cycle's expenditures and proposed budget for the reporting cycle following the report.

6) PEP Reporting and Program Enforcement [40 CFR 122.42(c)(6)]

The permittee shall provide a summary describing the number and nature of enforcement actions, inspections, and public education programs.

d. Facility Contact Person

The permittee shall identify a facility contact person to act as a storm water program manager responsible for overseeing compliance with the requirements of this permit. The facility contact person may be replaced at any time, and the permittee shall notify the Department within ten days after the replacement.

e. Signatory Requirements

All reports required by this permit, and other information requested by the Department, shall be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative of that person in accordance with 40 CFR 122.22(b).

## 2. Notification Requirements

The permittee shall verbally notify the Department within 24 hours of becoming aware of any discharges to or from the MS4 that the permittee suspects may endanger public health or the environment.

Notification should include (if known) the name of the person responsible for the discharge, the location of the discharge into the MS4, the location where the MS4 discharges to the surface waters of the state, the nature of the discharge and the pollutants, and clean-up and recovery measures taken or planned. If the notice is provided after regular working hours, call the Department's 24-Hour Pollution Emergency Alerting System telephone number: 1-800-292-4706.

## PART I

### Section B. Program Assessment and Reporting

#### 3. Recordkeeping

The latest version of the SWMP plan developed in accordance with this permit shall be retained by the permittee and available for inspection in accordance with Part II.D.9. of this permit. All records and information resulting from the preparation of previous SWMP plans or the progress reports, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained by the permittee for a minimum of three years or as described in Part II.B.5. of this permit.

#### 4. SWMP Modification

##### a. Modifications Requested by the Permittee

The SWMP may be modified by the permittee as follows.

- 1) Modifications adding (but not replacing or subtracting) components, controls, or requirements to the SWMP may be made by the permittee at any time upon written notification to the Department. Notification shall include a description of the modification.
- 2) Modifications replacing an ineffective or unfeasible BMP specifically identified in the SWMP plan with an alternative BMP may be requested at any time by written notification to the Department. Unless denied by the Department, or another implementation date is approved, the modification shall be implemented by the permittee 60 days from submittal of the request. Such requests must include the following:
  - a) An analysis of why the BMP is ineffective or unfeasible (including cost prohibitive)
  - b) A measurable goal for the replacement BMP
  - c) An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced
- 3) Modifications subtracting an ineffective or unfeasible BMP specifically identified in the SWMP plan may be requested by written notification to the Department. The identified BMP shall not be subtracted from the SWMP unless the subtraction is approved by the Department. The request shall include an analysis of:
  - a) Why the BMP is ineffective or unfeasible (including cost prohibitive)
  - b) Why the removal of the BMP will not hinder the permittee's ability to comply with the permit requirements or be consistent with a TMDL, if applicable

##### b. Modifications Required by the Permitting Authority

The Department may require the permittee to modify the SWMP as needed to:

- 1) Address contributions by the MS4 discharges that impair receiving water quality.
- 2) Include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements.
- 3) Include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Federal Act or the Michigan Act, including the requirement to reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

#### 5. Expiration and Reissuance

On or before October 1, 2012, a permittee seeking continued authorization to discharge under this permit beyond the permit's expiration date shall submit to the Department a written request containing such information, forms, and fees as required by the Department. Without an adequate request, a permittee's authorization to discharge will expire on

## PART I

### Section B. Program Assessment and Reporting

April 1, 2013. With an adequate request, a permittee shall continue to be subject to the terms and conditions of the expired permit until the Department takes action on the request, unless this permit is terminated or revoked.

If this permit is terminated or revoked, all authorizations to discharge under the permit shall expire on the date of termination or revocation.

If this permit is modified, the Department will notify the permittee of any required action. Without an adequate response, a permittee's authorization to discharge will terminate on the effective date of the modified permit. With an adequate response, a permittee shall be subject to the terms and conditions of the modified permit on the effective date of the modified permit, unless the Department notifies the permittee otherwise.

#### 6. Requirement to Obtain Individual Permit

The Department may require any permittee that is authorized to discharge under a COC and this permit to apply for and obtain an individual NPDES permit if any of the following circumstances apply:

- a. The discharge is a significant contributor to pollution as determined by the Department on a case-by-case basis.
- b. The discharger is not complying with, or has not complied with, the conditions of the permit.
- c. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of waste applicable to the point source discharge.
- d. Effluent standards and limitations are promulgated for point source discharges subject to this permit.
- e. The Department determines that the criteria under which the permit was issued no longer apply.

Any person may request the Department to take action pursuant to the provisions of Rule 2191 (Rule 323.2191 of the Michigan Administrative Code).

#### 7. Switching from Another MS4 General Permit

A permittee with coverage under another MS4 general permit, such as the MS4 Watershed-Based General Permit (Permit No. MIG610000 or Permit No. MIG619000), under which a WMP was already developed and submitted to the Department as a permit requirement, that wishes to seek coverage under this permit, shall submit to the Department a complete SWMP plan, as described in Parts I.A.3. and I.B.1.a. of this permit, as part of the application for coverage under this permit or in accordance with an alternate schedule set by the Department.

## PART II

### Section A. Definitions

This list of definitions may include terms not applicable to this permit.

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

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

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

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

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

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

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

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

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

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

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

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

## PART II

### Section A. Definitions

**Discharge point** is any location on the MS4 owned or operated by the permittee that discharges directly to a surface water of the state, or any location on the MS4 owned or operated by the permittee that discharges to any other separate storm sewer system before discharging to a surface water of the state.

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

**Effluent limitation** means any restriction on quantities, rates, and concentrations of chemical, physical, biological, and other constituents discharged from point sources.

**Fecal coliform bacteria monthly** is the geometric mean of the samples collected in a calendar month (or 30 consecutive days). The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

**Fecal coliform bacteria 7-day** is the geometric mean of the samples collected in any 7-day period. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

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

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

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

**Illicit discharge** means any discharge (or seepage) to the MS4 that is not composed entirely of storm water or uncontaminated groundwater. Examples of illicit discharges include, but are not limited to, the dumping of motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, or domestic animal wastes, or the unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste into an MS4.

**Illicit connection** means a physical connection to the MS4 that 1) primarily conveys illicit discharges into the MS4, or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit).

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

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

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

## PART II

### Section A. Definitions

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

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

**MGD** means million gallons per day.

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

**Monthly concentration** is the sum of the daily concentrations determined during a reporting month (or 30 consecutive days) divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

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

**Monthly loading** is the sum of the daily loadings of a parameter divided by the number of daily loadings determined in the reporting month (or 30 consecutive days). The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMRs.

**MS4 discharge point** means an outfall from an MS4 to the surface waters of the state, or a point where an MS4 discharges into a system operated by another entity.

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

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

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

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

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



## PART II

### Section A. Definitions

**On-Site Sewage Disposal System (OSDS)** means a natural system or mechanical device used to collect, treat, and discharge or reclaim wastewater from one or more dwelling units without the use of community-wide sewers or a centralized treatment facility.

**POTW** is a publicly-owned treatment works as defined at 40 C.F.R. §403.3.

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

**Point source** means a discharge point from an MS4 to the waters of the state, or a point where a storm water drainage system discharges into a system operated by another public body.

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

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

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

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

**Redevelopment** means the alteration of developed land that changes the footprint of the site or building, or offers a new opportunity for storm water controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts.

**Regional Administrator** is the Region 5 Administrator, USEPA, located at R-19J, 77 West Jackson Boulevard, Chicago, Illinois 60604.

**Sanitary seepage** means infiltration into the MS4 of sanitary wastewater which has leaked from public or private sewerage systems, including, but not limited to, onsite sewage disposal systems such as septic tanks and drain fields.

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

**Separate storm sewer system** means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which has the following characteristics:

- The system is not a combined sewer where storm water mixes with sanitary wastes.
- The system is not part of a publicly-owned treatment works.

## PART II

### Section A. Definitions

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

**Storm water** means storm water runoff, snow melt runoff, and surface runoff and drainage.

**Surface waters of the state** means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:

- The Great Lakes and their connecting waters
- All inland lakes
- Rivers
- Streams
- Impoundments
- Open drains
- Other surface bodies of water within the confines of the state

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

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

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

**Treatment** means the removal of pollutants through settling, filtration, infiltration, or the equivalent.

**Uncontaminated groundwater** means groundwater that will not contribute substantially to the violation of a water quality standard or will not be a significant contributor of pollutants upon discharge to surface waters of the state.

**Urbanized area** means a place and the adjacent densely-populated territory that together have a minimum population of 50,000 people, as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

**Water Quality Standards** means the Part 4 Water Quality Standards promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

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

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

**24-hour composite sample** is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

## PART II

### Section A. Definitions

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

**7-day concentration** is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

**7-day loading** is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during any 7 consecutive days in a reporting month. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

## PART II

### Section B. Monitoring Procedures

#### 1. Representative Samples

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

#### 2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Chief of the Permits Section, Water Bureau, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909-7773. The permittee may use such procedures upon approval.

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

#### 3. Instrumentation

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

#### 4. Recording Results

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

#### 5. Records Retention

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

## PART II

### Section C. Reporting Requirements

#### 1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of the facility's certificate of coverage, the permittee shall notify the Department within 14 days following the effective date of the certificate of coverage, and then 60 days prior to the commencement of the discharge.

#### 2. Retained Self-Monitoring Requirements

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

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

Reissuance or modification of this permit, or reissuance or modification of an individual permittee's authorization to discharge, shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

#### 3. Additional Monitoring by Permittee

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

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

#### 4. Compliance Dates Notification

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

## PART II

### Section C. Reporting Requirements

#### 5. Noncompliance Notification

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

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

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

#### 6. Spill Notification

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

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

#### 7. Upset Noncompliance Notification

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

- a. That an upset occurred and that the permittee can identify the specific cause(s) of the upset
- b. That the permitted wastewater treatment facility was, at the time, being properly operated
- c. That the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit

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

## PART II

### Section C. Reporting Requirements

#### 8. Bypass Prohibition and Notification

- a. Bypass Prohibition - Bypass is prohibited unless:
- 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
  - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass
  - 3) The permittee submitted notices as required under 8.b. or 8.c. below.
- b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 8.a. above.
- c. Notice of Unanticipated Bypass - The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated in the certificate of coverage (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.
- d. Written Report of Bypass - A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.
- e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 8.a., 8.b., 8.c., and 8.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.9. of this permit.
- f. Definitions
- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
  - 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

#### 9. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the certificate of coverage for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

**PART II****Section C. Reporting Requirements****10. Changes in Facility Operations**

Any anticipated action or activity, including, but not limited to, facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under Rule 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.12.; and 4) the action or activity will not require notification pursuant to Part II.C.9. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

**11. Bioaccumulative Chemicals of Concern (BCC)**

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

**12. Transfer of Ownership or Control**

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

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



## PART II

### Section D. Management Responsibilities

#### 1. Duty to Comply

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

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

#### 2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the Michigan Act.

#### 3. Facilities Operation

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

#### 4. Power Failures

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

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

#### 5. Adverse Impact

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

#### 6. Containment Facilities

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

## PART II

### Section D. Management Responsibilities

#### 7. Waste Treatment Residues

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

#### 8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

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

#### 9. Availability of Reports

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

## PART II

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

#### 1. Discharge to the Groundwaters

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

#### 2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground, or marina shall be from the Water Bureau, Michigan Department of Environmental Quality. Approval for such construction for a hospital, nursing home, or extended care facility shall be from the Division of Health Facilities and Services, Michigan Department of Consumer and Industry Services, upon request.

#### 3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.8. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

#### 4. Oil and Hazardous Substance Liability

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

#### 5. State Laws

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

#### 6. Property Rights

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

**APPENDIX****STORM WATER POLLUTION PREVENTION PLANS FOR FLEET MAINTENANCE AND STORAGE YARDS**

These requirements apply to areas of fleet maintenance and storage yards in accordance with Part I.A.10.d.

**1. Source Identification**

To identify potential sources of significant materials that can pollute storm water and subsequently be discharged from the facility, the Storm Water Pollution Prevention Plan (SWPPP) shall, at a minimum, include the following items:

- a. A site map identifying the following:
  - 1) Buildings and other permanent structures
  - 2) Storage or disposal areas for significant materials
  - 3) Secondary containment structures and descriptions of what they contain
  - 4) Storm water discharge points (numbered for reference)
  - 5) Location of storm water and non-storm water inlets contributing to each discharge point
  - 6) Location of NPDES-permitted discharges other than storm water
  - 7) Outlines of the drainage areas contributing to each discharge point
  - 8) Structural runoff controls or storm water treatment facilities
  - 9) Areas of vegetation (with a brief description, such as lawn, old field, marsh, wooded, etc.)
  - 10) Areas of exposed and/or erodible soils
  - 11) Impervious surfaces (roofs, asphalt, concrete)
  - 12) Name and location of receiving water(s)
  - 13) Areas of known or suspected impacts on surface waters as designated under Part 201 (Environmental Response) of the Michigan Act.
- b. A list of all significant materials that could pollute storm water. For each material listed, the SWPPP shall include each of the following descriptions:
  - 1) Ways in which each type of material has been or has a reasonable potential to become exposed to storm water (e.g., spillage during handling; leaks from pipes, pumps, and vessels; contact with storage piles, contaminated materials, or soils; waste handling and disposal; deposits from dust or overspray; etc.).
  - 2) An evaluation and written description of the reasonable potential for contribution of significant materials to run off from at least the following areas or activities:
    - a. Loading, unloading, and other material-handling operations
    - b. Outdoor storage, including secondary containment structures
    - c. Outdoor manufacturing or processing activities
    - d. Significant dust or particulate-generating processes
    - e. Discharge from vents, stacks, and air emission controls
    - f. On-site waste disposal practices
    - g. Maintenance and cleaning of vehicles, machines, and equipment
    - h. Areas of exposed and/or erodible soils
    - i. Sites of Environmental Contamination listed under Part 201 (Environmental Response) of the Michigan Act
    - j. Areas of significant material residues
    - k. Areas where animals congregate (wild or domestic) and deposit wastes
    - l. Other areas where storm water may contact significant materials.
  - 3) Identification of the discharge point(s) through which the material may be discharged if released.

**APPENDIX****STORM WATER POLLUTION PREVENTION PLANS FOR FLEET MAINTENANCE AND STORAGE YARDS**

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

- c. A listing of significant spills and significant leaks of polluting materials that occurred at areas that are exposed to precipitation or that otherwise discharge to a point source at the facility. The listing shall include spills that occurred over the three (3) years prior to the effective date of a COC authorizing discharge under this permit. The listing shall include the date, volume and exact location of the release, and the action taken to clean up the material and/or prevent exposure to storm water runoff or contamination of the surface waters of the state. Any release that occurs after the SWPPP has been developed shall be controlled in accordance with the SWPPP and is cause for the SWPPP to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss.
- d. A summary of existing storm water discharge sampling data (if available) describing pollutants in storm water discharges associated with industrial activity at the facility. This summary shall be accompanied by a description of the suspected source(s) of the pollutants detected.

**2. Preventive Measures and Source Controls, Non-Structural**

To prevent significant materials from contacting storm water at the source, the SWPPP shall, at a minimum, include each of the following non-structural controls:

- a. A program which includes a schedule for routine preventive maintenance. The preventative maintenance program shall consist of routine inspections and maintenance of storm water management and control devices (e.g., cleaning of oil/water separators and catch basins, routine housekeeping activities, and cleaning out catch basins), as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters. The routine inspection shall include those areas of the facility in which significant materials have the reasonable potential to contaminate runoff. A log of the inspections and corrective actions shall be maintained on file by the permittee, and shall be retained in accordance with the Appendix, Section 5.
- b. A schedule for comprehensive site inspection, including a visual inspection of the equipment, plant areas, and structural pollution prevention and treatment controls, to be performed at least quarterly. The permittee may request Department approval of an alternate schedule for comprehensive site inspections. A report of the results of the comprehensive site inspection shall be prepared and retained in accordance with the Appendix, Section 5. The report shall identify any incidents of noncompliance with the SWPPP or this permit. If there are no reportable incidents of noncompliance, the report shall contain a certification that the facility is in compliance with this permit.
- c. A description of good housekeeping procedures to maintain a clean, orderly facility. Good housekeeping procedures shall include routine inspections of the areas of the facility in which the procedures are implemented. The routine inspections of good housekeeping procedures may be combined with the routine inspections for the preventative maintenance program.
- d. A description of the material-handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the SWPPP and made available to the appropriate personnel. The procedures shall identify measures to prevent spilled materials or material residues on the outside of containers from being discharged into storm water. The SWPPP may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the Michigan Act; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.

## APPENDIX

### STORM WATER POLLUTION PREVENTION PLANS FOR FLEET MAINTENANCE AND STORAGE YARDS

- e. Identification of areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. The SWPPP shall also identify measures used to control soil erosion and sedimentation.
- f. A description of the employee training programs which will be implemented to inform the appropriate personnel at all levels of responsibility of the components and goals of the SWPPP. The SWPPP shall identify periodic dates for such training.
- g. Identification of significant materials expected to be present in storm water discharges following implementation of the nonstructural preventative measures and source controls.

### 3. Structural Controls for Prevention and Treatment

Where implementation of the measures required by the Appendix, Section 2, does not control storm water discharges to prevent contact with significant materials to the maximum extent practicable, the SWPPP shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment. Structural controls may be necessary:

- 1) To prevent uncontaminated storm water from contacting or being contacted by significant materials.
- 2) If preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse, or otherwise manage storm water in a manner that reduces the level of significant materials in the storm water to the maximum extent practicable.

### 4. Keeping Plans Current

- a. The permittee shall review the SWPPP annually after it is developed and maintain written summaries of the reviews. Based on the review, the permittee shall amend the SWPPP as needed to ensure continued compliance with the terms and conditions of this permit.
- b. The SWPPP developed under the conditions of a previous permit shall be amended as necessary to ensure compliance with this permit.
- c. The SWPPP shall be updated or amended whenever changes or spills at the facility increase or have the potential to increase the exposure of significant materials to storm water, or when the SWPPP is determined by the permittee or the Department to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Updates based on increased activity or spills at the facility shall include a description of how the permittee intends to control any new sources of significant materials or respond to and prevent spills in accordance with the requirements of the Appendix, Sections 1, 2, and 3.
- d. The Department may notify the permittee at any time that the SWPPP does not meet the minimum requirements. Such notification shall identify why the SWPPP does not meet the minimum requirements. The permittee shall make the required changes to the SWPPP within 30 days after such notification from the Department, and shall submit to the Department a written certification that the requested changes have been made.
- e. Amendments shall be signed, dated, and retained with the SWPPP.

### 5. Record Keeping

The permittee shall maintain records of all SWPPP-related inspections and maintenance activities. Records shall also be kept describing incidents such as spills or other discharges that can affect the quality of storm water runoff. All such records shall be retained for three years. The following records are required by this permit:

- Routine maintenance inspections (Appendix, Section 2.a.)
- Good housekeeping inspections (Appendix, Section 2.c.). The routine maintenance inspection and good housekeeping inspection may be combined.
- Comprehensive inspection reports (Appendix, Section 2.b.)
- Written summaries of the annual SWPPP review (Appendix, Section 4.a)

# APPENDIX C





May 4, 2009

Ms. Betsy Nightingale  
MDEQ Southeast District Office  
27700 Donald Ct.  
Warren, MI 48092-2793

Dear Ms. Nightingale:

Regarding: New MS4 Jurisdictional Permit  
Storm Water Controls for New Development Projects

The City of Detroit has received the Certificate of Coverage, which was issued for storm water discharges from City-owned storm sewers under the new Jurisdictional MS4 Permit. We note that the new permit includes a requirement dealing with the establishment of an ordinance or other regulatory mechanism to control storm water runoff from new development projects or redevelopment projects in areas served by City-owned storm sewers. The Certificate of Coverage states that Detroit is to adopt an ordinance or other regulatory mechanism by August 1, 2009.

As you know, Detroit's July 17, 2008 permit application discussed the mechanism for regulating post-construction storm water from new and redevelopment projects (copy of excerpt from permit application attached for reference). Because the area served by municipal separated storm sewers within the City of Detroit is extremely small, and since much of this land is under municipal ownership, there is little, if any, opportunity for a new development or redevelopment project to arise. Detroit's permit application indicated that it did not intend to proceed with development and adoption of the storm water control ordinance. Rather, the City will utilize its existing authority under the site plan review and approval process to ensure that at least the minimum applicable post-construction storm water management practices described in Section A.8 of the permit are incorporated into any new or redevelopment project located in the area served by municipal storm sewers, provided it meets the specified one (1) acre criteria. As a result, no submittal is required by the August 1, 2009 deadline.

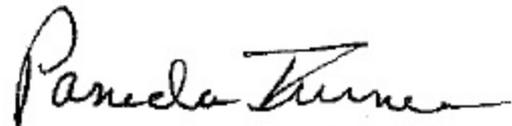
The approach described above is particularly appropriate recognizing the financial duress under which the City of Detroit is currently operating. Detroit is pursuing an NPDES permit modification to reduce the cost of compliance with certain CSO control requirements based on severe financial constraints resulting from the economic downturn. The hardship conditions are perhaps even more significant when dealing with storm water, since there is no built-in revenue base to fund storm water management efforts.

In view of the City's financial crisis, it is inappropriate and unnecessary to expend limited resources to prepare and implement a storm water ordinance given the low potential for new development projects in the MS4 service area.

We also note that the new MS4 Jurisdictional Permit identifies March 1, 2010 as the date by which revisions to Detroit's Storm Water Management Program Plan (SWMPP) will be due. It is our understanding that this provision supplants the reporting deadline established under the prior (expired) MS4 permit so that the annual report, which would have been submitted in October, 2009, will not need to be filed.

If you have questions regarding this, please feel free to contact Mr. Mirza Rabbaig at (313) 964-9880.

Sincerely yours,



Pamela Turner  
Interim Director

DET-05  
Attachment

cc: Mr. R. Shukla, DWSD Assistant Director  
Mr. M. Rabbaig, DWSD Engineering  
Ms. L. Koester, Detroit Law Department  
Mr. C. Ammerman, Detroit Law Department  
Mr. R. Hinshon, Hinshon Environmental Consulting  
Mr. E. Kluitenberg, CDM

DET.ms4 permit reg controls mdeq tx 5-4-09.doc

**Excerpt from Detroit's  
7/17/08 Storm Water Permit Application**

**POST CONSTRUCTION STORM WATER CONTROLS  
FOR NEW DEVELOPMENT AND RE-DEVELOPMENT PROJECTS (PART I.A.)**

The City of Detroit currently has ordinances and procedures in place which require developers to submit information on site drainage and other relevant factors for approval by various City Departments. These ordinances and procedures do not explicitly encompass the criteria referenced in the General Storm Water Permit for runoff quality and quantity, but they provide the authority for the City to require a developer to incorporate storm water management practices as a prerequisite to the site plan approval.

Given the tiny geographical area tributary to the City owned MS4 system, and the fact that the City has ownership of virtually all of this area, Detroit proposes to defer the development and adoption of formal ordinances imposing quality and quantity controls at this time. The City has the ability to impose obligations as it deems necessary for new developments on City owned property so a new ordinance is unlikely to be needed.

If a new or re-development project is proposed within the MS4 tributary area and the new permit requirements on runoff quality and quantity cannot be enforced as part of the site plan review and approval process, Detroit will at that time undertake the adoption of new ordinances and procedures as necessary to impose these legal obligations on new and re-development projects in the MS4 area. In this event, construction of the proposed project will be deferred pending ratification and implementation of the new ordinances and procedures.

## **Kluitenberg, Edward**

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**From:** Nightingale, Elizabeth (DEQ) [NIGHTINGALEE@michigan.gov]  
**Sent:** Wednesday, June 03, 2009 11:22 AM  
**To:** rabbaig@dwsd.org; Hinshonr@aol.com; Kluitenberg, Edward  
**Cc:** Bray, Michael (DEQ); Nightingale, Elizabeth (DEQ); Yoon, Hae-Jin (DEQ); Swart, Stephanie (DEQ); Argiroff, Phil (DEQ)  
**Subject:** MS4 COC for the City of Detroit

Hi Mirza,

We received the City's May 4, 2009 letter regarding the requirements of the new jurisdictional MS4 permit.

The City's COC includes the following language related to post construction:

On or before August 1, 2009, in accordance with Part I.A.8. of the General Permit, the permittee shall develop and place in effect an ordinance or other regulatory mechanism that incorporates the minimum treatment volume standard and the channel protection criteria listed in Part I.A.8.a. and Part I.A.8.a. of the General Permit.

In order for the DEQ to evaluate the City's request to utilize a site plan review and approval process rather than an ordinance to ensure that the criteria listed in Part I.A.8.a. of the permit are met for all new an redevelopment over 1 acre in size in areas served by separate storm sewer systems, more information is needed.

Please provide additional information about the location, size, type (general category- park, road, residential, etc) and ownership (private, owned by City, etc) of all property that drains to the MS4 discharge points included in the 2008 MS4 permit application. Maps of the storm sewer system, as well as maps of land ownership, or tax information could be utilized to fulfill this request. Please provide this information as soon as possible, and by July 7, 2009.

Please feel free to contact me with any questions or concerns.

Betsy

~~~~~

Betsy Nightingale

Senior Environmental Quality Analyst

Michigan Department of Environmental Quality

27700 Donald CT.

Warren, MI 48092

Phone: (586) 753-3794

Fax: (586) 753-3751

Email: [nightingalee@michigan.gov](mailto:nightingalee@michigan.gov)

August 13, 2009

Ms. Betsy Nightingale  
Southeast Michigan District Office  
Michigan Department of Environmental Quality  
27700 Donald Court  
Warren, MI 48092-2793

Dear Ms. Nightingale:

**Regarding: Supplemental Information on City Storm Sewers**

This letter transmits supplemental information on the City of Detroit's municipally owned storm sewers in response to your email dated June 3, 2009. As requested, please find additional details on the location, size and type of land in the area tributary to the municipal storm sewers.

The attached list shows all 62 outfalls which were identified in the documents previously submitted by Detroit to the Michigan Department of Environmental Quality (MDEQ). The list includes 29 outfalls to the Detroit River and 32 outfalls to the Rouge River. Field inspections were conducted in response to your recent request to determine the tributary area for each outfall. Several pipes have been identified as having no surface inlet, and are apparently functioning solely as road underdrains. Since there is no stormwater being conveyed in these pipes, these 13 sewers will be removed from the inventory of City-owned storm sewers.

For the remaining 49 outfalls, the drainage areas are extremely small with many of the tributary land consisting of less than an acre. The property is owned by the City of Detroit, and consists primarily of parkland, roadways or other City-owned property.

Please note that the delineation of tributary areas for City-owned storm sewers has been developed from currently available information and maps, since there is no database on which to make a precise determination. Nevertheless, the areas shown on the supplemental information are believed to be a valid representation of the approximate drainage areas.

Given the relatively small area and the fact that the land is in public ownership, there is limited potential for future development or re-development. As such, the City of Detroit believes that it is unnecessary to develop a storm water control ordinance to comply with the requirements of the general storm water permit. As you may know, the City has established substitute regulatory mechanisms to deal with similar situations in the past. Specifically, arrangements have been made between the Detroit Water and Sewerage Department and the Building and Safety Department to require a review of storm water management issues during the site plan review process on new and re-development projects.

This approach has been used to establish controls and restrictions on storm water and drainage for several projects, and developers have subsequently revised their projects in response to the site plan review comments.

We respectfully request that the requirement to prepare and adopt a new storm water control ordinance be waived based on the limited potential for future site development, and the availability of alternative regulatory mechanisms as described above.

If you have questions on this or need further information, please feel free to contact Mr. Mirza Rabbaig at (313) 964-9880.

Sincerely yours,



Pamela Turner  
Director

cc: Mr. R. Shukla, DWSD  
Mr. M. Rabbaig, DWSD  
Ms. L. Koester, Law Department  
Mr. R. Hinshon, Hinshon Environmental Consulting  
Mr. E. Kluitenberg, CDM

DET-05  
Attachment

DET.supp info storm sewers mdeq tx 7-09.doc

# APPENDIX D





April 27, 2005

Mr. Alec Malvetis  
Michigan Department of Environmental Quality  
Water Bureau - Permits Section  
P.O. Box 30473  
Lansing, Michigan 48909

Dear Mr. Malvetis:

**Regarding: Appendix A for the City of Detroit's Storm Water Discharge Permit**

This letter transmits "Appendix A" from the Storm Water Discharge Permit application form as required in the Certificate of Coverage issued to the City of Detroit for the Municipal Separate Storm Sewer System (MS4). Based on a preliminary review of the activities listed on Appendix A, it has been determined that Detroit has the power and authority to perform all of the listed tasks in Appendix A to the extent that they may need to be undertaken to comply with the Storm Water Discharge Permit. To that end, the attached submittal contains no check marks identifying activities which cannot be performed by the City.

It should be noted, however, that ordinances may not be currently in place to support some activities relating to future storm water management efforts. For example, the City Code does not currently establish specific requirements for storm water discharges from new development projects in a post-construction mode. Detroit is working cooperatively with MDEQ to review such projects and ensure that storm water drainage is appropriately dealt with, and the City has the capability, if necessary, to amend its ordinances to further address this issue in order to implement the Storm Water Management Program Plan.

It is apparent that many of the activities listed in Appendix A relate primarily to the control of storm water runoff from residential or commercial/industrial areas. Detroit's MS4 has been identified as serving land areas which consist of parkland, city roadways which cross rivers, and a few undeveloped riverfront properties. To that end, we believe that the activities which will need to be undertaken to control storm water runoff in Detroit may be quite limited, and that many of the items listed on Appendix A are not applicable. As Detroit proceeds with the development of its Storm Water Management Program Plan, pursuant to the NPDES General Permit and the Certificate of Coverage, the scope and type of storm water management activities will become better defined.

It is recognized that there are several "nested jurisdictions" within the City which are already developing and implementing their own storm water management programs. These include the Michigan Department of Transportation (MDOT), Wayne County Roads, and Wayne County Drains. Detroit's response with regard to Appendix A reflects our understanding that these "nested jurisdictions" will continue to be independently responsible for their programs and compliance with the terms of their discharge permits for storm water drainage within the City of Detroit.

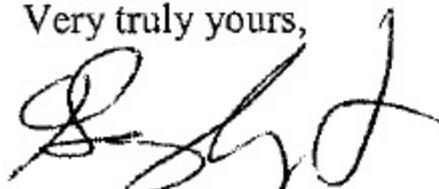
Mr. Alec Malvetis  
April 27, 2005  
Page 2

RE: Appendix A for the City of Detroit's  
Storm Water Discharge Permit

Staff from several departments within the City of Detroit have been working over the past six months to complete a thorough inventory of all city-owned storm sewers. As you know, the initial permit application only identified nine storm sewer outfalls, and the Certificate of Coverage only lists these outfalls as being authorized to discharge under the General Storm Water Permit. Based on the investigative work completed to date, it now appears that there are approximately 50 municipally owned storm sewers which discharge to various receiving waters. An updated and expanded inventory of storm sewers in the City of Detroit will be compiled and submitted to MDEQ by June 1, 2005. This list is intended to supplement and supercede the initial permit application, and we would respectfully request that these storm sewers be included under the authorization to discharge as set forth in the Certificate of Coverage.

I look forward to working with you and the District Office staff on the development and implementation of the SWMPP. In the meantime, if you have questions on this or need further information on Detroit's storm water management efforts, please feel free to call me at (313) 224-4784.

Very truly yours,



Gary Fujita  
Deputy Director

GF/rlc  
Attachment

cc: Phil Argiroff, MDEQ District Office  
Detroit Storm Water Coordination Committee

DET:AppendixA.xmittal

# APPENDIX E



to the person so redeeming, which certificate shall then be returned by the person so redeeming to the board of water commissioners for cancellation. Upon failure of redemption within one year, the owner or bona fide holder of such certificate of purchase may certify such fact to the board by proper affidavit and surrender of original issued certificate or proper evidence in lieu thereof, and upon such surrender, the board shall certify to the finance director that no redemption from such sale has been made and the finance director shall thereupon issue to the present owner of such certificate of purchase a quitclaim deed to the property so sold. (Code 1964, § 65-3-7)

Secs. 56-2-47—56-2-57. Reserved.

#### DIVISION 4. FLUORIDATION\*

Sec. 56-2-58. Authorized.

The board of water commissioners, in cooperation with the department of health of the city, is hereby authorized and directed to institute fluoridation of the water supply of the city and to do all things necessary to carry out the directive set forth in this section. (Code 1964, § 65-4-1)

Sec. 56-2-59. Approval of equipment, personnel, etc.

The introduction of fluorides into the water supply of the city shall be undertaken only after the department of health of the city has approved the following:

- (1) The equipment to be installed and utilized in introducing fluorides into the city's water supply;
- (2) The installation of equipment, plant layout and methods of handling the fluoride compounds by city employees;
- (3) The methods of analysis and control to be used in determining the fluoride content

\*Case law annotation—Fluoridation of water upheld as legitimate public health measure; *Rogawski v. Detroit*, 374 Mich. 408, 132 N.W. 2d 16 (1965).

of the water supply before and after the introduction of fluorides;

- (4) The qualifications of the personnel who will make the necessary analysis to control the introduction of fluorides into the water supply. (Code 1964, § 65-4-2)

Sec. 56-2-60. Testing.

The control and testing of water before and after fluoridation, the method of determining the fluoride content of the water and the tests for the purity of the fluoride chemical shall, in all respects, comply with the rules and standards promulgated by the department of health. (Code 1964, § 65-4-3)

### ARTICLE III. SEWERS AND DRAINS\*

#### DIVISION 1. GENERALLY

Sec. 56-3-1. Authority.

By virtue of obligations and authority placed upon the board of water commissioners of the city by the Federal Water Pollution Control Act of 1972 (Public Law 92-500), as amended, the State of Michigan Act 245 of 1929, as amended [MCL 323.1 et seq., MSA 3.521 et seq.], and the National Pollution Discharge Elimination System Permit No. MI 0022802, existing or future contracts between the board of water commissioners of the city and suburban communities or other governmental entities, or by virtue of common law usage of the system, this division shall apply to every user whose wastewater is treated at a treatment plant of the board of water commissioners of the city. (Ord. No. 340-H, § 1(56-1-1), 8-29-79)

Sec. 56-3-2. Definitions.

The following words and phrases, when used in this division, shall have the meanings respectively ascribed to them:

\*Cross references—Sewer services required in house trailer camps, § 34-3-8; construction of drains and sewers in streets, § 50-1-3.

*Board* shall mean the board of water commissioners of the city.

*BOD* (denoting biochemical oxygen demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at twenty (20) degrees Celsius, expressed in milligrams per liter (mg/l).

*Building drains* shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer, beginning five (5) feet outside the inner face of the building wall.

*Building sewer* shall mean the extension from the building drain to the public sewer.

*Combined sewer* shall mean a sewer receiving both surface runoff and sewage.

*Director* shall mean the director of the water and sewerage department in the city or his deputy or his designated representative.

*National pollutant, discharge elimination system (NPDES) permit* shall be as defined in the Federal Water Pollution Control Act 33 USC 1342, PL-92-500, Section 402; and 40 CFR 125.

*Natural outlet* shall mean any outlet into a watercourse, river, pond, ditch, lake, or other body of surface or ground water.

*Persons or user* shall mean any individual, firm, company, association, society, corporation or group.

*Private drain* shall mean any drain or sewer connecting a private source to a public or lateral sewer.

*Industrial wastes* shall mean any liquid, solid or gaseous waste or form of energy or combination thereof resulting from any process of industry, manufacturing, business, trade or research, including the development, recovery or processing of natural resources.

*Private sewer* shall mean a sewer not under the jurisdiction or ownership of a governmental entity.

*Public right-of-way* shall mean a street or alley under governmental jurisdiction that is for public use.

*Public sewer* shall mean a common sewer controlled by a governmental agency or public utility.

*Sanitary sewer* shall mean a sewer that carries liquid or water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with minor quantities of ground, storm, and surface waters that are not admitted intentionally.

*Sewage* shall mean a combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface, and storm waters as may be present.

*Sewage works* shall mean all facilities for collecting, pumping, treating, and disposing of sewage.

*Sewer* shall mean a pipe or conduit carrying liquid and/or liquid-bearing wastes.

*Slug* shall mean any discharge of water, sewage or industrial waste which in concentration of any given constituent or in quantity of flow exceeds, for any period of duration longer than fifteen (15) minutes, more than five (5) times the average twenty-four (24) hour concentration or flows during normal operation.

*Storm sewer* shall mean a sewer which carries storm and surface waters and drainage, but excludes wastewater and industrial waters, other than unpolluted cooling water.

*Suburban sewer* shall mean a sewer that emanates from and serves areas outside the city.

*Unpolluted water* shall mean water in its original natural or unused state and, if used,

it shall be at least equal chemically, physically and biologically to its state before use.

*Wastewater* shall mean a combination of water, liquid and liquid- or water-carried waters emanating from, or by, domestic, commercial or manufacturing users of the system and discharging into a sanitary sewer.

*Watercourse* shall mean a channel in which a flow of water occurs, either continuously or intermittently. (Ord. No. 340-H, § 1(56-1-2), 8-29-79)

*Cross reference*—Definitions and rules of construction generally, § 1-1-2.

**Sec. 56-3-3. Use of public sewers required.**

(a) The use of and the requirement to connect to the city public sewers shall be in accordance with this article and the plumbing code of the city in article IV of chapter 9.

(b) No person, as owner, occupant or tenant or any lot, parcel of land or building thereon within the city, shall discharge any sanitary sewage, industrial waste or other objectionable or deleterious matter into any stream, water course, lake or pond within, leading to, or bordering upon the city. Such sewage or waste shall be discharged into public sewers having connection to the sewage works of the city, unless such sanitary sewage or other objectionable or deleterious matter is treated in a manner approved by the director of the water and sewerage department and the health department, so as not to endanger public health and as required by other government agencies having jurisdiction so as not to endanger public health or to create a public nuisance. (Ord. No. 340-H, § 1(56-1-3), 8-29-79)

**Sec. 56-3-4. Private sewage disposal.**

The use of any private sewage works shall be governed by the plumbing code of article IV of chapter 9. (Ord. No. 340-H, § 1(56-1-4), 8-29-79)

**Sec. 56-3-5. Building sewers and connections—In city.**

(a) All building sewers and private drains tributary to a city public sewer and all sewer connections to a city public sewer shall comply with division 3 of this article which regulates industrial and commercial waste discharge; the board's "rules and regulations applying to sewer permit work" when the work is in a public right-of-way and/or involves a connection to a public sewer; the city plumbing code, article IV of chapter 9; and the following.

(b) A permit from the board shall be secured prior to any connection being made to a city public sewer. The general conditions of the permit are:

- (1) All costs for the work related to the connection and for the inspection provided by the city shall be borne by the permittee. No person shall be permitted to connect any building sewer from his premises with any private drain or sewer made by one or more individuals, in any street, lane or alley, except upon payment to the proprietors of such drain or sewer of a ratable proportion of the expense of making the same, the amount to be ascertained and determined by the water and sewerage department, with the right of appeal to the city council.
- (2) No permit for a sewer connection carrying industrial wastes shall be issued, unless all of the requirements of division 3 of this article regulating the discharge of wastes to city sewers, have been met.
- (3) All permit applications for industrial and commercial connections shall be accompanied by a set of plans for the proposed project.
- (4) No permit shall be issued for the construction for connection to a city public sewer until a construction permit for the proposed sewer work if required has been issued by the state department of natural resources.

(c) New sewer connection will be granted contingent upon the available capacity in the downstream sewers, lift stations, and the sewage treatment plant including BOD and suspended solids capacity.

(d) No person shall make connection of roof downspouts, exterior foundation drains, area-way drains or other sources of surface runoff or ground water to a building sewer or building drain which in turn is connected directly or indirectly to a city public sanitary sewer.

(e) All city public sewers and all private sewers constructed in public rights-of-way in the city shall be designed and constructed in accordance with the board's "guidelines for sewer system design, detailing and construction in the City of Detroit."

(f) Every person having any building sewer or private drain from his premises that is connected with any city or private sewer shall pay a ratable proportion of all expenses necessary for maintenance and keeping such city or private sewers in repair.

(g) In any case, where the city health department and the water and sewerage department have upon investigation, made a determination of the fact that sewage or industrial waste inimical to public health and welfare or constituting a public nuisance is being discharged into any stream, watercourse, lake or pond within, leading to or bordering upon the city, the city health department and the water and sewerage department shall cause a notice, written or printed to be served upon the owner or occupant of any lot or other premises from which such sewage or industrial waste has been or is being discharged to discontinue and abate the discharging or depositing of any such sewage or industrial waste into any such stream, watercourse, lake or pond hereinbefore referred to, and to cause proper connection to be made under the supervision of and at such place or places as directed by the water and sewerage department to the public sewer system of the city, as provided under division 3 of this article or to provide

for the treatment of such sewage or industrial waste so as not to endanger public health or constitute a public nuisance and in form and manner approved by the health department and water and sewerage department. Such notice shall be complied with within ninety (90) days or such additional time as may be granted by the city council after the service of such notice or the posting thereof. The cost of such connection shall be the responsibility of and borne by the owner of the property from which such connection is made; provided, that the health department may petition the Water Resources Commission, created by Act No. 245 of the Public Acts of 1929, as amended [MCL 323.1 et seq., MSA 3.521 et seq.] to cause to be abated and discontinued the discharge and disposal of sewage or industrial waste in such waters or the pollution thereof in the event any order of the health department and water and sewerage department is not complied with. (Ord. No. 340-H, § 1(56-1-5), 8-29-79)

#### Sec. 56-3-6. Same—Suburban.

(a) All buildings sewers whose flow is eventually tributary to a city public sewer and all suburban sewers connecting to a city public sewer shall comply with division 3 of this article and the board's requirements as set forth in "design, detailing and construction standards for sanitary sewers connecting to Detroit Regional System" and "rules and regulations applying to sewer permit work".

(b) Except as provided by agreement, all suburban public sewer systems connecting directly or indirectly to the city sewage works shall be approved by each municipality to be served by the proposed facility and by the city. City approval shall not be given until each municipality in which the proposed facility is to be physically located has had a reasonable opportunity to review and comment on the plans and specifications for the facility.

(c) If a suburban sewer project is not under construction or the contract awarded within two (2) years of city approval, the approval



shall be void unless an extension of time has been approved by the city.

(d) Suburban sewers connecting to a city sewer shall be public sewers unless a special waiver has been secured from the city.

(e) Suburban sewer connections to the city sewage works shall be limited to sanitary sewers only unless a combined sewer is permitted by agreement or council action.

(f) Every suburban community that connects their sanitary sewers to the city sewage works shall have an ordinance prohibiting the connection of roof downspouts, exterior foundation drains, areaway drains or other sources of surface runoff of ground water to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer. (Ord. No. 340-H, § 1(56-1-6), 8-29-79; Ord. No. 362-H, § 1, 12-12-79)

#### **Sec. 56-3-7. Changes to regulations.**

The board, acting through the director, shall have the authority to make changes, additions or deletions to the "rules and regulations applying to sewer permit work," "design, detailing and construction standards for sanitary sewers connecting to Detroit Regional System" and "guidelines for sewer system design, detailing and construction in the City of Detroit" with due notice the affected parties in the service area of the board. (Ord. No. 340-H, § 1(56-1-7), 8-29-79)

#### **Sec. 56-3-8. Use of public sewers.**

(a) All industrial and commercial flow discharge to a city public sewer shall comply with the requirements of division 3 of this article.

(b) Storm water and all other unpolluted water shall be discharged to sewers specifically designated as combined sewers or storm sewers or to a natural outlet approved by the appropriate state agency. Industrial cooling water and unpolluted process water may be discharged to a storm sewer upon approval by

the water and sewerage department. The discharge of such waters to a natural outlet must be approved by the appropriate state agency.

(c) No person shall remove or cause to be removed any gate, cover or barricade from a manhole, catch basin or sewer inlet over which it is placed, or in any way, directly or indirectly, injure any city public sewer or any part thereof.

(d) No person shall make or construct any sink, drain or sewer leading into any city public sewer without providing a sufficient strainer at the head of it.

(e) No person shall deposit or cause to be deposited in any city public sewer or in any private sewer connecting therewith, any garbage, glass, metal, earthenware, stone, sand, gravel, cinders, cement, concrete, lime or lime waste, rags, lint, dust, grass, hay, straw, manure, offal, grease, feathers, sticks or bits of wood, gasoline, oil or oily wastes, tar, acids, chemicals, offensive or harmful gaseous wastes or gases, either free or in solution nor shall any waste or materials or combinations thereof be deposited that are liable to cause injury to, stoppage of or unreasonably offensive odors in such sewers.

(f) No person shall deposit or allow to be deposited any refuse, dripping or nauseous liquid or other substance from any distributing pipe or gas conductor into any sewer, receiving basin gutter or other place within the city, or force or discharge into any public or private sewer or drain any steam vapor or gas. (Ord. No. 340-H, § 1(56-1-8), 8-29-79)

#### **Sec. 56-3-9. Notice to repair.**

In all cases where private drains or sewers shall be obstructed or injured or shall cause the obstruction or injury to any city public sewer so as to produce, in the opinion of the health department or water and sewerage department, a nuisance, or in the event that the repairs are necessitated to any private drain or sewer or any city public sewer due to any of the causes outlined in section 56-3-8(e)

or for any other causes whatsoever, such as the collapse of any private drain or sewer because of age, deterioration, improper maintenance or construction, it shall be the duty of the water and sewerage department to give notice to owners or parties in interest and any occupant of suitable age and discretion of properties connected with and serviced by such drains or sewers to repair the same. If the private drains or sewers are not forthwith repaired, it shall be the duty of the city to cause the necessary repairs to be made. The city shall make the repairs to the city public or lateral sewers or public property damaged incidentally thereto, and shall be reimbursed for such repairs in the manner provided. Such expenses incurred for repairs shall be charged to owners or parties in interest of the properties connected with and serviced by such private drains and sewers in a ratable proportion, and, if not paid, the same shall be assessed against the premises connected with such drain or sewer as a special assessment, and levied and collected in the same manner as provided in the Charter in the case of special assessments. (Ord. No. 340-H, § 1(56-1-9), 8-29-79)

#### **Sec. 56-3-10. Drainage of lots.**

(a) Any person owning a lot in the vicinity of a public sewer shall drain such lot into the city public sewer lying adjacent thereof, whenever the city council or health department decides upon the necessity for so doing. The drain from such lot shall be constructed under the regulation and supervision of the water and sewerage department, and connected where the director designates.

(b) Whenever, in the opinion of the city council or the health department, any lot or premises, whether occupied or unoccupied, shall, for lack of sufficient drainage, become dangerous to the public health or a nuisance, they shall cause a notice, written or printed, to be served by the water and sewerage department or by a member of the police department upon the owner, agent or occupant of such lot or premises, to construct a drain or sewer connection to a public sewer

designated by the water and sewerage department. Such notices shall be served personally upon the parties to be notified, if found, and if not found, by posting the same in some conspicuous place on the premises.

(c) If the person so notified pursuant to subsection (b) shall neglect or refuse to comply with the requirements of subsection (b) within ten (10) days after notice as aforesaid, or where an emergency exists, it shall be the duty of the water and sewerage department to at once cause the required drain or sewer to be constructed, so as to sufficiently drain such premises. The water and sewerage department shall also, upon the completion of the work, cause a statement or assessment roll to be made, showing the entire costs thereof, and apportioning such cost in just proportions upon the lots or premises drained. Upon the confirmation of such assessment roll by the city council, such apportionment shall be final and shall be a lien upon the lot or premises to the extent and as apportioned. Such proceedings shall be had in every respect for the enforcement and collection of other special assessments. (Ord. No. 340-H, § 1(56-1-10), 8-29-79)

#### **Sec. 56-3-11. Protection from damage.**

No unauthorized persons shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance, or equipment which is part of the city sewage works. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct. (Ord. No. 340-H, § 1(56-1-11), 8-29-79)

#### **Sec. 56-3-12. Determination of sewage service rates.**

(a) The rates for sewage services furnished by the water and sewerage department shall be levied upon each lot or parcel of land, building or premises having any connection with the water and sewerage department's sewage system on the basis of the quantity of water used thereon or therein as the same is

measured by the city water meter there in use, or by such other equitable method as shall be determined by the board of water commissioners pursuant to rules and regulations adopted by the board of water commissioners in accordance with Section 2-111 of the Charter. The rates shall be collected at the same time and in the same manner as provided for the payment of water bills; provided that, the city acting by and through the board of water commissioners, shall be empowered to make such adjustments for sewage charges as may be equitable.

(b) Charges against property served and/or users, including manufacturing and industrial plants, obtaining all or a part of their water supply from sources other than the water and sewerage department's water system shall be determined by gauging, metering or any other equitable method of measuring, in a manner approved by the city, acting by and through its board of water commissioners, the actual sewage entering the sewage system or the corresponding water use. Meters or other means for gauging or metering as above provided shall be installed by the property served, where applicable, and/or the user of the sewage system as required by and under the supervision of the director of the water and sewerage department, as a condition to the use of the sewage system.

(c) The rate to such users shall be established by the board of water commissioners and shall be approved by the city council in accordance with state and local law.

(d) A five (5) percent late payment charge shall be made for delinquent payment of bills rendered.

(e) The city shall pay out of the appropriate general funds of the city the reasonable cost and value of the services rendered to the city by such sewage system on the basis of the established rate schedules, including amounts of water used by the several departments of the city, the board of water commissioners shall be empowered to enter into agreements

with corporations or individuals outside the corporate limits of the city for the service of the sewage system and appurtenances and extensions thereto at such charges and upon such terms and conditions as shall be determined by the board of water commissioners, subject to the approval of the city council; provided, that in the determination of such charges, there shall be considered in addition to other costs and charges the cost of any pumping stations or other equipment heretofore or which may hereafter be constructed and which are necessary and essential for the proper operation and maintenance of the sewage disposal system. (Ord. No. 363-H, § 1(56-1-13), 12-12-79)

**Sec. 56-3-13. City to have lien for sewage service charges, assessments, etc.; when same effective.**

The city, through the board of water commissioners, shall have as security for the collection of any sewage rates, assessments or charges due or to become due for sewage service supplied to any building or to any premises, lot, piece or parcel of land, a lien upon such building and upon any premises, lot, piece or parcel of land upon which such building shall be situated or to which sewage service is connected. Such lien shall become effective immediately upon the rendition of a sewage service billing. (Ord. No. 363-H, § 1(56-1-14), 12-12-79)

**Sec. 56-3-14. Records of department of water and sewerage to constitute notice of lien; priority of lien.**

All sewage service charges shall be assessed against the premises served and shall be a lien against the same and shall have the same force and effect and shall be subject to the same terms and conditions as provided for water charges in division 3 of article II of this chapter and Section 7-1502 of the Charter. (Ord. No. 363-H, § 1(56-1-15), 12-12-79)

**Sec. 56-3-15. Penalties.**

(a) Any person found to be violating any provision of this division, except as provided in section 56-3-11 shall be served by the city with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof.

(b) Any person who shall continue any violation beyond the time limit provided for in the violation notice shall be guilty of a misdemeanor, and upon conviction thereof shall be fined in the amount not to exceed five hundred dollars (\$500.00) for each violation. Each day in which any such violation shall continue shall be deemed a separate offense.

(c) Any person violating any of the provisions of this division shall become liable to the city for any penalties, fines, expense, loss, or damage occasioned the city by reason of such violation. (Ord. No. 340-H, § 1(56-1-12), 8-29-79)

**Secs. 56-3-16—56-3-26. Reserved.**

**DIVISION 2. LATERAL SEWERS**

**Sec. 56-3-27. Petition by property owner; resolution of board of water commissioners.**

In any district within the city which is not adequately served by lateral sewers or drains, one or more owners of real estate within such district may present a petition to the board of water commissioners requesting the board to lay and install, for the purpose of serving such district, lateral sewers or drains. Such petition shall be accompanied by a sum of money equal to the petitioner's pro rata share of the total cost of such improvement, which share shall be determined in accordance with the lineal footage of real estate of such petitioner fronting upon the street or alley where such lateral sewer or drain is to be laid; or, the board of water commissioners, without such petition, in its discretion, may, and whenever deemed necessary, shall lay or

install, lateral sewers or drains fronting upon such property with a like assessment to the owner of real estate fronting upon such property. Following receipt of such petition or without such petition, the board of water commissioners may, in its discretion, adopt a resolution authorizing the laying and installation of lateral sewers or drains and specifying the streets and alleys through which it shall be found necessary to lay the same in order to adequately serve such property.

**Sec. 56-3-28. Declaration of necessity by council; ratable assessment of costs on real estate fronting improvement; cost per lineal foot.**

The resolution provided for in section 56-3-27 shall be transmitted to the city council, which body, by resolution, shall declare that a necessity exists for the laying and installation of lateral sewers or drains, specifying in such resolution the particular location or district upon or within which it is proposed to make such public improvement. Such resolution shall specify the fund against which the improvement shall be charged and shall provide for a ratable assessment for the cost of such improvement upon all lots or real estate fronting upon such improvement at a rate which shall be based on reasonably current costs per lineal foot for laying lateral sewers or drains; such costs shall be adjusted and published annually by the board of water commissioners, at the beginning of each calendar year.

**Sec. 56-3-29. Authority of council to order construction, reconstruction, etc., of lateral sewer or drains; manner of construction of same.**

The city council may, by resolution, direct the construction, reconstruction, cleansing, replacement or repairing of lateral sewers or drains through or in any streets, alleys, easements or rights-of-way or the construction, cleansing or repairing of drains from any house, yard or lot, when in their opinion

## DETROIT CODE

1. Elective officers;
2. Persons holding appointments under this Charter;
3. Persons employed to make or conduct a temporary or special inquiry, investigation, or examination on behalf of the city;
4. Others exempted by this Charter.

### **Sec. 6-518. Transfers and Promotions to Exempt Positions.**

A person holding a position in the classified service may enter the exempt service, but may not be discharged therefrom, except by restoration to a classified position in accordance with rules of the commission.

### **Sec. 6-519. Consolidation of Entities.**

If any city activity or agency is taken over by another unit of government, the commission shall prepare the city's payroll history record of all classified employees involved and send that record to the governmental unit. If, after the merger, the service of any such employee is discontinued for reasons other than misconduct or delinquency, the person's name shall be placed on an appropriate re-employment list in accordance with departmental rules.

If an activity of another private or public organization is taken over by the city, an employee who has held a position in the activity continuously for three (3) years before its merger with the city may retain the position. An employee who has held a position in the activity for less than three (3) but more than one (1) year before its merger with the city must take a departmental qualifying examination for the position. If the employee does not pass a required qualifying examination or if an employee has held a position in the activity for less than one (1) year before its merger with the city and is not selected to retain the position under the procedure of

section 6-510, the employee shall be dismissed within thirty (30) days after the establishment of a register of eligibles for the position.

## **ARTICLE 6. THE EXECUTIVE BRANCH: STAFF DEPARTMENTS**

### **CHAPTER 6. ENVIRONMENTAL AFFAIRS**

#### **Sec. 6-601. Department of Environment.**

The department of environment is headed by the director of environment.

#### **Sec. 6-602. General Purpose.**

The purpose of this chapter is to conserve and protect the natural resources of the city of Detroit in the interests of the health, safety and welfare of the people, to promote improved social and economic conditions in the city and to protect limited environmental resources for the future benefit of city inhabitants.

#### **Sec. 6-603. Powers and Duties.**

The department of environment shall:

1. Develop and implement a coordinated and comprehensive environmental policy for the city of Detroit;
2. Administer, enforce, manage and coordinate compliance by the city of Detroit with federal, state and local environmental laws and regulations;
3. Coordinate environmental programs for protection and conservation of land, water and air resources;
4. Develop and implement programs for response to emergency conditions which pose an immediate danger to health and safety to the people of Detroit or to the city's environment;

## HOME RULE CHARTER

5. Advise, consult and cooperate with agencies of the federal, state and local governments in furtherance of the purposes of this chapter;

6. Develop and coordinate policy, programs and procedures for remediation, redevelopment and reuse of contaminated land sites in the city of Detroit;

7. Develop and coordinate policy, programs and procedures to encourage and promote innovative and competitively viable sustainable economic development in the city of Detroit consistent with protection of the environment;

8. Provide technical support and assistance to other city departments in environmental matters, including response to federal, state and local governmental enforcement activities; qualification for eligible grant moneys, etc.;

9. Develop plans and proposals for joint cooperative investigation and research with the public and with private agencies and organizations on methods for eliminating or reducing land, air and water pollution;

10. Collect and disseminate appropriate educational literature and information, and otherwise promote educational programs for the purposes of advising the general public of the necessity and methods for the pollution prevention, securing public cooperation in pollution prevention measures and increasing public awareness of the importance of environmental protection and conservation of natural resources;

11. Do any and all other acts which may be necessary for the implementation of the powers and duties conferred on the department under this chapter.

### **Sec. 6-604. Conservation.**

The department of environment shall develop programs for the protection and conservation of natural resources within the city of Detroit.

### **Sec. 6-605. Environmental Legislation.**

The department of environment shall propose new ordinances, laws and regulations to the mayor, city council and other governmental entities as appropriate for improvement of the quality of the environment and promotion of the mission of the department.

## **ARTICLE 7.**

### **THE EXECUTIVE BRANCH: PROGRAMS, SERVICES and ACTIVITIES**

#### **CHAPTER 1. GENERAL PROVISIONS**

### **Sec. 7-101. Existing Programs, Services and Activities.**

When this Charter takes effect, all executive and administrative agencies and functions existing under the 1974 Charter or by ordinance or resolution and not superseded by this Charter shall continue with the force and effect of ordinance until superseded by action taken under section 7-102 or 7-104.

### **Sec. 7-102. Assignment of Authorized Function.**

The mayor shall prepare an executive organization plan which, consistent with law and this Charter, sets forth all agencies of the executive branch and assigns authorized programs, services and activities to each agency.

The plan as proposed by the mayor shall be filed with the city council and made public. The city council shall study and conduct hearings on the plan and may request the mayor to make modifications in it. Sixty (60) business days after the filing of the plan with the city council, it shall become effective, with such modifications as are accepted by the mayor, unless disapproved by a resolution adopted by a two-thirds (2/3) majority of city council members serving. All amendments to the plan must originate with the mayor and are subject to the same procedure in taking effect.

# APPENDIX F





**APPENDIX F  
STORM WATER PERMITS IN DETROIT**

| <b>PERMITTEE</b>                | <b>CITY</b> | <b>PERMIT NO.</b> | <b>ISSUED</b> | <b>EFFECTIVE</b> | <b>EXPIRES</b> |
|---------------------------------|-------------|-------------------|---------------|------------------|----------------|
| Detroit Diesel Corporation      | Detroit     | MIS210789         | 7/30/2007     | 7/30/2007        | 04/01/2012     |
| Detroit Mistersky Power Station | Detroit     | M10004685         | 03/03/2008    | 06/01/2008       | 10/01/2012     |
| Great Lakes Petroleum Terminal  | Detroit     | MIS210981         | 02/18/2010    | 02/18/2010       | 04/01/2012     |
| Gregory Boat Company            | Detroit     | MIS310224         | 05/28/2008    | 05/28/2008       | 04/01/2013     |
| Gregory Boat Company – No. 2    | Detroit     | MIS310225         | 05/28/2008    | 05/28/2008       | 04/01/2013     |
| Harbor Hill Marina – Detroit    | Detroit     | MIS310293         | 06/26/2008    | 06/26/2008       | 04/01/2013     |
| Keans Detroit Yacht Harbor      | Detroit     | MIS310476         | 05/28/2008    | 05/28/2008       | 04/01/2013     |
| Levy-Brennan Street Dock        | Detroit     | MIS210782         | 03/08/2007    | 04/01/2007       | 04/01/2012     |
| Levy-Detroit Pit 6              | Detroit     | MIS210254         | 04/17/2007    | 04/17/2007       | 04/01/2012     |
| Superior Materials Pit 2        | Detroit     | MIS210888         | 11/22/2006    | 04/01/2007       | 04/01/2012     |
| Superior Materials Pit 32       | Detroit     | MIS210311         | 04/17/2007    | 04/17/2007       | 04/01/2012     |
| Wayne Co. MS4                   | Detroit     | MIG10040          | 12/19/2003    | 12/19/2003       | 04/01/2008     |

Note: List does not include permitted construction sites.

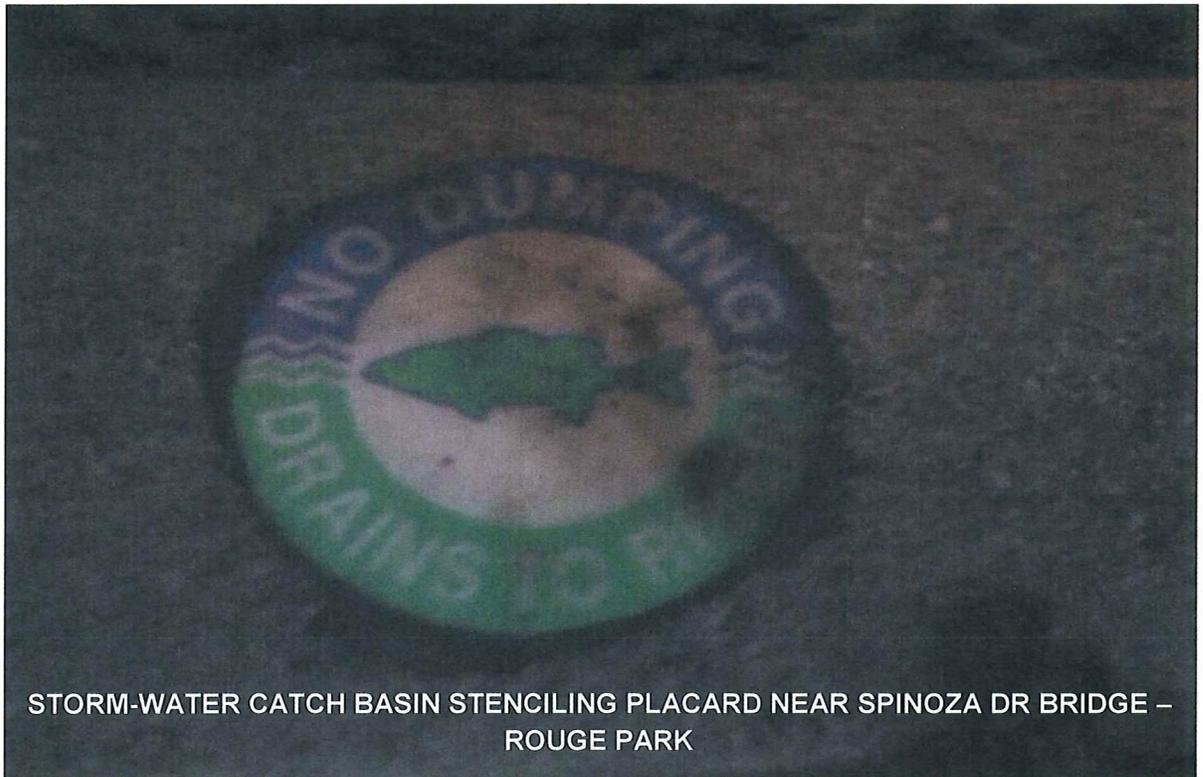


# APPENDIX G

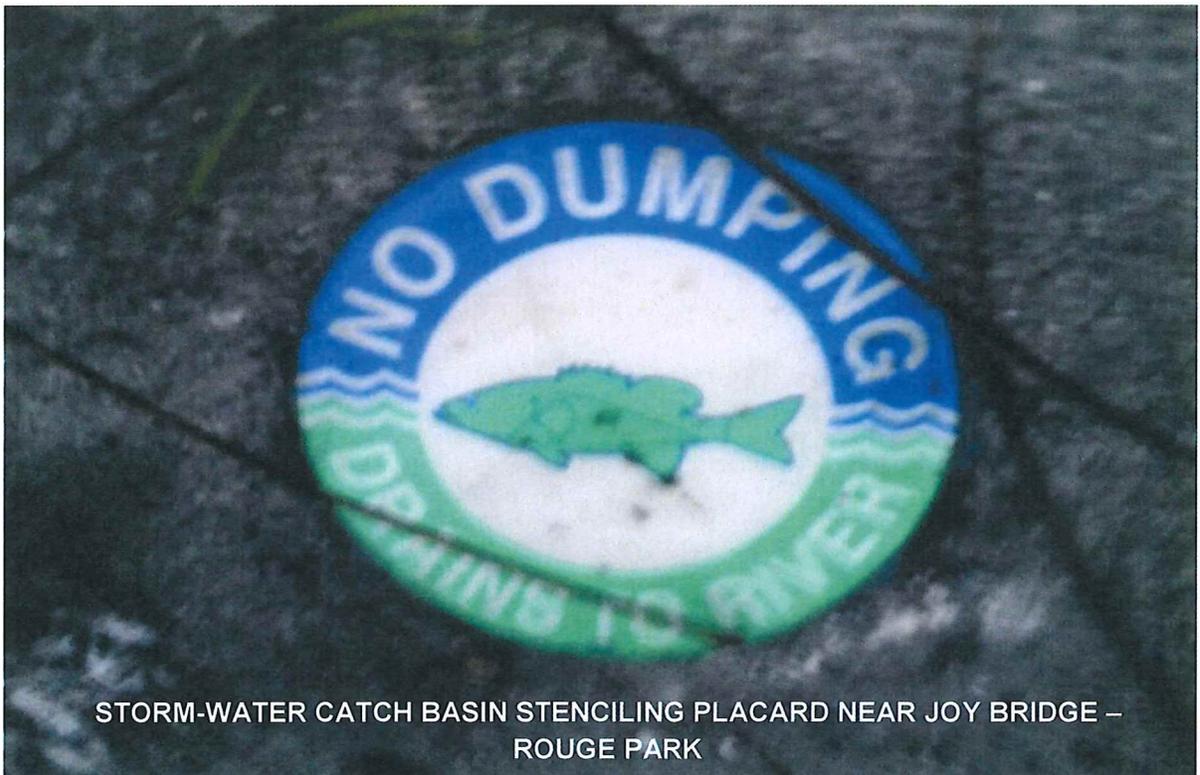


# **BMP No. 1**





STORM-WATER CATCH BASIN STENCILING PLACARD NEAR SPINOZA DR BRIDGE –  
ROUGE PARK



STORM-WATER CATCH BASIN STENCILING PLACARD NEAR JOY BRIDGE –  
ROUGE PARK

[HOME](#)[BUSINESS OF GDRRA](#)[KEEP DETROIT  
BEAUTIFUL](#)[TAKE ACTION](#)[COMMUNITY  
RESOURCES](#)[CONTACT](#)

## RECYCLING PROGRAM



### HOUSEHOLD HAZARDOUS

#### Household Hazardous Waste Facility

##### *What should you bring?*

Nearly every item found in your garage, basement, kitchen, bathroom cupboards and home office that you know doesn't belong in the regular trash. Poisons, solvents, heavy metals, and other toxic products should never be poured down a drain or thrown into the trash. These items will only be accepted at:

#### Household Hazardous Waste (HHW) Receiving Facility

2000 E. Ferry Street (near the I-75 and I-94 freeways).

Individuals can call (313) 923-2240 to schedule a time to bring household hazardous materials (HHW) to the facility.

#### HOURS OF OPERATIONS:

Monday through Friday

8:30 a.m. to 3:30 p.m.

This facility is open to Detroit residents ONLY! There is no charge!

#### HOME TOXICS:

Cleansers & Polishes

Fertilizers, Pesticides and Weed Killers

Home Repair Products (glues & caulk)

Mercury Thermometers

Paint Thinners, Solvents & Varnishes

Wood Preservatives

Fluorescent Light Bulbs

#### Residents can take these items to the HHW facility:

Household Batteries

Home Office Equipment

Electronics Car Equipment

(Batteries, brake fluid, fuel, kerosene, motor oil, filters, etc.)



Unknown or Unlabeled Wastes  
Commercially Generated Wastes  
Smoke Detectors  
Radioactive Materials  
Explosives  
Shock-sensitive Materials

#### SPECIAL HHW CARE

##### Pharmaceuticals and Sharps

The disposal of unwanted or expired pharmaceuticals down a drain or toilet is damaging to the environment. Research has found that small amounts of pharmaceutical drugs collect in streams, lakes, and rivers by entering through wastewater treatment plants that treat residential, commercial, and industrial wastewater. The majority of these pharmaceuticals enter the sewer system through disposal of unused or expired medications down the toilet or drain. Increased amounts of pharmaceuticals in surface water bodies have been shown to increase bacterial resistance to antibiotics.

- Empty all pills, caplets, etc. into a zip lock bag prior to placement in the container.
- Take empty pill containers away for disposal in a home recycling bin. Remove any and all personal information from container prior to placing it in the recycling bin.
- Please only deposit needles, lancets, and similar items. Please make sure these items are deposited in a rigid, sealed container. (HARD PLASTIC – e.g. laundry detergent containers)

For additional information call: 313.876.0148

## DEPARTMENT OF PUBLIC WORKS



## ADOPT A LOT, PARK, OR SHELTER



### OUR ADDRESS

Greater Detroit Resource Recovery Authority office : (313)876-0449

Fax : (313) 872-0140

Information Hotline : (313) 876-0148

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# IMPORTANT INFORMATION from the City of Detroit Regarding Your Refuse Collection

## Letter from the City of Detroit

### Dear Detroit Resident:

Beginning the week of Monday, May 5, you will see a change in how your trash is collected. The City of Detroit has contracted with Rizzo Environmental Services to collect solid waste for all neighborhoods east of Woodward and in southwest Detroit. A separate contract has been awarded to Advanced Disposal to collect trash on the west side of town.

The decision to switch to a private service was recently approved by the Detroit City Council. Once a final decision was made to outsource refuse collection, we have worked to ensure that residents receive high-quality service. In addition, to minimize the impact on our employees, we insisted that both waste disposal companies offer jobs to our drivers.

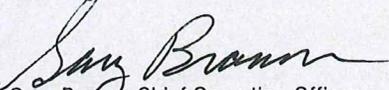
When Rizzo begins its service, you'll notice shiny new red trucks, which the company purchased for use in our city.

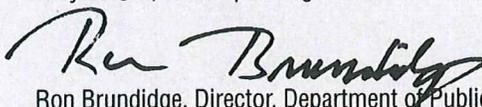
**But what's most important is the service you will receive.** First, residents will see an increased level of service with bulk items being collected every other week rather than every three months. Yard waste will be collected every other week, and all households can recycle at the curb if they opt-in to the Rizzo recycling program. We're even offering incentives to residents to recycle.

You will continue to use your Courville container for your weekly refuse collection, but be prompt because Rizzo will pick up all containers between 7 a.m. and 5 p.m.

Finally, I would like to thank each and every one of you for your commitment to keeping the city clean as we go through this transition. It will take all of our efforts to create and sustain a clean, environmentally-friendly city.

Sincerely,

  
Gary Brown, Chief Operating Officer

  
Ron Brundidge, Director, Department of Public Works

**Starting Monday, May 5,** Rizzo Services will collect trash, bulk items, yard waste and recycling for Detroit residents on the east and southwest sides. All items should be at the curb by 7 a.m. on your scheduled collection day.



**REFUSE COLLECTION – Every Week**  
Your trash collection day will stay the same. Collection will occur once a week.

**BULK COLLECTION – Every Other Week**  
Bulk items (such as furniture, appliances, mattresses or carpet) will be picked up every two weeks on your scheduled refuse collection day.



**YARD WASTE – Every Other Week**  
Yard waste (grass clippings, leaves, twigs) will be picked up every two weeks on your scheduled refuse collection day.

**RECYCLING – Every Other Week**  
Curbside recycling will be available to all residents later this year. To learn how you can opt-in to the program, go to [www.rizzoservices.com](http://www.rizzoservices.com).



[HOME](#)[BUSINESS OF  
GDRRA](#)[KEEP DETROIT  
BEAUTIFUL](#)[TAKE ACTION](#)[COMMUNITY  
RESOURCES](#)[CONTACT](#)

## RECYCLING PROGRAM

## HOUSEHOLD HAZARDOUS

## DEPARTMENT OF PUBLIC WORKS

### CITY OF DETROIT TRASH & RECYCLING CURBSIDE COLLECTION

**Rizzo Services** will collect trash, bulk items, yard waste and recycling for Detroit residents on the east and southwest sides. All items should be at the curb by 7:00 am on your scheduled collection day.

#### CONTACT US:

Call with any questions at 866-772-8900

Or send an email to: [Detroit@RizzoServices.com](mailto:Detroit@RizzoServices.com)

<http://www.rizzoservices.com/DetroitResidents.asp>

**Advance Disposal** will collect trash, bulk items, yard waste and recycling for Detroit residents on the west and northwest sides. All items should be at the curb by 7:00 am on your scheduled collection day.

#### CONTACT US:

Call with any questions at 1 (844) 2-DETROIT (338764)

Or send an email: [DetroitMIResidential@AdvancedDisposal.com](mailto:DetroitMIResidential@AdvancedDisposal.com)

<http://www.advanceddisposal.com/mi/detroit/detroit-residential-collection>

### CURBSIDE RECYCLING STATS

The City of Detroit Department of Public Works (DPW) recently expanded its curbside recycling program to 300,000 households. The City also provided free recycling at the Southfield Transfer Station for Detroit residents.

- [Southfield Yard - 12255 Southfield Service Drive](#)

DPW recyclable collection from January through December of 2014 included: Curbside Recycling 6,272,600 pounds, Yard Waste 10,031 tons, Brush 6,720 tons and Tires 742 tons (64,521 tires).

### RESIDENTIAL BULK DROP OFF SITES

- [Anthon Yard - 5840 Anthon btw Cavalry & Campbell](#)
- [Davison Yard - 8221 West Davison](#)
- [Southfield Yard - 12255 Southfield Service Drive](#)

### Hours of operations:

- SUMMER (April-October) 8:30 a.m. - 7:30 p.m., Tuesday - Saturday
- WINTER (November-March) 8:30 a.m. - 4 p.m., Tuesday - Saturday
- The Southfield Yard is open Monday - Saturday
- All locations are CLOSED (SUMMER 2:30p - 3:30p), (WINTER 12:30p - 1:30p) and Holidays

**These drop-off locations are open to Detroit residents only with proper identification.**

## ADOPT A LOT, PARK, OR SHELTER



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Fax : (313) 872-0140

Information Hotline : (313) 876-0148

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CUSTOMER SERVICE: (313) 267-8000 24-HOUR EMERGENCY SERVICE: (313) 267-7401

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|----------------------|-------------------------------|----------------------------|-----------------------------------------|--------------------------------------------|-----------------------------------------|
| <a href="#">HOME</a> | <a href="#">CUSTOMER CARE</a> | <a href="#">ABOUT DWSD</a> | <a href="#">ANNOUNCEMENTS AND MEDIA</a> | <a href="#">CONTRACTS AND PROCUREMENTS</a> | <a href="#">CITY OF DETROIT WEBSITE</a> |
|----------------------|-------------------------------|----------------------------|-----------------------------------------|--------------------------------------------|-----------------------------------------|

## ■ ASSOCIATED LINKS TO WATER-RELATED WEBSITES



[American Water Works Association](#)



[American Water Works Association - Michigan Section](#)



[Association of Metropolitan Water Agencies](#)



[Clinton River Watershed Council](#)



[The Culver Company](#)



[Drinktap](#)



[Environmental Protection Agency](#)



[Friends of the Detroit River](#)



[Friends of the Rouge](#)



[Great Lakes Water Authority](#)



[Michigan Association of Counties](#)



[Michigan Department of Environmental Quality](#)



[Michigan Municipal League](#)



[Michigan Townships Online](#)



[Michigan Water Environment Association](#)



[National Association of Clean Water Agencies](#)



[Southeast Michigan Council of Governments](#)



[Water Environment Federation](#)

# **Green Infrastructure Progress Report Upper Rouge Tributary Area**

**Fiscal Year July 1, 2014 – June 30, 2015**

**NPDES Permit No. MI0022802**

**Detroit Water and Sewerage Department**



Prepared by:  
Tetra Tech

August 1, 2015

**Table 7 Large Public Housing Developments**

| Facility Name/Entity                                              | Location | Parcel Size (Acre) | Roof Area (Acre)           | Parking lot Area (Acre)    | Area for GI                                                                                      |
|-------------------------------------------------------------------|----------|--------------------|----------------------------|----------------------------|--------------------------------------------------------------------------------------------------|
| Smith Homes/DHC<br>(14313 Crescent Dr)                            | NWI      | 19.5               | 4.63                       | 4.27                       | Yes. A large amount of green space near community center. Apartment downspouts are disconnected. |
| Greenbrook Manor/DHC<br>(19805 Greenfield)                        | URT      | 0.75               | 0.28                       | 0.2                        | No. Property size and site plumbing limits GI opportunity                                        |
| GardenView Estate/DHC<br>(16461 Van Buren Ave)                    | URT      | 135                | Varies due to construction | Varies due to construction | Storm water management practice exists currently.                                                |
| Renaissance Village Apartments/<br>MISHDA<br>(19311 Vortobeck Dr) | NWI      | 23.6               | 3.28                       | 4.37                       | Yes. Downspouts disappear. Declined to participate in the Program.                               |

## Activity 2-5 Municipal Parks Flow Management

Municipal parks provide an opportunity to manage not only runoff generated within the park, both also from adjacent roads. Management of runoff generated on municipal park parcels is often accomplished by redirecting the impervious surfaces to open spaces within the park or reconstructing the paved surfaces as porous pavement. Additional storm water from adjacent roads can sometimes be directed to the public park in an effort to further manage storm water.

The following tasks have been completed:

- A comprehensive analysis of all parks within the URT was conducted.
- Parks were prioritized based on weighting factors generated from the analysis. This prioritization list will be continually updated as site conditions change or additional information becomes available.
- To ensure efficiency in municipal land selection, all parks within the URT were given an initial rating of priority, high, moderate, or low based on how each park was scored. Supporting information was retained to avoid reanalyzing parks at a later date.
- From the prioritization list, five parks were chosen based on their scores and project feasibility.

The analysis criteria used for park prioritization included:

- Location within URT
- Volume of storm water removed
- Percent of 2 year storm volume retained
- Cost effectiveness
- Current and future uses of park
- Speed of implementation
- Neighborhood stabilization
- Technology demonstration
- Educational benefits
- Community partnerships
- Just and equitable distribution
- Provision of ecosystem services

## Meeting list

| Date       | Coordinator                                            | CS-1522 Consultant       | Purpose                                                                     | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                               | Specific Attendees                                                                                                              |
|------------|--------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 12/10/2013 | GI Task Force Water - working group                    | Hufnagel                 | City of Detroit dept collaboration                                          | Work toward MOU; discussion of ordinance review                                                                                                                                                                                                                                                                                                                                                | DWSD, BSEED, Planning                                                                                                           |
| 2/14/2014  | GI Task Force Water - working group                    | Hufnagel, Christian      | City of Detroit dept collaboration                                          | MOU discussion; ordinance discussion                                                                                                                                                                                                                                                                                                                                                           | DWSD, BSEED, Planning                                                                                                           |
| 2/18/2014  | GI Task Force Water                                    | Hufnagel                 | Council green infrastructure task force, water subcommittee (public)        | Code and ordinance discussions                                                                                                                                                                                                                                                                                                                                                                 | See GTF meeting notes                                                                                                           |
| 2/21/2014  | Southwest Michigan Green Infrastructure Funders' Group | Christian                | Southeast Michigan Coordination                                             |                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                 |
| 2/24/2014  | CS-1522 Stormwater Funders' Group                      | Thomas                   | The Funders Network for Smart Growth & Livable Communities                  | Workshop was an informational and networking opportunity for national foundations interested in funding green infrastructure. (See meeting summary for more info)                                                                                                                                                                                                                              | Workshop/ seminar                                                                                                               |
| 3/5/2014   | SEMCOG                                                 | Christian, Rydquist      | Shoreline Cities Grant                                                      | Overview/ update on various grant activities associated with the LEAP and Recovery Park. Discussion of grant announcement event.                                                                                                                                                                                                                                                               |                                                                                                                                 |
| 3/14/2014  | MDEQ                                                   | Christian                | Brownfield sites in Detroit                                                 | USEPA is giving funds to DEQ to do assessments on sites in Detroit. Sites were selected based on input by EPA. One site selected was at Fenkell and Auburn.                                                                                                                                                                                                                                    |                                                                                                                                 |
| 3/14/2014  | Detroit Future City                                    | Christian                | Vacant Land Tool Kit Meeting                                                | Develop toolkit on how to green vacant land after bldg. demo; targeted completion date is mid-2015; DWSD consultant can assist with technical details associated with soils, hydrology and GI sustainability; pilot toolkit in LEAP area in support of GLRI                                                                                                                                    | Sierra Club, Michigan Community Resources, Erb Family Foundation, Detroit Future City                                           |
| 3/18/2014  | GI Task Force Water                                    | Hufnagel                 | Council green infrastructure task force, water subcommittee (public)        | 1. Discussion about methods to accomplish codes and ordinance review<br>2. Made contact with MDTOT representative - needs follow-up<br>3. Discussion about goals and objectives for the year/ 5 years, etc.<br>4. This group is talking about stormwater incentives, etc. How do we engage?                                                                                                    |                                                                                                                                 |
| 3/27/2014  | SEMCOG                                                 | Rydquist                 | Recovery Park Media Event                                                   | Media event for award of EPA grant funding                                                                                                                                                                                                                                                                                                                                                     | John Erb, President-Erb Foundation; Ike McKinnon, Detroit Deputy Director; Kip Walby, Mayor-St. Clair Shores; Susan Hedman, EPA |
| 3/31/2014  | Blue Green Task Force                                  | Hufnagel, Dubay          | Coordination of outreach/ media                                             | 1. Collaborative effort to identify various parties that will be "messaged" to and why.                                                                                                                                                                                                                                                                                                        | SEMCOG, LAND, DFC, Sierra Club                                                                                                  |
| 4/1/2014   | SEMCOG                                                 | Hufnagel, Dubay          | Grandmont Roseadele meet and greet                                          | 1. Understanding of GR objectives and messaging channels<br>2. Coordination with GR on demolitions; vacant parcel site management is needed<br>3. Stoopal Park objectives defined from GR perspective                                                                                                                                                                                          | Cathy Marshall, Tom Goddeers (GR Corp), Tim Karl (parks), Carol, Kelle, Kelly                                                   |
| 4/1/2014   | SEMCOG                                                 | Hufnagel, Dubay          | Detroit Future City                                                         | 1. DFC's top near-term priorities include 1) the Detroit master planning process, 2) Land Trust, 3) Carbon Buffering; 4) GLRI project; and 5) Vacant Land Toolkit.<br>2. DFC very interested in the drainage charge and identifying pilot projects to test application.                                                                                                                        | Detroit Future City, CS-1522                                                                                                    |
| 4/4/2014   | LAND, Inc.                                             | Rydquist                 | Mtg /Presentation to EPA on LEAP Projects                                   | Mack Ave. Green Thoroughfare and Chandler Park projects; brownfield assessment grants; EPA mtg outline with DWSD re: providing green demo practices for MLB to provide some relieve in per site water shut-off fee. Action item: shop idea of green demo practices to MLB in exchange for some DWSD water shut-off fees.                                                                       |                                                                                                                                 |
| 4/7/2014   | GI Task Force Water Working Group                      | Hufnagel                 | Codes and Ordinance/ MOU coordination                                       | 1. Discussion that MOU needs to move forward<br>2. Discussed Tetra Tech code and ordinance review<br>3. Tomia Stapleton best contact to date in BSEED.                                                                                                                                                                                                                                         | Tonja Stapleton & Paul Max BSEED                                                                                                |
| 4/9/2014   | CS-1522/ SEMCOG                                        | Hufnagel, Christian      | Coordination on ROW opportunities/ agencies                                 | Discussed the action strategy for meeting with these groups. Concept of Joy Road initially, etc.                                                                                                                                                                                                                                                                                               | Kelly Karl                                                                                                                      |
| 4/10/2014  | CS-1522                                                | Hufnagel, Bhart, Wallick | Meet with plumbing in BSEED (Wayne Robinson) to drill into downspout issues | 1. Process breakdown in getting the residential disconnects finalized<br>2. Codes and ordinances are under current review by BSEED. Cleaning up discrepancies<br>3. Need to clarify messaging to residential property owners about what and how to disconnect<br>4. On site separate sewers are within ability of DWSD to control<br>5. Doesn't want codes and ordinances to be an encumbrance | BSEED, CS-1522 team                                                                                                             |
| 4/15/2014  | GI Task Force Water                                    | Hufnagel                 | Council green infrastructure task force, water subcommittee (public)        | 1. Let group know that DWSD (through Ti) was performing code and ordinance review for green infrastructure                                                                                                                                                                                                                                                                                     | Various attendees from interest groups. City of Detroit, MDEQ, etc.                                                             |
| 4/15/2014  | SEMCOG                                                 | Hufnagel, Christian      | Detroit Greenways                                                           | 1. Focus is on non-motorized corridors, biking. Provided map of locations that they are interested in.                                                                                                                                                                                                                                                                                         | Detroit Greenways Coalition; SEMCOG                                                                                             |
| 4/16/2014  | SEMCOG                                                 | Hufnagel                 | Joy Southfield Development Corporation                                      | 1. JS Development Corporation priorities are resurfacing roadway and traffic calming<br>2. Interested in other projects to improve neighborhood                                                                                                                                                                                                                                                | Rodney Gasaway, Joy Southfield Development Corp                                                                                 |
| 4/21/2014  | Khalil TM.                                             | Hufnagel                 | MOU group                                                                   | 1. Moving forward on MOU.<br>2. Steve Jar with BSEED is plan reviewer that may provide better insights                                                                                                                                                                                                                                                                                         | DWSD, BSEED, Planning                                                                                                           |



## Meeting list

| Date      | Coordinator               | CS-1522 Consultant                                   | Purpose                                                          | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                  | Specific Attendees                                                                                                          |
|-----------|---------------------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 4/21/2014 | SEMCOG                    | Hufnagel, Thomas                                     | Meeting with MDOT regarding coordination of green infrastructure | 1. MDOT is interested in reducing SW fee to City; concern about who will maintain practices.<br>2. Potential projects for coordination include: M-39 pedestrian bridges; I-94 widening; MDOT pump stations; I-375 (per e-mail send outside of this meeting).<br>3. Potential for coordination on restoring historical wetlands for MDOT wetland mitigation.                                                                                       | MDOT Metro Region (Tony Kratoch, Jim Schultz, Dave Dortman, Paige Williams)<br>MDOT Headquarters (Hal Zweng, Mike O'Malley) |
| 4/22/2014 | CS-1522                   | Hufnagel, Rydquist, Spalding, Miklusch               | Gain understanding of DBA role and requests                      | 1. DBA looking for funds from DWSD<br>2. Need to define DWSD requirements for funding<br>3. Need to determine process for money to flow                                                                                                                                                                                                                                                                                                           | DLB - Rob Linn,<br>DBA - Dave Menardo, Brian Farkas                                                                         |
| 4/23/2014 | SEMCOG                    | Hufnagel, DuBay                                      | Update on Greening efforts past and future                       | 1. Greening has control of some parks and responsible for maintenance; will provide inventory; 2. Vision for maintenance of vacant lots; professional, community, organizational; 3. Beautification is a big driver for GI related activities; 4. Hands-on demonstration worked for downtown disconnection workshops but material distribution not worth it; 4. Need to work in rain garden into vacant lot palette to help with volume reduction | Amy Mangus, Rebecca from Greening of Detroit                                                                                |
| 4/23/2014 | SEMCOG                    | Hufnagel, DuBay                                      | Meet with Reit Schumack to discuss Brightmoor                    | 1. Interested in elimination of roads in vacant areas; 2. Wants to see Hubert School used to house GreenCity as a potential job creator and farming site; 3. Wants to become Rosedale's countryside; 4. Preserving community connectivity is important; 5. Dumping is an issue of concern; 6. Wants to support innovative approaches in the neighborhood                                                                                          | Reit Schumack                                                                                                               |
| 4/24/2014 | SEMCOG                    | Hufnagel, Thomas                                     | Wayne County Roads/ SW and City of Detroit                       | 1. Use PACER data for priorities for resurfacing. Most all road work is resurfacing.<br>2. Potential coordination with County on Outer Drive project.                                                                                                                                                                                                                                                                                             | Wayne County (Ron Agacinski, Ken Kucel, Noel Mullett, Phil);<br>Detroit DPW (Jose Abraham, Umakant Patel)                   |
| 5/2/2014  | SEMCOG                    | Hufnagel, Spalding, Miklusch                         | Land Banks                                                       | 1. Michigan Land Bank long term property holder;<br>2. Detroit Land Bank shorter term<br>3. DLB has great GIS data<br>4. Coordination on the agreements between MLB and DWSD.<br>5. DLB willing to help assemble property                                                                                                                                                                                                                         | SEMCOG, DLBA, Michigan Land Bank, CS-1522                                                                                   |
| 5/3/2014  | Tonja Stapleton           | Christy Williams                                     | Discuss GI code and ordinance review                             | Discussed need for post-construction performance standards in city code                                                                                                                                                                                                                                                                                                                                                                           | Tonja Stapleton                                                                                                             |
| 5/19/2014 | Erb Blue Green Task Force | Dubay                                                | Outreach plan                                                    | 1. Discussion of GI public outreach. Group is looking for positive press "out in front" of Drainage charge outreach. Drainage charge is likely to drive discussions on green.<br>2. Much concern about getting "early adopters" credit on stormwater charges<br>3. Concern about consistency in GI definition                                                                                                                                     | Erb foundation (Jodee, Sue); Sierra Club (Melissa); DFC (Chris)                                                             |
| 5/19/2014 | Tonja Stapleton           | Christy Williams                                     | Discuss zoning and building codes GI review                      | Discussed the need for a legal opinion regarding Chapter 11 of the MI Plumbing Code which specifies stormwater from commercial buildings must go to MS4, CSO or "approved place of disposal"                                                                                                                                                                                                                                                      | Carl Jones, Tonja Stapleton, Paul Maxx, Wyatt XX                                                                            |
| 5/20/2014 | GI Task Force Water       | Hufnagel                                             | Ongoing coordination                                             | University of Michigan monitoring; demolitions process; drainage charge discussions                                                                                                                                                                                                                                                                                                                                                               | Natalie Sampson, UM                                                                                                         |
| 5/21/2014 | CS-1522                   | Hufnagel, Rydquist, Miklusch                         | Demolitions coordination with DBA                                | MDEQ working with DBA on demolition specs and restoration - opportunity for DWSD input;<br>Project re: Hubert School for school, street and house demo as test case;<br>Reconfirmed \$ as DWSD commitment<br>Street vacation if 70% of property owners favor.<br>DEQ suggested on-line module for green infrastructure training.<br>Need to doublecheck permit language on demolition spec                                                        | Dan Schechter; Andrew Bahrou, Hae-Jin Yoon; Brian Farkas,<br>Rebecca Christensen                                            |
| 6/6/2014  | Blue Green Task Force     | Dubay, Hufnagel                                      | Blue Green Meeting / Outreach focus                              | Open space master plan; Significant interest in outreach at the residential level; interest in green rewards at the residential level; vacant land tool kit - need to participate.                                                                                                                                                                                                                                                                | Jodee Raines, Melissa Demanske, Erin Kelly, Chris Dorle                                                                     |
| 6/9/2014  | DWSD com ops              | Hufnagel                                             | Jefferson Village w/ DFC                                         | Potential pilot project for Jefferson Village area; Gary Watkins firm on "charge for fixed cost"; opportunity in URT area (Garden View Estates).                                                                                                                                                                                                                                                                                                  | DFC (Chris Dorle); DEGC (Cleveland Dailey), Giffels Webster (Michael Marks)                                                 |
| 6/10/2014 | CS-1522                   | Hufnagel, Christian                                  | Monitoring, Coordination                                         | Research objectives for Recovery Park are particularly interesting; water balance, etc; need to coordinate with their data. Potential to coordinate with social monitoring from UM. Need to connect with USGS.                                                                                                                                                                                                                                    | Wayne State, ITU, UM, T, DWSD                                                                                               |
| 6/17/2014 | GI Task Force Water       | Hufnagel                                             | Standing meeting                                                 | Meeting reviewed objectives for the task force.                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                             |
| 6/18/2014 | USEPA                     | Hufnagel, Christian                                  | Discuss demolition restoration standard                          | Issue related to the site restoration standard in the demolition spec. EPA/ DEQ are pushing for approach that includes better hydrologic performance of the site                                                                                                                                                                                                                                                                                  | Jon Grosshans, Bob Newport, Andrew Bahrou                                                                                   |
| 6/20/2014 | Greening of Detroit       | Hufnagel, Novacs                                     | Carbon Forest Concept                                            | Greening of Detroit discussion with Land Banks regarding potential sites that could be used for tree planting. Suggested possible sites outside of the URT.                                                                                                                                                                                                                                                                                       | DLBA, DBA, Greening, DFC, TT                                                                                                |
| 6/20/2014 | SEMCOG                    | Hufnagel, Christian, Dubay, Williams, Thomas, Novacs | Training session                                                 | Many agencies were represented. Presentations discussed the role of agencies and goals of DWSD. Interactive sessions for barriers and outreach.                                                                                                                                                                                                                                                                                                   |                                                                                                                             |
| 6/26/2014 | Blue Green Task Force     | Rydquist                                             | General meeting                                                  | Issues were: greenways (bike lanes), animal (livestock) ordinances; water subcommittee discussed code and ordinance review.                                                                                                                                                                                                                                                                                                                       |                                                                                                                             |

## Meeting list

| Date      | Coordinator       | CS-1522 Consultant                     | Purpose                                                                          | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specific Attendees                                                                                                    |
|-----------|-------------------|----------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 7/10/2014 | Schechter         | Hufnagel                               | Fort Street Park; Marathon Oil                                                   | Work with Sam Lovell on an evaluation of Fort Street Park participation for improved stormwater management and contribution to landmark feature. Also see how Marathon can be supported for reduced flow to the combined sewer system from area assembled.<br>TT will work on stormwater aspects of the design.                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                       |
| 7/14/2014 | CS-1522/ Nassauer | Hufnagel, Christian                    | Review ecological site designs Nassauer study                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | UM, WSU, TT.                                                                                                          |
| 7/16/2014 | Steve Moddemeyer  | Hufnagel                               | Phone conversation - FEMA efforts                                                | FEMA is working on broader resiliency efforts for flooding - beyond flood encroachment zones. Referred to CLH by Ray Scott of BSEED. Discussed DWSD's green infrastructure efforts and their connection to flood control                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Steve Moddemeyer (FEMA consultant)                                                                                    |
| 7/17/2014 | CS-1522/ DFC      | Hufnagel, Christian                    | Vacant Land Tool Kit/ Land Assembly/ Other projects                              | Discussed future projects as part of the GI Plan and coordination for implementation. Also discussed the greening of vacant sites and some work that DFC is working on related to LEAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | DFC (Dorfe, Erin, Dan)                                                                                                |
| 7/17/2014 | Nassauer/ CS-1522 | Hufnagel, Christian, Brochue, Rydquist | Coordination of funding for Joan Nassauer project through the Detroit Land Bank. | Process to select sites and implement ecological design projects; discussion on criteria for sites and property notification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | detroit land bank, UM, Wayne State, CS-1522                                                                           |
| 7/24/2014 | Green Task Force  | Did not attend                         | Monthly meeting                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                       |
| 7/30/2014 | SEMOG             | Hufnagel                               | Discuss use of property with land banks                                          | City of Detroit properties being transferred to land bank, initially parcels with homes, then vacant residential properties (this has not yet been approved by council). No action to move commercial properties at this time.                                                                                                                                                                                                                                                                                                                                                                                                                                            | Kelly Karl, Michael Brady, Joeee Raines (Erb), DFC/DEGA                                                               |
| 7/31/2014 | CS-1522           | Hufnagel, Thomas                       | Discuss concept of large scale greening with Riet Schumack                       | Brightmoor has identified an area from Outer Drive (north and west), I-96 (south), Burt (east). Generally, large scale greening concepts as identified in the GI Plan are of interest to Riet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Riet Schumack, Brightmoor Alliance                                                                                    |
| 8/1/2014  | Tarolyn Buckles   | Hufnagel                               | Meet with Department of Neighborhoods                                            | Neighborhoods is focused on blight.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ORCAP committee of board, Tarolyn Buckles, Charlie Beckham and Vickie Kavali (Neighborhoods), Dave Gusastella (TYJT). |
| 8/11/2014 | CS-1522           | Christian                              | MDEQ: 319 Plan for URT                                                           | MDEQ is interested in having a 319 plan for the URT prepared by TT. They have some funding available from EPA Region 5. This plan is unique to Michigan--not previously done for combined sewer systems. TT agree to write a plan given the funding, provided that the watershed area remains small and flow can be used as the pollutant. MDEQ having internal discussions. Next step is for MDEQ to work with EPA Region 5.                                                                                                                                                                                                                                             | Pete Vincent, Bob Day (MDEQ)                                                                                          |
| 8/12/2014 | CS-1522           | Thomas, Christian, Hufnagel            | Coordination with DPW on City road GI                                            | DPW would like to coordinate with DWSD on a green infrastructure project for the 2015 season. Jose Abraham will provide Tetra Tech with their 2015 resurfacing list to assist in selecting project locations. The list should be finalized by the end of September. A memorandum of understanding (MOU) will be signed between DPW and DWSD indicating DWSD's responsibility for the funding of the green infrastructure portion of the work. Tetra Tech will develop construction drawings for the green infrastructure portion of the project and Richard Doherty (City Engineer) will incorporate the plans into the resurfacing bid package.                          | Jose Abraham, Richard Doherty (DPW)                                                                                   |
| 8/15/2014 | FEMA consultant   | Hufnagel                               | Coordination on FEMA meeting for green infrastructure                            | Planning for September 9 meeting. Clarified roles and responsibilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Barrett, Moddemeyer, Hufnagel (phone call)                                                                            |
| 8/19/2014 | Green Task Force  | Did not attend - Water                 | Monthly meeting                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                       |
| 8/27/2014 | CS-1522           | Hufnagel, Wallick                      | Land Bank meeting on downspout disconnections                                    | Considerations include viable residential properties that are not scheduled for demolition, site access, survey of property to determine effectiveness. Ownership changes rapidly and may be national (as opposed to regional). National Community Security Trust (NCST) is working to slow down quick resales by giving authorities such as DLBA first right to purchase. Assessor's data may be incorrect. Register of Deeds maintains official record. DLBA can provide contacts to large multi-property owners. DLBA requested sample site access agreement/forms. Properties may be missing gutters/downspouts due to scrapping.                                     | Lisa Wallick, Lakshman Thallapally (METCO); Mike Brady, Jeffery Nolish (DLBA)                                         |
| 8/28/2014 | CS-1522           | Christian, Thomas, Hufnagel            | Coordination with UM Water Center and WSU                                        | A draft site plan was reviewed of the four project sites, which entail directing residential road runoff to vacant parcels for stormwater management and planting a tailored garden or grassy area that is visually pleasant. The project will meet a variety of objectives from the different stakeholders. DWSD's objectives are to evaluate the design for future use of collecting stormwater on vacant parcels. Capturing and detaining/retaining the 2-yr 24-hr storm event is one goal. The universities are interested in the social impacts of these areas and water quality effects. The site plan accommodates water quality sampling and hydrologic sampling. | UM (Joan Nassauer, Catherine Rising, Allen Burton), Wayne State (Shawn McElmurry)                                     |
| 8/28/2014 | Green Task Force  | Hufnagel                               | Public Forum; Sue McCormick presentation on Green                                | Presentation of the plan. Lots of interest in drainage charge. Also concern about flooding (following 8/11/14 storm event)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                       |

## Meeting list

| Date      | Coordinator      | CS-1522 Consultant                   | Purpose                                                        | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Specific Attendees                                                                                                                                                                                                                                                                        |
|-----------|------------------|--------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8/29/2014 | DLBA             | Christian                            | DLBA - Eco Design Social Sci Discussion                        | Discussed site selection, demo process, technical implementation. Confirmed that concrete will be left on site for future demos. Goal is to have construction/turf planning complete by end of Oct. Some shrubs/flowers will have to be planted in spring. May hire someone from the block to keep sidewalks shoveled in winter to create sense of neighborhood involvement. The 6th Precinct PD should be contacted when going out in the field. ID should be worn, i.e. UUM vests/jackets and vehicle magnets. Field staff should knock on doors to let neighbors know when they are working in area. UUM lab will develop 1-page FAQ sheet for distribution. Also suggested to create highly-visual signs to be posted at each site. | Joan Nassauer, Allen Burton, Catherine Rising, Noah Webster (UUM); Marshall Bullock, Mona Ali, John Truong, Greg Holman, Rog Liggins, Charity Dean, Lindsay Stolkey                                                                                                                       |
| 8/29/2014 | CS-1522          | Novaes, Christian, Hufnagel, Wallick | Meeting with DPS                                               | DPS is very willing to incorporate green infrastructure at DPS facilities and want to reduce the drainage change on closed facilities. DPS to send a list of potential sites for GI from their perspective and T1 to prepare a list from DWSD perspective and coordinate getting site visits set up.                                                                                                                                                                                                                                                                                                                                                                                                                                    | Emilie Lauzama, Felicia Venable (DPS)                                                                                                                                                                                                                                                     |
| 9/5/2014  | CS-1522          | Thomas, Hufnagel                     | Larger Scale Greening discussion with land bank                | Tetra Tech met with Jeffrey Nollish, an independent consultant for the Detroit Land Bank. He is developing a policy to guide the land bank in purchasing vacant lots, which will be completed at the end of September 2014. The policy is in-line with the Mayor's Office goal of growing the tax base. He is supportive of an "open lands" network and discussed the need for a future land use map to guide development. In regard to large scale greening projects, he sees an entity other than DWSD taking the lead with DWSD (Tetra Tech) supporting the technical aspect/feasibility for the project.                                                                                                                            | Jeffrey Nollish (independent consultant for DLBA)                                                                                                                                                                                                                                         |
| 9/5/2014  | CS-1522          | Thomas, Hufnagel                     | Meeting with Wayne County re: road green                       | Wayne County provided their list of Wayne County jurisdiction road projects for FY 2013 - FY 2017 funded with Detroit federal aid money. There are three road segments listed for construction over the next three years within Detroit. Of the three projects, one is located within DWSD's project area, T1P# 20301 FY 2016 Outer Drive, W., Southfield Rd. to Greenfield Rd. Wayne County provided Tetra Tech with a copy of the plan and profile construction drawings for Outer Drive, W. Southfield Rd. to Greenfield Rd. Tetra Tech will review the drawings to look for opportunities to incorporate green infrastructure and will then reconvene with Wayne County in about a month to discuss ideas.                          | Ron Agacinski, Ken Kucel, Phil McGuire, Noel Mullett (Wayne County DPS)<br>Todd Scott (Detroit Greenways Coalition)                                                                                                                                                                       |
| 9/9/2014  | FEMA consultant  | Hufnagel                             | Coordination with BSEED/ FEMA on flood management              | Presented DWSD GI Plan. Meeting discussed coordination between GI Program and flood resiliency efforts. Potential grant funds from FEMA. Potential improved point system (community rating system) for flood insurance based on having a green infrastructure plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FEMA, DEQ, FEMA contractor, BSEED, DWSD, State Police                                                                                                                                                                                                                                     |
| 9/10/2014 | CS-1522          | Thomas, Hufnagel                     | Coordination with water main staff on potential work locations | DWSD provided Tetra Tech with a list of completely designed and 90% designed water main projects within the Upper Rouge Tunnel area. It is anticipated that these projects will be constructed within the next several years. DWSD would like begin coordinating as much as possible with the upcoming Detroit DPW road projects. Tetra Tech will include Mr. Booyue and Mr. Burrett in future DPW meeting invites to promote coordination. Most sewer rehabilitation projects are lining projects. Mr. Booyue has GIS data of lining locations. There is also data indicating which vacant parcels are not reconnected to the sewer during lining. Tetra Tech will request this information.                                           | Pei Booyue, Rodney Burrett                                                                                                                                                                                                                                                                |
| 9/16/2014 | Green Task Force | Hufnagel                             | Regular monthly meeting                                        | Code and ordinance update for GI task force - water in November. Melissa speaking to City Council on 9/23; tour of green infrastructure projects 10/16; Discussion of educational materials and tracking systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Interested groups, no City representatives or DEQ this meeting.<br>Greening of Detroit there.                                                                                                                                                                                             |
| 9/17/2014 | CS-1522          | Christian, Thomas, Novaes, Hufnagel  | Coordination with DFC                                          | It provided an overview of the DWSD GI Plan to DFC and their partnering consultant, Hamilton, Anderson and Burrihappold Engineering. DFC and consultant are looking at the next step in the strategic framework sequencing. DFC and Greening of Detroit will be planting 1000+ trees over the next year, with 300 tree plantings planned for October near Joy Road and Southfield Freeway. Future meetings will discuss DFC's and DWSD's roles for moving along a large scale greening project.                                                                                                                                                                                                                                         | Chris Dorle, Dan Kinkhead, Erin Kelly (DFC)                                                                                                                                                                                                                                               |
| 9/18/2014 |                  | Hufnagel, Thomas                     | Detroit Watershed/Freeway Pump Houses                          | Mr. Stable proposed a Detroit River Watershed Plan be developed so that the area would be eligible for 313 grant funding in order to disconnect MDOT pump stations from DWSD's combined sewer system. Attendees agreed the idea has merit but could not comment on technical feasibility. MDOT attendees recommended that Mr. Stable meet with Christopher Potvin from the MDOT hydrology group in Lansing. The DWSD GI Plan include a comparable concept of directing a portion of the pump station flow to vacant lots for storage. Discussions with MDOT hydrology engineers, environmental group, and Metro Region staff needs to occur in order for these ideas to move forward.                                                   | Dan Schechter (DWSD); Chris Dorle (DFC); Michelle Selzer (MDEQ); Keith Williams, Bonnie Yu, Dan Everett, Rita Screws (MDOT-Detroit TSC); Reginald Washington (MDOT-Taylor TSC); Sal Stabile (Friends of the Detroit River); Sandra Yu Stahl (Detroters Working for Environmental Justice) |

## Meeting list

| Date      | Coordinator                             | CS-1522 Consultant                             | Purpose                                                                                                   | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Specific Attendees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9/23/2014 | Trust for Public Land                   | CS-1522 Consultant<br>Hufnagel, Thomas; Novaes | Discuss opportunities for large scale greening in conjunction with a grant from the Trust for Public Land | Goal is red fields to green fields. See <a href="https://ftfgr.org/joomla/">https://ftfgr.org/joomla/</a><br>The Trust for Public Lands and Speedwell Foundation are supporting the inner circle greenway. Also planning to host a competition to identify feasible options for converting large amounts of vacant land to greenfields that will eventually become self-sufficient. Hope to use these ideas to attract future investors to Detroit. TT explained what DWSD is trying to do and our interest in joining with the effort they are promoting.<br>1. Primary focus was monitoring in Recovery Park. Discussed placement of weather station, etc.<br>2. Discussion of water balance approach and monitoring wells to see what is happening with GW levels.<br>3. Extensive unplanned ponding areas within Recovery Park border.<br>4. RP expects to be able to buy out a number of properties that are isolated, but they aren't going to attempt that until later. Important relative to having adequate and properly aligned space to orient green houses.<br>5. Recovery Park is meeting with MDOT regarding the redirection of I-94 pump station to provide flows for Recovery Park. Believe they need additional water supply.                                                                                                                                                                                                                                                                                                                                                                                        | Ernest Cook (Trust for Public Land), Mike Messner (Seminole Capitol and Speedwell Foundation), Risa Hiser (Conservation Finance Research Associate)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 9/24/2014 | Recovery Park Project;<br>Don Carpenter | Hufnagel                                       | Meet with flow monitoring / evaluation team from EPA, LTU and USGS.                                       | 1. Primary focus was monitoring in Recovery Park. Discussed placement of weather station, etc.<br>2. Discussion of water balance approach and monitoring wells to see what is happening with GW levels.<br>3. Extensive unplanned ponding areas within Recovery Park border.<br>4. RP expects to be able to buy out a number of properties that are isolated, but they aren't going to attempt that until later. Important relative to having adequate and properly aligned space to orient green houses.<br>5. Recovery Park is meeting with MDOT regarding the redirection of I-94 pump station to provide flows for Recovery Park. Believe they need additional water supply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dan Schechter (DWSD); Bill Shuster (EPA); Ralph Haeffner (USGS); Don Carpenter (LTU); Charlie Post (M&S); Gary Wozniak (Recovery Park); Karil Kelly (SEMCOG)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9/29/2014 | DPS Go Green Council                    | Novaes                                         | DPS Go Green                                                                                              | Tetra Tech joined the advisory board to stay informed on the Go Green Challenge activities and to provide a link/connection (as applicable) with the DWSD GI program.<br>This meeting included a review of 2013-14 Go Green Challenge. The review showed water and energy among the least engaging for students (recycling consistently named most engaging). Cash incentives are not primary motivator; rather, recognition and hands-on activities are stronger incentives. For the 2014-15 Challenge, DWSD has smart meters but need access to them for readings.<br>Securing sponsorship was discussed. More communication is needed from both corporate angle and directly from students. Materials needed are a brochure and possibly a short video.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Emile Lauzana, Felicia Venebale, Zandra Vimberley, Joy Reynolds (DPS)<br>Taylor Teasdale (DPS Foundation)<br>Harrison Woods, Alycia Chumey (AmeriCorps)<br>Peggy matta (US Green Building Council)<br>Justin Schott (EcoWorks)<br>Mercedes Bolden (US Metro Group)<br>Sarah Barjum (Dunbar Mechanical)<br>Akoko Grace (Office Depot)<br>Kate Adams (Ecology Center)<br>Rachel Klagon (Green Living Science)<br>Jemifer Edwards (Ronald Brown)<br>Rochelle Massingill (Keidan)<br>Jane Cunningham (Cass Technical HS)<br>Loretta Hall (Dixon Elementary - Middle)<br>Larry Redfern (The Facilities Group) |
| 9/30/2014 | CS-1522                                 | Novaes, Wallick                                | Detroit General Services - Discuss greening of public properties                                          | Metro and TT provided a summary of the DWSD GI Program. The purpose of the meeting was to determine if there are opportunities to use greening technology on City-owned buildings and properties within the project boundary. Properties that should be considered include:<br>- Recreation Center west of Greenfield and north of I-96<br>- GSD Service Yard at Joy/Spinosa<br>- Gun range near GSD yard<br>- Police precinct at Plymouth<br>- Police precinct at Grand River and I-96<br>- Southfield Yard police communication facility<br>- Rouge Park<br>- Steeple Park No. 1<br>GSD expressed concern about funding for GI project on these City properties. TT indicated that, depending on the type of project and reduction in storm water contribution to the sewer system, DWSD may be able to provide funding. However, that has not been finalized and would definitely be project specific. GSD noted the following considerations:<br>- In general, the less maintenance, the more preferable the project. Green roofs will not be permitted.<br>- Most buildings within this area are older and internally plumbed, making roof drainage disconnections more challenging.<br>- There is no planned funding scheduled for the exterior buildings located within the project boundary. GSD provided electronic copies of the Detroit Recreation Dept Strategic Master Plan. Next steps are for the TT GI team to evaluate GSD properties within the area and select a few for further evaluation, field visits to determine the best locations for GI practices on the sites, and review the GI opportunities with GSD. | Marc Trilkian, Tim Karl, Mike Jacobs, Farhat Chaudhry, Laluan Wilks (GSD); Dean Hay (TGOD); Lisa Wallick (Metro)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Meeting list

| Date                     | Coordinator        | CS-1522 Consultant        | Purpose                                                                                               | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Specific Attendees                                                                                                                                                                |
|--------------------------|--------------------|---------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/2/2014                | SEMCOG/DFC         | Thomas                    | Presentation on the Rapid Assessment Tool for Blight                                                  | Erin Kelly gave a presentation on the Rapid Assessment Tool for Blight that she and others created over the past 6 months. It is named the "Blighting" app. It will be tested with volunteers within the LEAP area in October 2014. The app is used to assess the status of blight in a neighborhood based on a set of questions for each parcel, such as presence of a structure, site maintained or not, vegetation or dumping on site, and change in elevation between the road and site. The resulting data can be merged with the Data Driven Detroit data and can be linked to GIS data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Erin Kelly, Ingrid White (DFC)<br>Kelly Kari (SEMCOG)<br>Bob Newport (USEPA)<br>Susanna Weckerle (Erb Foundation)<br>Jackie Bejma (Warren-Conner)<br>Brian Vosbor (Det Land Bank) |
| 10/23/2014<br>10/29/2014 | Task Force<br>DLBA | None present<br>Christian | Regular monthly meetings<br>Legal relationship between DLBA, DWD, and U of M for ecological projects. | <ol style="list-style-type: none"> <li>1. Project has evolved. Current approach has DLBA granting access to site, DWSD constructing the GI practices, and U of M conducting research.</li> <li>2. Construction is delayed until spring.</li> <li>3. Reviewed draft MOU (10/17/14) between DLBA and U of M Water Center.</li> <li>4. Current DLBA board resolution only authorizes contracting with U of M for project. Discussed preparing new resolution to involve DWSD along with an MOU. Jelani K. will draft and circulate for review and present at the DLBA board meeting.</li> <li>5. DLBA needs liability protection from workers injured with on-site.               <ol style="list-style-type: none"> <li>1. This was an orientation meeting to discuss the planned Vacant Land Transformation Guide being developed by DFC.</li> <li>2. DFC has a grant from the Erb Family Foundation.</li> <li>3. DFC is coordinating the guide development, but they are really looking for a collaborative effort to write the contents and roll the guide out.</li> <li>4. Refer to the "Overview" document for additional information.</li> <li>5. Schedule: Develop this winter, roll out spring/summer 2015.</li> <li>6. Dan volunteered to help with stormwater related technical details in the guide development.</li> </ol> </li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DLBA and UM Water Center (DPC to verify).                                                                                                                                         |
| 10/29/2014               |                    |                           | Det Future City - Orientation on Vacant Land Transformation Guide                                     | <ol style="list-style-type: none"> <li>1. Group reviewed Sections 2.0 through 6.0 of the GI Plan.</li> <li>2. Section 7.0 action plan:               <ol style="list-style-type: none"> <li>a. Codes and Ordinances: Initial review of city ordinances is complete and TT is working on a summary memo. Major findings include lack of stormwater development stds and various barriers to GI. Discussed FEMA initiative and the need to integrate DWSD CSO issues with FEMA-related flood control.</li> <li>b. Drainage Charge Credit System: DWSD Internal group is working on a credit system to the drainage charge. Rate reductions are discussed with property owners on a case-by-case basis. MDEQ expressed a need to discuss the proposed credit system as it pertains to DWSD accounting for the credit as a part of their permit obligations.</li> <li>c. Small Scale Greening: Four bioretention system have been designed. Construction delayed until spring 2015.</li> <li>d. Public Facilities Flow Mgmt: Actively working with the General Services Dept and Public Schools to evaluate stormwater control measures on publicly-owned land. Planning for five project sites in the first phase.</li> <li>e. Transportation Corridor Flow Mgmt: Coordinating with DPW on road resurfacing projects. Plan is to construction 6-8 block of GI in 2015 within priority outfall areas.</li> <li>f. Downspout Disconnect - Single-Family Residential: Coordinating with several entities. Also meeting with community leaders for pilot program.</li> <li>g. Tree plantings: Contracts continue with Greening of Detroit. Since start of permit, 5,866 trees have been planted.</li> </ol> </li> <li>3. Administrative issues: Monthly meetings will be scheduled. Transition to quarterly at some point. Focus of next meeting will be drainage charge credit system, specifically, credits taken will result in reduced revenue to DWSD</li> </ol> | About 30 participants from a wide range of organizations.                                                                                                                         |
| 11/3/2014                | DWSD               | Hufnagel, Christian       | Briefing on GI Plan with MDEQ                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | See meeting minutes                                                                                                                                                               |

## Meeting list

| Date       | Coordinator    | CS-1522 Consultant                   | Purpose                                                                             | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Specific Attendees                                                                          |
|------------|----------------|--------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 11/5/2014  | CS-1522        | Novaes, Wallik                       | Coordination with DHC on Greening of Public Properties and downspout disconnections | <ol style="list-style-type: none"> <li>1. It was discussed that greening efforts could be partially or wholly funded by DWSD.</li> <li>2. All coordination, agreements or work needs to be checked against DHC policies and procedures, including insurance coverage.</li> <li>3. DHC will require a letter from DWSD indicating the purpose behind the program being a City code issue.</li> <li>4. Funding analysis for residential downspouts should include admin costs for DHC's time and efforts.</li> <li>5. DHC will check for residential properties on the demo list.</li> <li>6. DHC was assured that disconnections will not result in ponding, water or water infiltration to existing basements.</li> <li>7. Follow-up maintenance is preferably assumed by property owners. If Greening of Detroit is performing the work through a contract with TT, maintenance would be done by them.</li> <li>8. Tree root damage to sewers was discussed. Trees are being planted in such a way as to minimize this situation.</li> <li>9. There may be limited opportunity to disconnect several properties in DHC's inventory. However, turning several adjacent vacant properties into green space may be an option.</li> <li>10. DHC will review upcoming cap improvement work for housing complexes to determine if opportunity to coordinate GI exists.</li> </ol> |                                                                                             |
| 11/10/2014 | CS-1522        | Thomas, McPherson                    | Coordination with DPW on City road GI                                               | <ol style="list-style-type: none"> <li>1. Reviewed green infrastructure practice design/construction and candidate locations for incorporating green infrastructure into a road resurfacing project. Projects selected:               <ol style="list-style-type: none"> <li>a. Artesian (Joy to Cathedral)</li> <li>b. Keeler (Outer to Piedmont)</li> <li>c. Tireman (Chatham to W Outer)</li> </ol> </li> <li>2. Discussed the bidding schedule, design review requirements, and permitting.</li> <li>3. Advertise for bid by Feb, bid three weeks after advertise, award in April/May.</li> <li>3. Discussed the setup of the construction contract.               <ol style="list-style-type: none"> <li>a. GI and resurfacing projects will be bid by DPW. GI quantities will be tracked separate from DPW quantities.</li> <li>b. Common line items such as mobilization will be allocated based on ratio of DWSD/DPW costs.</li> <li>4. Discussed the status of the memorandum of understanding between DWSD and DPW.                   <ol style="list-style-type: none"> <li>a. MOU must be signed by both parties prior to advertisement of the project.</li> </ol> </li> </ol> </li> </ol>                                                                                                                                                                       |                                                                                             |
| 11/10/2014 | Eastern Market | Hufnagel                             | Green Infrastructure Concepts for Eastern Market                                    | <ol style="list-style-type: none"> <li>1. Looking to do a master plan of sorts for stormwater management within the district.</li> <li>2. Group is also associated with Bloody Run</li> <li>3. Very interested in drainage charge credits that will help economics or other support from the City/DWSD.</li> <li>4. Holding a workshop with various consultants. They have visited other green cities. They will report back on their outcomes.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Add information in from the notes                                                           |
| 11/10/2014 | Gary Watkins   | Hufnagel                             | State Fair Grounds Development                                                      | <p>This was an introductory meeting with the developer and site engineer for the State Fair Grounds property. Encouraged developer to use green infrastructure and flood control per Wayne County standards.</p> <p>Orientation to the green infrastructure program and how it affects the neighborhoods.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Redico (developer), Atwell (civil engineer), Gary Watkins, Mohammadi Boudali, Dan Schechter |
| 11/13/2014 | CS-1522        | Dubay, Hufnagel                      | Meeting with district coordinators/ neighborhoods                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                             |
| 11/14/2014 | CS-1522        | Williams, Dubay, Hufnagel, Christian | Codes and Ordinance workshop                                                        | <ol style="list-style-type: none"> <li>1. Key issues               <ol style="list-style-type: none"> <li>a. Parking lot design requirements and a drainage charge incentive.</li> <li>b. Drainage charge.</li> <li>c. Master Plan updates</li> <li>d. Green infrastructure language to support.</li> <li>e. Density bonuses.</li> <li>f. Post construction standards for new development and redevelopment.</li> <li>g. Visual screening requirements for berms and fences needs to be revised.</li> <li>h. International GBC adoption. BSEED needs to make a formal recommendation.</li> <li>i. BMP design guidelines.</li> </ol> </li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | City Departments, The Nature Conservancy, CS-1522                                           |
| 11/18/2014 | GI Task Force  | Hufnagel                             | Standing meeting                                                                    | <p>The primary agenda item at this meeting was a report out from the codes and ordinances workshop.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | typical attendees for this meeting.                                                         |

## Meeting list

| Date       | Coordinator         | CS-1522 Consultant           | Purpose                                | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Specific Attendees                                                                                                                                                                             |
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| 11/18/2014 |                     | CS-1522<br>Thomas, McPherson | Work on Fenkell                        | <p>1. Reviewed green infrastructure practice design/construction along Fenkell Avenue between Virgil and Bentler.</p> <p>a. Tree boxes are proposed. The best opportunities are between Lamphere and Bentler on south side. Ideally, construction will be concurrent with water main construction. Wayne Co is willing to allow tree boxes and/or redirection of stormwater to parcels as a pilot project contingent upon a maintenance agreement with DWSD.</p> <p>2. Discussed the review process and timeline.</p> <p>a. Tentatively scheduled for within next 2 years.</p> <p>b. Construction permit for GI work will be needed—submit either with WM permit or as an addendum.</p> <p>3. Discussed a Memorandum of Understanding between DWSD and Wayne County.</p> <p>a. A long-term stormwater maintenance agreement between Wayne Co and another municipality will be used as a model.</p> <p>4. Discussed upcoming Outer Drive (Southfield Fwy to Greenfield) resurfacing work in 2016.</p> <p>5. Notes from Todd Scott, Detroit Greenways Coalition (Inadvertently not advised of meeting):</p> <p>a. Fenkell is ID'd as a city connector for bikes in Detroit's non-motorized master plan.</p> <p>b. Likely little need to maintain on-street parking. Could free up space for bike lanes in both directions or for a center turn lane.</p> | Check meeting minutes for who was there.                                                                                                                                                       |
| 11/19/2014 | SEMCOG              | Hufnagel                     | Lake Erie Nutrient Issues              | <p>General interest in green infrastructure. Presentation by Phil Argiroff suggested limited flexibility on CSO control end point and that MDEQ was not likely to move away from gray facilities to open up funding for green. Only indicated that they would make it smaller.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | This was a workshop with a number of participants and about 50 - 100 attendees.                                                                                                                |
| 11/20/2014 | GI Task Force       | None present                 |                                        | No report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                |
| 11/24/2014 | Sam Lovell          | Hufnagel                     | Fort Street Park; Marathon Oil         | <p>1. Marathon project involves multiple aspects that parallel the large scale greening efforts of DWSD.</p> <p>2. Data from Marathon includes flow monitoring (DWSD) and cost evaluation (academics)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Marathon: Treva Formby; PEA: Sam Lovell, Anmar Kalasho; Dan Schechter; Carol Hufnagel                                                                                                          |
| 11/25/2014 | CS-1522             | Wallick, Hufnagel            | Coordination with FHA                  | <p>FHA mortgages and associated real estate owned (REO) properties provide an opportunity to bring downspouts into code compliance. Possible advocate but requests paperwork.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Janet Gofrick (HUD), Lisa Wallick, Carol Hufnagel (conf call)                                                                                                                                  |
| 12/1/2014  | Eastern Market      | Hufnagel                     | Eastern Market Presentation            | <p>1. Eastern Market is working to prepare an ecodistrict/ stormwater district. Highly visible area could provide benefits of placemaking and external funding.</p> <p>2. RE: drainage charge – pilot opportunity to evaluate condominium type drainage charge structure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Dan Carmody, Jela Ellefson (Eastern Market); Chris Dorle (DFC), Ceara O'Leary, Virginia Standard (Detroit Collaborative Design Center/ City Form Detroit); Dan Schechter DWSD, Carol Hufnagel. |
| 12/1/2014  | CS-1522             | Thomas, Hufnagel             | Coordination with Parks re: Rouge Park | <p>Meeting was to obtain support for bioretention areas in Rouge Park in conjunction with Tremen bioswales. This was supported by the parks. Parks/ Friends of Rouge Park complained about the amount of construction debris left at the Rouge Tunnel site. Other opportunities for green infrastructure in Rouge Park were identified.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Tim Karl, Mike Jacobs (General Services, City of Detroit); Sally Petrella, Paula Trilety (Friends of Rouge Park)                                                                               |
| 12/4/2014  | Detroit Future City | Christian                    | Vacant Land Tool Kit                   | <p>This meeting was to review some preliminary designs developed by DFC/ Hamilton Anderson. Comments were provided on the concepts hydrologic impacts.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Erin Kelly (DFC), Melissa Hollingsworth (Hamilton Anderson), Tt.                                                                                                                               |
| 12/12/2014 | DWSD                | Hufnagel, Christian          | GI Coordination with MDEQ              | <p>Primary areas of emphasis were: 1) Credits for drainage charge system relative to DWSD expenditures; 2) Comments on the plan and the distribution of projects; request for forward looking expenditures; 3) Questions on the current expenditure allocation to planning efforts; 4) performance and sustainability measures and metrics.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DWSD: Dan Schechter, Stuart Traeger, Gary Watkins; MDEQ: Andrew Bahrou, Laura Verona, Karen Boase, Hae Jin Yoon; USEPA: Bob Newport; Tt: Carol Hufnagel, Dan Christian                         |
| 12/16/2014 | CS-1522             | Thomas, Hufnagel             | Coordination of projects with DTE      | <p>Primary purpose of meeting was to discuss potential work on Fenkell with 12-inch gas main. DTE was very negative about locating green infrastructure anywhere in the vicinity of gas mains and would not provide any guidance about distance for clearance. Impression was that they were discouraging. Regarding retirement of utilities, they pointed us to coordination work that was already ongoing with the water master plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rodney Cole, Bryan Valrance, Michael Fedele, Eric Janness (DTE); Rodney Burlett (DWSD)                                                                                                         |
| 12/16/2014 | CS-1522             | Novaes, Hufnagel             | Green Infrastructure in Parks          | <p>A variety of opportunities for green infrastructure in parks were discussed. Parks is very open to opportunities. O'Hair and Stoepel Park were specifically discussed. Parks is concerned about green infrastructure practices that look "weedy". They are interested in subsurface storage if it helps get surface uses in place.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Tim Karl, Farhat Chaudhry, and Mike Jacobs (Detroit, Parks Dept.); Valeria Novaes and Carol Hufnagel (Tetra Tech)                                                                              |

## Meeting list

| Date       | Coordinator                                          | CS-1522 Consultant           | Purpose                                                                        | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specific Attendees                                                                                                                                                                                                                     |
|------------|------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12/17/2014 | EPA                                                  | Hufnagel, Christian          | Coordination between FEMA, EPA, Housing, DBA, DWSD                             | <ol style="list-style-type: none"> <li>Lots of opportunities for crossover work between different agencies. Requires intentional efforts.</li> <li>Specific thoughts:               <ol style="list-style-type: none"> <li>Coordination on demolition sites with DBA/ DLBA</li> <li>Coordination with flooding control with FEMA/ BSEED/ MDNR</li> <li>Coordination on HUD grant with Housing and DBA</li> </ol> </li> </ol>                                                                                                                                              | City of Detroit (Palencia); Detroit Building Authority; Detroit: Land Bank; FEMA, DEC, DNR, HUD, Health and Wellness (CIV), Planning (CIV), EPA, Detroit Housing (Arthur Jemison)                                                      |
| 12/18/2014 | Blue Green Task Force                                | Hufnagel                     | Watershed Planning and other integrated implementation of green infrastructure | <ol style="list-style-type: none"> <li>Focus of meeting was considering alignment between a watershed plan, CSO plan, Green Infrastructure Plan, Master Plan of Policies, Open Space Plan, etc.</li> <li>DEQ pushing for 319 plan in Rouge. This is not something that DWSD is interested in.</li> <li>Identified need to comprehensively evaluate issues, including: technical, social, planning, political.</li> <li>Discussed importance of pilots as something to build on.</li> </ol>                                                                                | Sierra Club, Greening of Detroit, DEQ, LTU, UM, Erb Foundation, DFC, ECT, Nature Conservancy, LEAP                                                                                                                                     |
| 12/23/2014 | Mayor's office                                       | Hufnagel, Thomas             | Brightmoor Application for HUD                                                 | Meeting discussed approach to develop an application for HUD funds in support of community revitalization and hazard mitigation. The project area may include: Outer drive to the north; 96 to the south; Outer Drive to the west and Burt to the east. An "alternate extended area" has the same east west boundaries but goes up to Fenkel on the north; and across 96 to Fullerton on the south; potentially to the Rouge River on the west.                                                                                                                           | Palencia Mobley (Mayor's office); Brian Farkas (DBA); Arthur Jemison (Housing); Carol Hufnagel and Anne Thomas (TT)                                                                                                                    |
| 1/6/2015   | Eastern Market                                       | Hufnagel                     | Eastern Market Stormwater Plan                                                 | Meeting primarily focused on providing a preview of drainage charge credits that could result from green infrastructure applied to the Eastern Market stormwater district.                                                                                                                                                                                                                                                                                                                                                                                                | Dan Carmody (Eastern Market); Ceara O'Leary, Virginia Standard (Detroit Collaborative Design Center/ City Form Detroit); Dan Schechter DWSD; Carol Hufnagel.                                                                           |
| 1/8/2015   |                                                      | Dubay                        | DWSD/DPW GI Road Project Outreach Meeting prep                                 | This was a coordination meeting/ logistical call relative to the upcoming public meetings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Kellee Dubay, Public Affairs (Greg, Curritze and Linda), Anne Thomas, Dan Schechter.                                                                                                                                                   |
| 1/10/2015  |                                                      | Hufnagel                     | Black Family Development Community Meeting.                                    | This meeting was used to announce public meetings for transportation projects. Talked to folks from Councilman Leland's office and Arthur Edge - City of Detroit employee and active citizen                                                                                                                                                                                                                                                                                                                                                                              | Linda Philson/Hufnagel/ Cody Rouge Alliance                                                                                                                                                                                            |
| 1/14/2015  |                                                      | Hufnagel                     | Update on development plans for State Fair Grounds                             | Review with State Fair engineering development on the status of the development. They provided plans which show extensive retention/ detention on site. Developed concepts for 50% of existing sewer could be used for outlet capacity; also with more than enough volume for 100 year storm. Encouraged to look at water reuse on site. Discussed in general could estimate 30/40/30 percent as fixed; volume control; peak flow control.                                                                                                                                | State Fairgrounds Developer (Scott Wentworth), Engineer (Atwell - Dan McVuity, Mike McPherson), Dan Schechter, Gary Watkins, Carol Hufnagel, Palencia Mobley, Dwight _____                                                             |
| 1/14/2015  | CS-1522/ DWSD                                        | Dubay, Thomas, Hufnagel      | Cody Rouge neighborhood public meeting on roadway green infrastructure         | <ol style="list-style-type: none"> <li>There were concerns about more basement flooding as a result of bioswales. Tetra Tech will conduct soil borings in the project area to help alleviate concern.</li> <li>Answers to meeting questions, fact sheets, and meeting announcements will be posted on the DWSD web site.</li> <li>A follow-up meeting will be scheduled in February targeting the residents directly affected by construction.</li> <li>A rendering will be developed for the public showing pathways of above grade and below grade drawings.</li> </ol> | DWSD, Code Rouge Community Action Alliance                                                                                                                                                                                             |
| 1/15/2015  | CS-1522/ DWSD                                        | Dubay, Thomas, Hufnagel      | Grandmont Rosedale neighborhood public meeting on roadway green infrastructure | <ol style="list-style-type: none"> <li>There were concerns about more basement flooding as a result of bioswales. Tetra Tech will conduct soil borings in the project area to help alleviate concern.</li> <li>Answers to meeting questions, fact sheets, and meeting announcements will be posted on the DWSD web site.</li> <li>A follow-up meeting will be scheduled in February targeting the residents directly affected by construction.</li> <li>A rendering will be developed for the public showing pathways of above grade and below grade drawings.</li> </ol> | DWSD, Grandmont Rosedale Community Development Corporation                                                                                                                                                                             |
| 1/16/2015  |                                                      | Thomas, McPherson            | GI Along DPW Roads: Design and Bidding Specs                                   | Reviewed design/construction coordination on the selected green infrastructure road segments. TT will provide completed plans, details and specs to DPW by the end of February. DPW will prepare bidding package for advertisement.                                                                                                                                                                                                                                                                                                                                       | Jihad Slim (DPW); Anne Thomas, Nicole McPherson (TT)                                                                                                                                                                                   |
| 1/16/2015  | Palencia Mobley                                      | Hufnagel                     | Nature Conservancy Presentation                                                | Presentation by The Nature Conservancy related to their interest in supporting the City of Detroit, including the ability to aid with financing, land assembly and technical work.                                                                                                                                                                                                                                                                                                                                                                                        | Jed Howbert (Economic Development), Craig Holland and Helen Taylor (TNC), Phil Argiroff, N. Anderson, Dave Drullinger (MDEC), Carrie Lewan Monroe (DLBA), Chris Dorle (DFC), Darryl Latimer (DWSD), Matt Walters (Jobs & Economy Team) |
| 1/20/2015  | Green Infrastructure Task Force - water subcommittee | Did not attend - out of town | GI Task Force - Blue/Green Infrastructure Subcommittee                         | Dan Schechter attended this meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                        |



## Meeting list

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| 1/23/2015 | Blue Green Task Force        | Hufnagel                             | Broader Planning and Tracking                                                                           | Focus of the discussion was on the coordination of various planning efforts and the creation of a tracking system. Some discussion on the HUD grant potential. Discussion on tracking considered the differences between the DWSD tracking system and a broader tracking system that would capture more comprehensive inventory of green infrastructure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Dan Kinkadee, Detroit Future City, Kevin Shelton, Detroit Land Bank Authority, Dan Schechter, DWSD; Sanjay Sinha, Annette DiMara, ECT; Jackie ___ Eastside Community Network/LEAP; Jodee Raines & Sue Weckerle, Erb Family Foundation; Rebecca Salminen Witt & Eric Candela, Greening of Detroit; Patrick Dorman, Nature Conservancy; Melissa Damaschke, Sierra Club/Green Task Force Blue Green Infrastructure Committee; Peter Vincent, & Andrew Bahrou, State of Michigan DEQ; Carol Hufnagel, Tetra Tech, Palencia Mobley, City of Detroit |
| 1/23/2015 | MDEQ                         | Hufnagel, Christian                  | GI expenditures, performance goal, DWSD-DBA coordination                                                | 1. Need to make a business case for the investment in administrative/ institutional items; 2. DEQ wants spent on demolitions; 3. The metric that DEQ is interested in is volume reduction during the 2 year, 24 hour event (not detention, and doesn't need to be 100% of that volume); 4. DEQ wants to see the planned budget spend.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DEQ: Hae-jin Yoon, Andrew Bahrou, Laura Verona, Karen Boase (sp), Phil Arploff (phone); EPA: Bob Newport; DWSD: Dan Schechter; Detroit: Palencia Mobley; T: Carol Hufnagel, Dan Christian (phone)                                                                                                                                                                                                                                                                                                                                              |
| 1/30/2015 | DLBA                         | Hufnagel, Christian                  | DLBA discussion regarding the MOU for DWSD to use land sites                                            | Discussion about the need for an agreement between DLBA and DWSD for the work that DWSD is investing in.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DLBA - Carrie, Jelani, Tt - Dan and Carol; UM - Joan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2/2/2015  | CS-1522                      | Hufnagel                             | Discussion with Erb Family Foundation                                                                   | Discussed options/ considerations for tracking system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sue Weckerle, Carol Hufnagel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2/5/2015  | Thomas                       | Thomas                               | Rouge Park concepts for road projects                                                                   | Also discussed potential for Erb Foundation to be a partner in drainage charge assistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Tim Karl, Mike Jacobs (General Services); Sally Petrella, Al Vanderkove (Friends of Rouge Park); Anne Thomas (Tetra Tech).                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2/10/2015 | Eastern Market               | Hufnagel                             | Eastern Market Stormwater Plan                                                                          | Friends of Rouge Park and General Services are not supportive of an open basin due to its impact to the hydrology of Rouge Park. They prefer a subsurface basin. Final siting of the basin will follow a spring walk-through of the site with Friend of Rouge Park.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Eastern Market: Jella Ellefson; Detroit Collaborative Design Center: Ceara O'Leary, Charles Cross; City Form Detroit/DCDC Ceara O'Leary; Dan Schechter; Carol Hufnagel                                                                                                                                                                                                                                                                                                                                                                         |
| 2/12/2015 | Project Innovations          | Hufnagel, Cooperwasser               | Retail customer advisory committee launch                                                               | Eastern Market is concluding their report and would like DWSD to review. Discussed drainage charge and logistics of a drainage district with Eastern Market gaining access to some of the funds resulting from credits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Attendees of note: Charlie Fleetham, Palencia Mobley, Darryl Latimer, Greg Eno, Carol Hufnagel, Vic Cooperwasser, Retail related entities in the room: Tom Jennings, DEGC, Wayne State, Detroit Medical Center, Detroit Public Schools                                                                                                                                                                                                                                                                                                         |
| 2/12/2015 | Palencia Mobley              | Hufnagel                             | Discussion with TNC, HRA and ECT on the cost implications of the post construction stormwater standards | Presentation of the drainage charge video by Charlie. Received feedback. Presented the action plan currently embarking in: Confirm/ correct data; Revenue requirements/ rate setting; Credit system; Input and outreach; Develop notification/ appeals process; Post Construction Stormwater Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Mobley (City); Hufnagel (T); Holland (TNC); Swartout and Stokes (HR&A); Ridgway (ECT) Note: not clear on HR&A representatives                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2/16/2015 | Palencia Mobley              | Williams, Dubay, Christian, Hufnagel | Stormwater Post Construction Ordinance Workshop                                                         | This was a conference call to clarify the scope of services requested. Three scenarios should be developed a) current situation with no PCSW and no credit; b) PCSW but no credit and c) PCSW with credits. The TNC should not try to project the credit or the cost of service.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Dan Schechter, Debra Singleton (DWSD); Palencia Mobley (Mayor's office); Dennis Mazurek (Clerk's office); Tonja Stapleton, Paul Max, Raymond Scott, Jayda Philson (BSEED); Kathryn Underwood (Council Legislative Policy); Mike Jacobs (GSD); Richard Bohery (DPW); Craig Hollan (TNC); Dan Christian, Kellie Dubay, Carol Hufnagel, Chrissy Williams (Tetra Tech)                                                                                                                                                                             |
| 2/17/2015 | Green Task Force - Water Sub | Hufnagel                             | Green Task Force - Water Sub Meeting                                                                    | Approval criteria for stormwater post-construction requirements should go into the building code; Authority for approval criteria should go into a new chapter in the utilities code.<br>- DWSD will retain jurisdiction over enforcement, maintenance, inspections after BSEED issues Cert of Occupancy (C of O).<br>- Applicability thresholds for post-construction requirements include 10K sq ft of new impervious or 1 acre disturbed.<br>- Single-family residential (includes 1-4 units) to be exempt from post-construction requirements.<br>- SW management plan to be submitted to BSEED for approval prior to issuance of the C of O, rather than having it fall under a separate permit.<br>- Further discussion is needed regarding how to structure fees for post-construction plan review.<br>- Appeals process/board needs to include professional engineers with stormwater expertise.<br>- Tetra Tech to further research how other communities have established requirements and the implementation consequences of them. | Attendees: about 15. Melissa Damaschke and Erma Leaphart (Sierra Club), Sam Lovall, Sue Weckerle (Erb), Khalil Ligon (Alliance for the Great Lakes), Melissa Damaschke (Sierra Club), Paul Max (City of Detroit - Environmental Affairs), Phil Hadley (42nd Parallel Group LLC), Chris Cymar (Sustainable Water Works), Gary Stoll (Detroit Water & Sewerage Department), Eric Candela (The Greening of Detroit), Erma Leaphart (Sierra Club), Libby Levy (Urban Planning; Detroit Greenways), Rick Bower (BSEED) - there were others.         |

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| 2/17/2015 | Friends of Rouge Park  | Hufnagel                   | Review Road Plans with FORP                    | General support. Various questions raised. Need to separate the implementation of the GI practices in the park from the road corridor work in order to allow more time for design.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | About 15 members of the Friends of Rouge Park, Hufnagel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2/18/2015 | The Nature Conservancy | Hufnagel                   | TNC involvement in large scale land use change | Focus was on putting together a test case for large-scale greening. TNC is focused on capitalizing a project upfront. DLBA has significant flexibility with land ownership and long-term attention. Need to evaluate whether capitalizing work is the best approach.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Craig Holland, Helen Taylor, and Patrick Doran - TNC; Patricia Mobley, Jed Howbert, Matt Walters - City; Carrie Lewand-Monroe DLBA, Dan Schechter - DWSD; Carol Hufnagel, Tt; Chris Dorle, DFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2/23/2015 | CS-1522                | Anne Thomas, Kellie DuBay  | Public Meeting for Cody Rouge                  | - Discussion of maintenance/lifespan of permeable pavement.<br>- Community residents raised questions about the selection of houses/sites for bioswale installation; Tt will include this information in future fact sheet updates and the full meeting summary to participants.<br>- Questions of resurfacing Lamphere Road.<br>- Residents would still like performance information on bioswales.<br>- Significant concern remains among residents and Friends of Rouge Park about the way in which DWSD and their contractor left Rouge Park after the cancellation of the Upper Rouge Tunnel project.                                                                                                                                                               | Cody Rouge residents, Friends of Rouge Park representatives, Greg Eho (DWSD), Rich Dougherty (DPW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2/24/2015 | CS-1522                | Anne Thomas, Kellie DuBay, | Public Meeting for Grandmont Rosedale          | - Community residents raised questions about the selection of areas for green infrastructure projects and road projects, as well as selection of pervious pavers.<br>- Residents are concerned about garage access during construction process, on-street parking especially during evenings is not desirable.<br>- Concerns about homes that have old trees with deep roots and how the root system might affect construction, trees, and pavers.<br>- Stephanie Young to provide a list of trees that are slated for removal by the General Services Department in District 1; Stephanie to share with residents and Tt.<br>- Residents concerned about how the City will know where they've installed these projects and ensure they aren't taken out in the future. | Stephanie Young (City of Detroit District 1 Neighborhood Manager), Grandmont Rosedale residents; Palencia Mobley, Curtrise Garner (DWSD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2/26/2015 | TVT                    | Hufnagel                   | DTE and water and green coordination           | DTE has done approx. 47 miles of retirement (gas) to date. They have good records of what the status of various customers are "customer dots". When they cut them off, they find that people have been stealing gas, but there are also places where people move back in. They are having challenges in finding additional locations. DWSD water master plan is to "retire" approximately 600 miles. Need to form a working group to work through the technical details. Electric is not really part of this. Opportunities for better coordination on capital improvements.                                                                                                                                                                                            | Ginny Aud, Rodney Cole, Fakhri Muwakkil, Ty Turner (?) (DTE), Palencia Mobley (City), Carl Johnson, Dave Gustella (Water Master Plan), Carol Hufnagel (CS-1522)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3/4/2015  | Atwell                 | Hufnagel                   | State Fair Grounds Development                 | Met with State Fairgrounds Development. Site plan concept has been developed based on significant detention and some retention. Site would not meet an ordinance requirement of retaining the first 1-inch on site. Calculations package generated based on National Stormwater Calculator. Discussion regarding treatment of roadways in new development for drainage charge was discussed. Developer assumes that roadway runoff needs to be controlled, but that public roadways within the development would not be assessed a drainage charge. Also noted that Hamilton Anderson is engaged for landscape architecture and site design. Developer is considering reuse of stormwater for irrigation.                                                               | Redico (Developer), Atwell (site engineer), DWSD, Tt.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3/11/2015 | DLBA/ CS-1522          | Hufnagel                   | MOU on demos/site finishing for DLBA/DBA/DWSD  | Resolution of DLBA and DWSD and UM agreement regarding land access.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | DLBA, Tt, UM Water Center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3/13/2015 | MDEQ                   | Hufnagel                   | DEQ-DWSD GI Coordination                       | Phone call with Carol and Andrew Bahrou to review action items associated with the pending DWSD/DEQ meeting. Discussed the performance language and the desire for an updated Table 35 with dollar values identified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Carol Hufnagel and Andrew Bahrou.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3/17/2015 | Blue Green Task Force  | Hufnagel                   | Blue/Green Subcommittee                        | Gary Wozniak from RecoveryPark provided information about the green/blue green infrastructure techniques that will be implemented as part of the Great Lakes Restoration Initiative (GLRI) project at RecoveryPark. Discussed committee goals for the next year which include supporting greening of codes and ordinances, input to the drainage charge, developing a GI map, review impact of urban agriculture.                                                                                                                                                                                                                                                                                                                                                       | Alexandra Mueller (Detroit Green Map), Andrew Bahrou (Michigan Department of Environmental Quality), Al Foster (U.S. Construction Restoration Inc.), Breanna Fairchild (Mannik & Smith Group), Carol Hufnagel (Tetra Tech), Chris Cynar (Sustainable Water Works), Dan Schechter (Detroit Water & Sewerage Department), Eric Candela (The Greening of Detroit), Erna Leopahrt (Sierra Club), Gary Wozniak (Recovery Park), Kathleen Klein (Waste Management), Khalil Ligon (Alliance for the Great Lakes), Melissa Damaschke (Sierra Club), Paul Max (City of Detroit - Environmental Affairs), Peter Benz (Friends of the Detroit River), Sal Stable (Stormwater Recharge Systems), Thomas Hurst (Mannik & Smith Group) |

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| Date      | Coordinator              | CS-1522 Consultant                   | Purpose                                                                                        | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Specific Attendees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| 3/18/2015 | SEMCOG                   | Hufnagel                             | I-94 Green Infrastructure                                                                      | Update of the I-94 drainage project. Discussion on detention with dewatering to Connor Creek. Outlet based on level in Connor. Discussion of service drives which haven't been determined in the freeway concept.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | OHMT: Wyo K, Charles W, Nancy, SEMCOG: Kelly Karil, TT, CLH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3/25/2015 | CS-1522                  | Hufnagel, Novaes                     | Stoepel Park Design Issues                                                                     | - Additional survey needed for spot areas in and around Stoepel Park No. 1.<br>- It will review the opportunity to aggregate parcels south of the park for stormwater management.<br>- Develop revised design based on existing quantity of parking proposed, updates to capturing stormwater from Westwood to bring water into the north side of the park and south of the proposed parking lot, and a design plan for a future construction phase of parking extending further east toward Westwood possibly with a bit of a curve.<br>- Review updated design with GRCD, little league and DWSD; then finalize design.<br>- Prepare construction drawings for bid.<br>- Construction target: September-November. | Tim Karl (City of Detroit Parks), Tom Goddeeris (Grandmont Rosedale), Frank Lanzilote (Little League), Valerie Novaes, Carol Hufnagel                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3/25/2015 | CS-1522                  | Thomas                               | DWSD-DPW GI project permits                                                                    | - Met with DWSD permit office to discuss what was needed to acquire DWSD approval of the Green road projects.<br>- Four copies of the project drawings including profile, fee (or waiver letter), and MDEQ permits will need to be submitted to Mr. Boudali for a DWSD permit.<br>- At water main crossings, water main and sewer need to be encased in concrete.<br>- Future meetings are needed to determine process for updating record drawings.                                                                                                                                                                                                                                                                | Detroit Water and Sewerage Department: Mohamed Boudali, Mohammed Siddique, Gary Stoll<br>Consultant Team: Anne Thomas (T)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3/26/2015 | MDEQ                     | Hufnagel, Christian                  | DWSD-MDEQ GI Coordination                                                                      | Focus of meeting was reviewing the 2-year reporting requirement for the annual report and the ongoing and planned investments under the program. Need to develop a business case for the administrative time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DEQ: Andrew Bahrou, Laura Verona, Karen Boase, Hae-Jin Yoon.<br>EPA: Bob Newport, DWSD: Dan Schechter, Detroit: Palencia Mobley, TT: Carol Hufnagel, Dan Christian<br>Stakeholder Advisory Group<br>Anne Thomas, Linda Philson, Gary Stoll                                                                                                                                                                                                                                                                                                                                                                   |
| 3/26/2015 | DFC                      | Christian                            | DFC Vacant Land Transformation Guide                                                           | Review of the progress made to date regarding the vacant lot greening guide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4/8/2015  | Community Group          | Thomas                               | Far West Community Meeting - Provide an update on the Tireman and Constance green projects.    | - Anne Thomas presented updates on the Tireman and Constance green infrastructure projects as part of the Far West Community meeting. Generally, residents within the construction limits of Tireman seemed supportive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4/13/2014 | CS-1522                  | Williams, Dubay, Christian, Hufnagel | Stormwater ordinance workshop with developers and engineers                                    | Representatives from Detroit's development community, as well as Detroit city department staff, participated in the first of several meetings to discuss the development process for and preliminary content of a new storm water ordinance. The purpose of this meeting was to provide background on the need for a storm water ordinance, discuss the public input schedule; present the basics and benefits of various types of storm water management; present a summary of the preliminary draft storm water ordinance and key areas of input; solicit initial development community input; and define next steps.                                                                                             | Members of the development community, BSEED, planning, DWSD, DEGC and Tetra Tech.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4/21/2015 | Blue Green Task Force    | Hufnagel                             | Green/ Blue (Green Task Force Sub)                                                             | Codes and ordinances, drainage charge and mapping were all items on the agenda. TT provided updates on status. Need to find opportunities for broader stakeholder input (June 2 meeting later planned).<br>Tour of CAYMC green roof.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Aimee Lalonde-Norman (Friends of the Rouge), Alexandra Mueller (Detroit Green Map), Breanna Fairchild (Mannik & Smith Group), Carol Hufnagel (Tetra Tech), Daryl Pierson (Wayne State University), Eric Candela (The Greening of Detroit), Erma Leaphart (Sierra Club), Gary Wozniak (Recovery Park), Kathleen Klein (Waste Management), Khalil Ligon (Alliance for the Great Lakes), Melissa Damaschke (Sierra Club), Paul Max (City of Detroit - Environmental Affairs), Peter Benz (Friends of the Detroit River), Rick Bowers (City of Detroit - Building, Safety Engineering, Environmental Department) |
| 4/21/2015 | Wade Trim                | Christian, Thomas, Hufnagel          | Joy Road Green Infrastructure - Wade Trim                                                      | Wade Trim and Joy-Southfield Community Development Corporation presented road right-of-way green infrastructure concepts along Joy Road. One intersection was adjacent to the previous pavement project on Artesian between Joy and Cathedral. Wade Trim will move ahead with their design. Their goal is to figure out funding options.                                                                                                                                                                                                                                                                                                                                                                            | David Anthony, Jeremy Curtis, Rodney Gasaway, Dan Christian, Anne Thomas, Carol Hufnagel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4/21/2015 | Friends of Rouge Park    | Thomas                               | Friends of Rouge Park meeting - provide an update on the Tireman and Constance green projects. | Anne Thomas provided and update on the Tireman and Constance green infrastructure projects as part of the Friends of Rouge Park monthly meeting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Anne Thomas, Sally Petrella                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4/23/2015 | Scott Benson, Councilman | Hufnagel                             | Green Task Force Meeting                                                                       | Palencia Mobley discussed the drainage charge, codes and ordinance and upcoming projects for the group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Public forum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4/27/2015 | Sierra Club              | Hufnagel                             | Community Dialogue on Green Infrastructure                                                     | Presentations by the Stahalin Street Block Club and the Northend Christian Community Development Center. Great work being done by these entities. Tour of WCCC LEED platinum building; green roof, subsurface storage and retention basin                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Dan Schechter, Carol Hufnagel, Melissa Damaschke, DWSD Public affairs, Erma Leaphart, local leaders.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Meeting list

| Date      | Coordinator       | CS-1522 Consultant                                          | Purpose                           | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specific Attendees                                                                                                                                                                                                                                                                                                                 |
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| 4/28/2015 | Eastern Market    | Hufnagel                                                    | Eastern Market Presentation       | Presentation by Eastern Market of their outcomes. Discussion of how to move the project forward                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DFC, planning, TNC, MDNR, Mobley, Hufnagel, Eastern Market Team, Efb Foundation                                                                                                                                                                                                                                                    |
| 5/1/2015  |                   | Hufnagel                                                    | Detroit Open Space Plan           | Discussion of a Citywide Plan. Likely not going to happen near term, but coordination is considered important by members of the group.<br>Mapping and Tracking. A list of important elements was developed as a group exercise. The tool and leadership for implementation was discussed. Related to DWSD, some tracking would be performed associated with DWSD implemented projects and those that receive a drainage credit.                                                                                                                                                                                                                                                                                                                                                                                                                           | : Jodee Raines & Sue Weckerle, Efb Family Foundation; Rebecca Salminen Witt & Eric Candela, Greening of Detroit; Valerie Straasberg, The Nature Conservancy; Melissa Damaschke, Sierra Club/Green Task Force Blue Green Infrastructure Committee; Peter Vincent & Andrew Bahrou, State of Michigan DEQ; Carol Hufnagel, Tetra Tech |
| 5/13/2015 |                   |                                                             | I-94 Drainage                     | Discussed I-94 drainage plan:<br>- Area east of I-75, divert all flows to SW management practice near Connor. Drain to Connor when capacity available.<br>- General concept for I-96 to Lodge would be to go to the I-96 storm sewer with detention.<br>- Lodge to I-75, probably remain as is, tend to go toward Leib, St. Aubin facilities.<br>Service drives: New impervious surface created by surface drives could potentially be offset by removed imperviousness. Vyto suggested that DWSD could push for offsetting reduction in impervious area by MDOT through infrastructure removal in vacated areas of the City.                                                                                                                                                                                                                             | Kelly Karl (SEWCOG), Vyto Kaunelis, Charles Humphriss, Lindsey (OHM), Carol Hufnagel (TT)                                                                                                                                                                                                                                          |
| 5/19/2015 | M. Demaschke      | It did not attend. Meeting notes are from Gary Stoll, DWSD. | Blue/Green Subcommittee           | Eric Candela (co-chair of subcommittee) gave a presentation on using trees to benefit public health. Cost-benefit analysis may be performed to promote recommended policy-making initiatives for investment in trees. Initial targeted coverage is nearly 1 million trees, or roughly 30 percent of Detroit's 89K sq acres absent such cover. It was noted that DWSD's 2015 capital improvement plan has budgeted significant funds towards remedial sewer work across the City. As previously noted, this investment should be mindful of the City's transitioning land use and decaying sewer infrastructure, as much of the acreage is repurposed for redevelopment.                                                                                                                                                                                   | Melissa Damaschke, co-Chair, (Sierra Club), Eric Candela, co-Chair, (Greening of Detroit), Jodee Raines (Erb), Gary Stoll, Jr. (DWSD), Chris Cynar (Sustainable Water Works), Phil Hadley (42nd Parallel Group), Gary Wozniak (Recovery Park), Erma Leaphart (Sierra Club), Chris Dorle (DFC), Paul Max (BSEED)                    |
| 5/21/2015 | Councilman Benson | Christian                                                   | Green Task Force                  | Maurice Cox, City's new Planning Director, was the primary speaker. He detailed his operating philosophy, which is focused on democratic design. He believes the community should come up with the design ideas and design pros should then be engaged to implement their vision. The pros are there to help, but not to lead. He proposes dividing the city into 5-7 smaller regions and building "city centers" in each region where the community would come to discuss, organize, prioritize and implement ideas. Center staff (landscape architects, planners, grant writers) would be there to help. Mr. Cox pointed to his experience in New Orleans, where ideas came from the community, and his staff raised money to build the project. Money raised went towards materials; labor was typically students.                                     | Task Force, Maurice Cox (Planning Director)                                                                                                                                                                                                                                                                                        |
| 6/2/2015  | CS-1522           | Williams, Dubay, Hufnagel, Christian                        | Workshop for Codes and Ordinances | Update on DWSD Green Infrastructure Outreach<br>- Some businesses (e.g. Eastern Market operators) perceive green infrastructure to be more expensive and green around stores to be undesirable (blocks signage).<br>- Stakeholders want to see:<br>- Tracking of green infrastructure location incentivized through the post-construction stormwater ordinance and determine reductions to the city.<br>- Public education signage at GI projects as a possible requirement (e.g., could earn points).<br>- Integration of GI into all codes. Provide an explanation of concurrent greening of the code effort.<br>- An examination of potential costs and what the "worst case scenario" would be if all developers went to the least expensive option for meeting standards.<br>- Concerns were expressed about "super exemptions" or economic waivers. | Greg Eno, Linda Philson (DWSD Public Affairs), Carol Hufnagel, Kelle Dubay (Tetra Tech)                                                                                                                                                                                                                                            |

## Meeting list

| Date      | Coordinator<br>Green Task Force:<br>Water Subcommittee | CS-1522 Consultant                             | Purpose                                | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Specific Attendees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|--------------------------------------------------------|------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6/16/2015 | Hufnagel                                               | Hufnagel                                       | Tiger Stadium Site Development Project | Primary meeting topic was a presentation on redevelopment of the former Tiger Stadium site and sustainability approaches being incorporated. Project is broken into zones. Other items included code and ordinance discussion, mapping approaches and ways to engage road agencies. Also noteworthy, Keep Growing Detroit received a grant from the U.S. Environmental Protection Agency to study the impact of urban agriculture on water quality.                                                                                                                                                                | Barbara Aylesworth (MSU Institute of Water Research), Carol Hufnagel (Tetra Tech), Chris Cynar (Sustainable Water Works), Eric Larsen (Larsen Realty Group), Erin Morey, Erma Leaphart (Sierra Club), Gary Stoll Jr. (Detroit Water & Sewerage Department), Gary Wozniak (Recovery Park), Jay Richardson (Sustainable Water Works), Jodee Raines (Erb Family Foundation), Kathy Klein (Waste Management), Khalil Ligon (Alliance for the Great Lakes), Mary Bohling (Michigan Sea Grant), Melissa Damaschke, Co-Chair (Sierra Club), Paul Max (Detroit Building Safety, Engineering and Environment Department), Sal Stabile (Stormwater Recharge Systems), Sue Weckerle (Erb Family Foundation), Tyesha Hodges (Sierra Club), Valerie Strassberg (Nature Conservancy) |
| 6/16/2015 | Friends of Rouge Park                                  | Thomas                                         | Update on Rouge Park Work              | - Anne Thomas provided an update on the concepts for Tireman. Generally, everyone seemed satisfied with the planting plan.<br>- The first phase of the Tireman and Constance projects are likely to start construction in August.                                                                                                                                                                                                                                                                                                                                                                                  | About 16 members of the Friends of Rouge Park organization, Anne Thomas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6/18/2015 | Benson Green Task Force                                | No CS-1522 attendance. Dan Schoechter attended |                                        | Topics were the Green Garage and Green Infrastructure and Health.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6/24/2015 | CS-1522                                                | Hufnagel, Scarangella, Thomas                  | Blue Green Meeting/ Mapping            | The Green Task Force's Blue/Green Infrastructure Subcommittee has been exploring tools to track GI projects throughout the City to understand their cumulative impact and their influence on neighborhood development. Tetra Tech presented a variety of tools being used and discussed data ownership/ reliability and review of purpose of the tools. NECO and Model D presented their qualifications/ options for potential tools.                                                                                                                                                                              | Palencia Mobley, City of Detroit Mayor's Office; Dara O'Byrne, Detroit Future City; Kevin Shelton, Detroit Land Bank Authority; Dan Schechter, DWSD; Jodee Raines, Erb Family Foundation; Rebecca Salminen Witt & Eric Candela, Greening of Detroit; Brian Boyle, Issue Media Group/ModelD; Jeremiah Asher, MSU Institute for Water Research; Valerie Strassberg, The Nature Conservancy; Melissa Damaschke, Sierra Club/Green Task Force Blue Green Infrastructure Committee (by phone); Peter Vincent & Andrew Bahrou, State of Michigan DEQ; Carol Hufnagel, Anne Thomas & Julie Scarangella, Tetra Tech                                                                                                                                                            |
| 6/26/2015 | SEMCOG                                                 | Hufnagel                                       | I-94 and LEAP                          | Overview of I-94 drainage concepts project for LEAP; Plan as proposed would assume that storage could dewater when any available capacity is in the Connor trunk sewer. Data for sizing is sketchy (OHM did not get CH2M model), Packard Plant redevelopment mentioned by Jackie Bejma.                                                                                                                                                                                                                                                                                                                            | Jackie Bejma (LEAP), Vito Kaunelis (OHM), _____ (OHM), Devon Rostofer (SEMCOG), Amy Mangus (SEMCOG), Gary Stoll (DWSD), Carol Hufnagel (Tetra Tech)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7/1/2015  | MDEQ                                                   | Hufnagel                                       | DEQ-DWSD GI Coordination               | <ol style="list-style-type: none"> <li>1. Conditional approval letter - DWSD doesn't agree with everything, noted was the prior investment in downspout disconnections. Agreed that the "true up" of the 30% item would come at the end.</li> <li>2. Review of proposed and ongoing efforts. DEQ critical of items that are not "direct spend"</li> <li>3. USEPA workshop with City of Detroit officials explaining requirements for CSO control and importance of green infrastructure</li> <li>4. Runoff reduction quantification was discussed with DEQ/ EPA interested in detention reporting also.</li> </ol> | Schechter, Stoll (DWSD), Mobley (City of Detroit) Newport, Grosshams (EPA), Bahrou, Argiroff, Verona, Moon (DEQ), Hufnagel, Christian (T)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 7/8/2015  | CS-1522                                                | Thomas, Murdick                                | Stoepel Park                           | <ol style="list-style-type: none"> <li>1. Detailed review of concepts for Stoepel Park;</li> <li>2. Review of Tireman bioretention;</li> <li>3. Discussion of other parks including Stein, O'Shea, Luzzo, Clarita Stout, Crowell Recreation Center.</li> </ol>                                                                                                                                                                                                                                                                                                                                                     | Tim Karl (Detroit GS), Tom Godderts (Grandmont-Rosedale), Anne Thomas, Amy Murdick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Meeting list

| Date      | Coordinator                  | CS-1522 consultant                   | Purpose                                                        | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Specific Attendees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| 7/20/2015 | CS-1522                      | Williams, Dubay, Christian, Hufnagel | Codes and Ordinances Workshop                                  | <p>Discussed thresholds for determining rates including size of disturbed area and difference between redevelopment and new development.</p> <p>Discussed exemptions: Individual single family should be exempt from performance standards now--phased into in future; no exemptions based on economic benefits; emergency exemption must be clearly defined.</p> <p>Discussed committee approach to reviewing variances. Approach should be consistent and objective with opportunity to appeal.</p> <p>Multiple design/outreach tools which cross reference each other are needed (drainage charge manual, stormwater mgmt design manual).</p> | <p>Palencia Mobley (City of Detroit); Dan Schechter, Gary Watkins (DWSD); James Foster (BSEED); Kathryn Underwood (City Council Legislative Policy); Richard Doherty (DPW); Andrew Bahrou, Dave Drullinger, Karen Boase, Hae-Jin Yoon (MDEQ); Phil Hadley 42nd Parallel); Khalil Ligon (Alliance for the GT Lakes); Katie Rousseau (American Rivers); Steve ogden (Bedrock Real Estate); Jeffrey Klein (Classic Landscape Arch/Const); Harold Zweng (MDOT); Dara O'Byrne (DFC); Sue Weckerle (development rep); Jela Ellison (Eastern MKS); Annette DeMaria (Env Consulting &amp; Tech); Jodee Raines (Erb Fam Found); Bob Burns (Friends of the Det River); Aimee Lalonde-Norman (Friends of the Rouge); Michael Darga, Michael Marks, Dave Root (Giffels Webster); Stephanie Karisny (Gt Lakes Env Law Clinic); Eric Candela (Green of Det); David Ryszi (Mannik Smith Group); Marianne Oudknecht (NTH); Andrew Sokoly (Office of Cnclm Scott Benson); John Saad (Det Planning &amp; Dev); Gary Wozniak (Recovery Park); Scott Wortman (Redco); Karl Kelly, Devan Rostorfer (SEMCOG); Melissa Damaschke (Sierra Club); Chris Cynar, Jay Richardson (Sustainable Water Works); Valerie Strassberg (Nature Conservancy); Toni Henry, Cassandra Verras (Zachary &amp; Associates); Carol Hufnagel, Dan Christian, Kellie Dubay, Christy Williams (Tetra Tech)</p> |
| 7/21/2015 | CS-1522                      | Williams, Dubay, Christian, Hufnagel | Stormwater Ordinance Finalization Workshop                     | <p>Meeting was to discuss input provided by stakeholders during the July 20, 2015, working session and identify next steps for revising and finalizing Detroit's post-construction stormwater ordinance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Palencia Mobley (City of Detroit); Dan Schechter, Mohammad Siddique (DWSD); Tonja Stapleton (BSEED); Richard Doherty (DPW); Kathryn Underwood (City Council Legislative Policy); John Saad (Planning &amp; Dev); Valerie Strassberg (TNC); Carol Hufnagel, Dan Christian, Kellie Dubay, Christy Williams (TT)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8/18/2015 | Green Task Force - Water Sub | Thomas                               | HNTB/OHM presentation on I-94 reconstruction                   | <p>\$1.9 billion over 20 years is planned for the I-94 reconstruction between Grand River and Conner. Conceptual plan review in 2014-2015; 2018 design begins; 2019 construction begins. Initial concept is to detain SW in subsurface pipes for new I.C., maximize flows to treated systems, no increase in peak flow rates, use ponds to attenuate flow for larger DA's. Bridges are being designed now.</p>                                                                                                                                                                                                                                   | <p>Damaschke (Sierra Club); Cadela (Greening); Strassberg (Nature Conservancy); Eric Poliv (HNTB); Byro Kaunelis (OHM); Thomas (TT).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8/19/2015 | EPA/ City of Detroit         | Hufnagel, Thomas                     | Workshop for EPA/ City of Detroit                              | <p>Workshop for City staff emphasizing green infrastructure and its benefits. Background in GI and CSO control. Presentations by Bob Newport, Palencia Mobley, Andrew Bahrou and Jon Grosshams. Key takeaway: DEQ sees \$8.3 million in expenditure required by their slide.</p>                                                                                                                                                                                                                                                                                                                                                                 | <p>City departments and stakeholders: BSEED (many), DPW (many), DWSD (many), DEQ, EPA, SEMCOG, T, DLBA, TNC, Gary Brown, Dave Manardo, DEGC, GSD, Housing &amp; Revitalization</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8/20/2015 | SEMCOG                       | Hufnagel, Christian                  | Green Infrastructure Bus Tour                                  | <p>Busload of SE Michigan elected officials and municipal representatives touring sites in Detroit and Southfield. Stop included the ecological restoration site on Evergreen. DWSD's green infrastructure program and the eco projects were explained.</p>                                                                                                                                                                                                                                                                                                                                                                                      | <p>SE Michigan elected officials and municipal representatives, Erb Foundation, others. Palencia Mobley, Scott Benson, etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 8/27/2015 | Greening of Detroit          | Hufnagel                             | Collaborative Efforts to Improve Environment and Public Health | <p>This was a session highlighting various speakers on health impacts in Detroit and how they are potentially being addressed with green infrastructure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Many agencies and groups active in Detroit green infrastructure, including municipal, governmental (DEQ, MDOT), university, and NGOs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9/2/2015  | MDEQ                         | Hufnagel, Christian, Thomas          | Bi-monthly meeting/ update                                     | <p>Walked through GI Progress Report. It will evaluate annual program spend requirements to meet permit. It will provide back-up expenditure data and runoff calculations. MDEQ would like to see a tie between post construction sw controls to CSO performance (model). MDEQ would like to see the maintenance agreements for the sites where DWSD paid for demolition.</p>                                                                                                                                                                                                                                                                    | <p>Dan Schechter (DWSD); Dan Christian, Anne Thomas, Carol Hufnagel (TT); Bob Newport (EPA); Andrew Bahrou, Hae-Jin Yoon, Karen Boase, Laura Verona (MDEQ); Palencia Mobley (Mayor's Office)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

dubay, williams

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## Meeting list

| Date       | Coordinator           | CS-1522 Consultant                   | Purpose                                     | Outcomes / Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specific Attendees                                                                                                                                                                                                                                                                                              |
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| 10/5/2015  | CS-1522               | Williams, Dubay, Christian, Hufnagel | Codes and Ordinances Conference Call        | <p>Focused on applicability thresholds for post-construction stormwater ordinance;</p> <ul style="list-style-type: none"> <li>• Group discussed need to conduct a backward analysis that would illustrate the effect of different applicability thresholds within Detroit to illustrate best and worst case scenarios</li> <li>• While Detroit-specific analysis is necessary, available data are limited to do so effectively</li> <li>• Challenge is the availability of parcel data, which doesn't readily translate into developments</li> <li>• Goal would be to reach out to BSEED and others to determine what other data might be available (e.g., gross site size) to help develop applicability threshold scenarios</li> </ul>                                                                  | <p>Palencia Mobley, DWSD; Anita Harrington &amp; Paul Max, BSEED; John Saad, Planning; Kathryn Underwood, City Council Legislative Policy Div; Val Strassberg, and Craig Holland The Nature Conservancy; Kellie DuBay, Christy Williams, Dan Christian, Carol Hufnagel, Tetra Tech</p>                          |
| 10/12/2015 | CS-1522               | Hufnagel, Novaes, Wallick (Metco)    | Green Infrastructure at Public Schools      | <p>1. DPS desires support in the development of a stormwater/GI curriculum; 2. The updates to the billing for drainage coming in 2016 was discussed; 3. The concepts are good but would need approval from the emergency manager to proceed. In order for EM approval, will need to show the GI practices are DWSD funded, reduce the drainage charge, impact on student achievement, educational signages, access for all, and provide a demonstration; 4. DPS would maintain the practices; 5. Foreseen issues with outreach include maintenance, safety and vector control.</p>                                                                                                                                                                                                                        | <p>Valerie Novaes, Carol Hufnagel, Lisa Wallick (Metco), Palencia Mobley (DWSD), Emile Lauzzana (DPS)</p>                                                                                                                                                                                                       |
| 10/12/2015 | CS-1522               | Murdick, Thomas, Hufnagel            | Green Infrastructure at Public Parks        | <p>Discussed parks selected for construction in 2016. Approval was received to proceed with survey and concept design for all 2016 parks projects. The Parks &amp; Rec Department requested additional time to review the latest design for Stoepele park, but eventually approved the project to move forward.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Alicia Bradford &amp; David Miller (Parks &amp; Rec), Tim Karl &amp; Juliana Fulton (GSD), Palencia Mobley (DWSD), Anne Thomas, Amy Murdick, Carol Hufnagel</p>                                                                                                                                              |
| 10/12/2015 | CS-1522               | Williams, Dubay, Christian           | Codes and Ordinances Conference Call        | <p>The TAC raised concerns that development in the downtown/midtown area might not meet the applicability threshold. Research/analysis need: apply the proposed performance standards (and applicability thresholds) to a sample of real-world Detroit examples to see how the standards and thresholds would affect Detroit developments. TAC members will provide 2-3 examples. Site examples should be representative of small sites and large sites in Detroit. The site footprint and the surrounding developments/land uses are needed to help with the analysis. Dan Christian also stated that the example sites should also include site grading, if available. John Saad stated that grading won't be easy to obtain because developers aren't required by the City to provide survey data.</p> | <p>Mohammed Boudali &amp; Debra Singleton, DWSD; Anita Harrington &amp; Paul Max, BSEED; Rich Doherty, Public Works; John Saad, Planning; Kathryn Underwood, City Council Legislative Policy Div; Val Strassberg, The Nature Conservancy; Kellie DuBay, Christy Williams, Dan Christian, Carol Hufnagel, T;</p> |
| 10/20/2015 | Blue Green Task Force | Hufnagel                             | Green Task Force - Water Sub Meeting        | <p>The primary presentation was by Valerie Strassberg for the financial evaluation performed by TNC and HRA relative to the stormwater ordinance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                 |
| 11/4/2015  | CS-1522               | Thomas, Murdick                      | Green infrastructure concepts for Constance | <p>All attendees were amenable to the above ground concept as long as sensitive areas within the park aren't impacted and surface drainage is not substantially reduced to the existing wetland to the south. Tetra Tech will go ahead with the survey for this area and will continue to meet with stakeholders as the design proceeds.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Murdick, Thomas (T); Palencia Mobley (DWSD); Tim Karl, Juliana Fulton (GSD); Sally Petrella, Al Vankerckhove, Paul Stark (Friends of Rouge Park)</p>                                                                                                                                                         |
| 11/4/2015  | CS-1522               | Hufnagel, Wallick                    | Coordination on John Smith Homes            | <p>John Smith homes will not advance at this time. Issues relate to disruption to residents during construction (regardless of long term benefit) which are challenging with HUD criteria for resident quality of life. Also, cost/benefit (maintenance versus drainage charge) need more accomplished test cases to be considered. There is some interest by DHC.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>Detroit Housing Commission (Kelley Lyons, Jason Borrer, De'Onna Henderson); DWSD (Palencia Mobley), CS-1522 (Carol Hufnagel and Lisa Wallick)</p>                                                                                                                                                            |
| 11/12/2015 | CS-1522               | Thomas, Murdick                      | Lahser Road Parks/County                    | <p>Wayne Co. is open to a shallow pipe/closed trench under the road to get stormwater across the street to a GI practice. It will forward a design detail for review. Cores will be needed in Lahser in order to design the trench drain. Permit fees can be waived. Where ownership and maintenance begins and ends on these GI practices will need to be determined. This conversation needs to be had with Palencia Mobley scheduled in December.</p>                                                                                                                                                                                                                                                                                                                                                  | <p>Murdick, Thomas (T); Ron Agacinski, Ken Kucel, Phil McGuire (Wayne Co)</p>                                                                                                                                                                                                                                   |
| 11/17/2015 | Blue Green Task Force | Hufnagel                             | Blue Green task force monthly meeting       | <p>Primary agenda item was a presentation by Betsy Palazzola regarding the HUD funding and etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                 |
| 11/18/2015 | CS-1522               | Williams, Christian, Dubay, Hufnagel | TAC workshop                                | <p>Working session on the post-construction stormwater ordinance to address remaining concerns on ordinance components including exemptions, phased thresholds, performance standards, and better site design.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>Palencia Mobley, Mohammed Boudali, Mohammad Siddique, Debra Singleton (DWSD); Paul Max, James Foster, Dajije Benjipal (BSEED); Richard Doherty (DPW); Alexa Bush, John Saad (Planning); Devon Rostorfer (SEMCOG); Carol Hufnagel, Dan Christian, Christy Williams, Kellie DuBay (Tetra Tech)</p>             |
| 11/19/2015 | MDEQ                  | Murdick                              | Green Infrastructure Tour                   | <p>Staff from MDEQ and students from Wayne State (Environmental Systems Analysis class) toured the ecological project at Evergreen and Tireman Avenue bioswale. The tour also went to four other green infrastructure sites.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Bahrou, et. al (MDEQ); Murdick (Tetra Tech); students from Wayne State University</p>                                                                                                                                                                                                                        |







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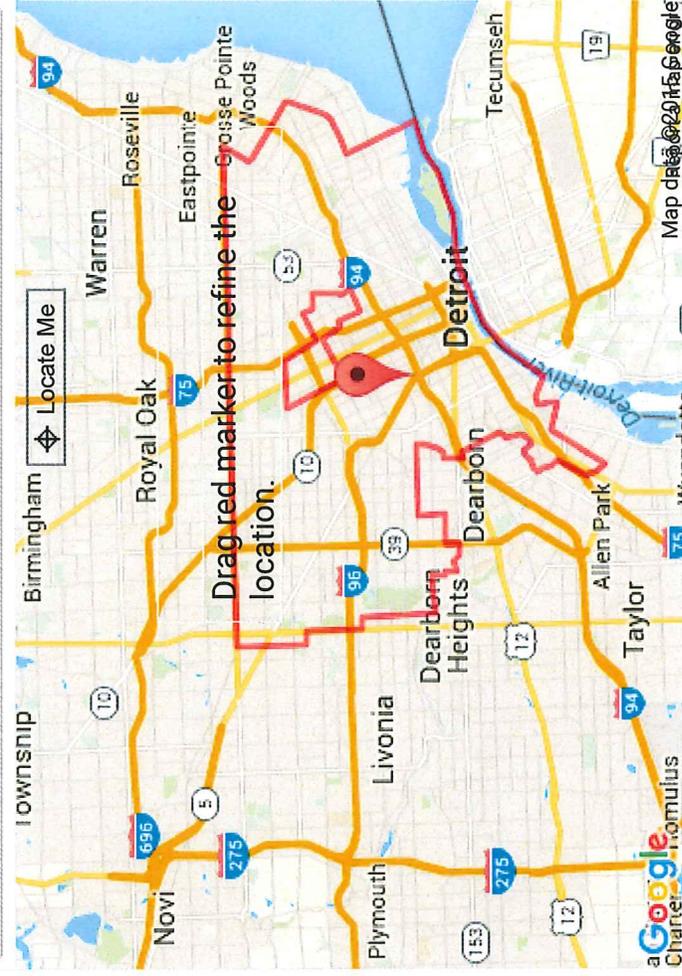
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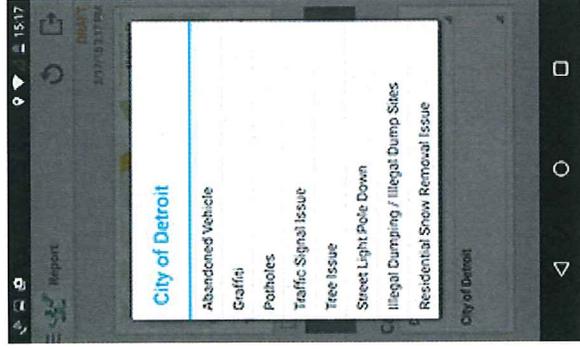
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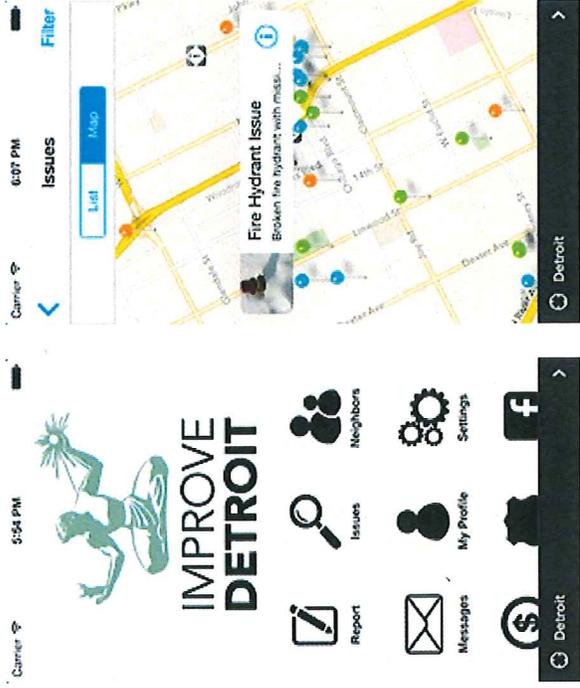
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# Press Release

City of Detroit • Mike Duggan, Mayor

**FOR RELEASE:**  
October 28, 2015  
**MEDIA CONTACTS:**  
Gregory Eno (313) 573-0775  
Curtrise Garner (313) 701-2147

## DWSD Encourages Residents to Clear Catch Basins to Prevent Flooding During Heavy Rains

When it rains, it pours into the Detroit Water and Sewerage System's (DWSD) catch basins. Catch basins, or sewers, are located in front of homes throughout the City and function primarily as a draining mechanism during heavy rain and storms to allow rainwater to flow off the City's streets and sidewalks.

However, when the catch basins are not clear of leaves and other debris, the catch basins back up and flood into the neighborhoods and into basements. In order to prevent flooding, DWSD recommends that neighbors lend a helping hand and keep catch basins clear so that the rain can travel to the wastewater plant and be treated before it is released into the Detroit River.

"A small step such as clearing the catch basin on a regular basis really helps to protect our sewer system and also can prevent flood damage to homes," said Gary Brown, Director of DWSD. "The combination of a heavy rain and the fall leaves can often block the sewer. It only takes a few seconds to help our system do what it is designed to do and help out your neighbors as well. We view this as a shared responsibility of neighbors, block clubs and everybody on the block, to clear storm drains of debris."

The City of Detroit has more than 95,000 catch basins. Residents that experience flooding should call DWSD at (313) 267-7401.

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# Press Release

City of Detroit • Mike Duggan, Mayor

FOR IMMEDIATE RELEASE:

September 10, 2014

CONTACT:

John Roach, Communications Director  
313.244.7857 (cell)  
roachj@detroitmi.gov

## With more flooding possible, City asks residents and businesses to clear the storm drains in front of their property

As the City of Detroit prepares for the possibility of heavy rains and flooding this afternoon, it is asking for residents help to prevent flooding by clearing the storm drains in front of their home or business before the severe weather arrives. Simply removing accumulated twigs, leaves and trash from storm drain covers can go a long way to reduce or prevent street flooding.

Residents also are encouraged to make sure their down spouts are directed away from their houses to keep rain water from entering their basements.

Currently, the Mayor's office, and departments of Homeland Security, Public Works, Police, Fire, Water and Sewerage and General Services are coordinating efforts to respond, as needed, to the effects of the weather. More information will be provided later in the day.

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## STORM WATER

# Storm Water



### Overview of Storm Water in Detroit

When it rains in Detroit, storm water falls on rooftops, streets, sidewalks and parking lots and then this storm water flows into our sewer system. The sewer system in Detroit is a combined sewer system. That means it carries both storm water and sanitary sewage. During wet weather, too much storm water can overload the combined system. This might cause basement backups, street flooding, and polluted wastewater to flow into the Rouge River, the Detroit River, and eventually, Lake Erie.

We all share the benefits of healthy water and the consequences of overloading Detroit's combined sewer system. That's why we also share the responsibility for controlling the amount of storm water that flows into the system.

### Learning about Detroit Storm Water and Solutions

Use these links to learn more about storm water, the combined sewer system, and what you can do to be a part of Detroit's storm water solution.

- [How does untreated storm water and sanitary sewage get into our waterways, like the Detroit River and Lake Erie?](#)
- [What is DWSD doing about this problem?](#)
- [What is Green Infrastructure and how can it help Detroit?](#)

### How Does Untreated Storm Water and Sanitary Sewage Get Into the Rouge River, the Detroit River and Lake Erie?

In southeast Michigan, approximately three million residents and thousands of businesses send wastewater down their drains each day to a network of sewer pipes that lead to the Detroit Wastewater Treatment Plant (WWTP). The sewer pipes don't only carry wastewater from toilets, showers, and drains—they also carry storm water when there's wet weather. When wastewater from homes and businesses mix with storm water, the Rouge and Detroit Rivers are in danger of becoming more polluted.

**Storm Water in the Combined Sewer System.** Combined sewers transport wastewater from homes and businesses with storm water during wet weather in a single pipe. During storms, combined sewer systems collect the storm water that runs off our streets and houses along with untreated sewage. That means the volume of flow in that single pipe can be 10 to 100 times greater than the volume of flow that passes through the pipe on a dry day. In southeast Michigan, 30 percent of the sewer systems (26 of 77 communities) that send flows to the Detroit WWTP are combined sewers. Combined sewers were constructed when development was much lower, meaning the pipes had to carry less flow.

During wet weather, there is a lot of pressure on the collection and treatment system. If flows exceed the capacity of the system, an overflow of untreated sewage and storm water enters the Rouge and Detroit Rivers. These overflows are called combined sewer overflows, or CSOs. CSOs are a last resort to prevent sewer backups and basement flooding.

**Storm Water in the Sanitary Sewer System.** Many of the conventional sanitary sewers in the remaining 70 percent of the service area take on storm water flow from footing drains that are connected to the sanitary sewer rather than to a sump in the basement. Like combined sewers, sanitary sewers with storm water flows can become overloaded and cause sanitary sewer overflows, or SSOs, to the Rouge and Detroit rivers.

**Storm Water in the Municipal Separate Storm Sewer System (MS4).** There are small portions of Detroit, as well as portions of other suburban communities, that have pipes and other conveyances (e.g., ditches) intended to transport only storm water, referred to as a municipal separate storm sewer system, or an MS4. Unlike wastewater in the combined sewer system and sanitary sewer system, storm water that travels through the MS4 is never treated and goes directly into rivers and lakes. Approximately four percent of the system is an MS4. When there is too much storm water in the MS4, streets and homes can experience flooding.

### How is DWSD Managing Storm Water?



Outfall on Rouge River



Outfall on Rouge River



Outfall on Rouge River



CSO Basin



DWSD is responsible for managing facilities and programs to prevent untreated CSOs, as well as reducing the quantity and improving the quality of storm water in Detroit.

**Managing storm water in the combined sewer system.** DWSD staff manage and operate the collection system to prevent combined sewer overflows, or CSOs, from occurring. Facilities like retention treatment basins, or RTBs, temporarily store and treat combined sewage. From January through April 2014, these RTBs prevented more than 7.5 billion gallons of untreated combined sewage from overflowing into our waterways.



Culvert

- [DWSD's Protecting Our Waterways fact sheet](#) provides an overview on DWSD's progress in preventing CSOs.
- Visit [DWSD's Customer Outreach Portal](#) for more information on DWSD's CSO facilities and efforts to manage pollution from the combined sewer system.

To prevent more overflows without expensive investments in more collection facilities, DWSD is working to reduce the amount of storm water that enters the combined sewer system through investments in [Green Infrastructure](#) approaches. This is part of DWSD's Alternative Rouge River CSO Control Program, a 25-year phased plan that focuses on Green Infrastructure solutions and right-sized CSO control facilities.

**Managing storm water in the municipal separate storm sewer system (MS4).** For storm water entering the separate storm sewer system, DWSD has a National Pollutant Discharge Elimination System (NPDES) MS4 permit. This permit requires DWSD to develop and implement a storm water management program (SWMP). The SWMP includes six types of management activities intended to improve the quality of storm water before it enters the MS4.

- [Download a copy of DWSD's 2013 SWMP](#) (PDF, 136 pp., 9.3 MB)

## Rainfall to Results: The future of stormwater

Based on input from leading stormwater professionals, the Water Environment Federation (WEF) Stormwater Institute drafted a report, Rainfall to results: The future of stormwater that details the challenges, opportunities, and pathways to improving the nation's stormwater systems to make them more efficient, effective and sustainable. To read full report, [Click Here](#).

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File Format: PDF/Adobe Acrobat  
Nov 1, 2013 ... Figure 3 Storm Sewer Outfalls - Rouge River Between I-96 and Seven Mile ... This Storm Water Management Program Plan (SWMPP) has been ...

**Detroit Water and Sewerage Department - System Plans**

[www.dwsd.org/pages\\_n/system\\_plans.html](http://www.dwsd.org/pages_n/system_plans.html)  
DWSD maintains a Capital Improvement Program that is updated every fiscal year. Contained within the ... Task C: Water Supply and Service Management Plan.

**Storm Water - Detroit**

[www.dwsd.org/pages\\_n/storm\\_water.html](http://www.dwsd.org/pages_n/storm_water.html)  
During wet weather, too much storm water can overload the combined system. ... CSO Control Program, a 25-year phased plan that focuses on Green Infrastructure ... to develop and implement a storm water management program ( SWMP).

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I STORM WATER MANAGEMENT PROGRAM PLAN (SWMPP). 5.1 BMPs ... Figure 3 Storm Sewer Outfalls - Rouge River Between I-96 and Seven Mile. Figure 4 ...

**Figure 2-10: Source Water Protection Areas in Ontario ... - Detroit**

[www.dwsd.org/.../masterplan\\_freshwater/...Plan/TM-08\\_Watershed\\_Management\\_and\\_Protection\\_Part\\_3\\_of\\_4.pdf](http://www.dwsd.org/.../masterplan_freshwater/...Plan/TM-08_Watershed_Management_and_Protection_Part_3_of_4.pdf)  
File Format: PDF/Adobe Acrobat  
TM-8 • Water Master Plan Update. TM-8 Page 17 ... DWSD has an active stormwater management program that addresses the storm water system. The.

**Green Infrastructure - Detroit**

[www.dwsd.org/pages\\_n/green\\_infrastructure.html](http://www.dwsd.org/pages_n/green_infrastructure.html)  
To DWSD green infrastructure is a collection of storm water management ... Reduced storm water drainage charge through DWSD's future Green Rewards program. ... DWSD Green Infrastructure Plan for the Upper Rouge Tunnel Area August ...

**GREEN INFRASTRUCTURE PROGRAM - Detroit**

[www.dwsd.org/.../dwsd\\_green\\_infrastructure\\_progress\\_report\\_2013-08-01.pdf](http://www.dwsd.org/.../dwsd_green_infrastructure_progress_report_2013-08-01.pdf)  
File Format: PDF/Adobe Acrobat  
Aug 1, 2013 ... DETROIT WATER AND ... 319 Rouge River Watershed Management Plan; ... proposals to reduce stormwater runoff into the combined sewer ...

Ads by Google

**Stream Habitat Management**

[www.envirosienceinc.com/](http://www.envirosienceinc.com/)  
Habitat Surveys per Gov't Reg; Diversity & Density Surveys

**Control Stormwater**

[www.interstateproducts.com/stormwater](http://www.interstateproducts.com/stormwater)  
High Quality Drain & Grate Guards. Serving Your Industrial Needs  
★★★★★ rating for interstateproducts.com

**Sustainable Water Mgmt**

[sps.columbia.edu/WaterManagement](http://sps.columbia.edu/WaterManagement)  
Earn a Certificate in Sustainable Water Management from Columbia

**Stormwater MS4 Software**

[www.hiperweb.com/](http://www.hiperweb.com/)  
Manage inspections, monitor BMPS, and track site deficiencies.

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## **BMP No. 3**





**DETROIT WATER AND SEWERAGE DEPARTMENT**

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**INDUSTRIAL WASTE CONTROL DIVISION**

**ANNUAL REPORT: BOOK 1**

**JANUARY – DECEMBER 2014**



CITY OF DETROIT  
WATER AND SEWERAGE DEPARTMENT  
GENERAL ADMINISTRATION

735 RANDOLPH STREET  
DETROIT, MICHIGAN 48226  
[WWW.DETROITMI.GOV](http://WWW.DETROITMI.GOV)

April 1, 2015

Ms. Jodi Peace  
Michigan Department of Environmental Quality  
Water Bureau  
27700 Donald Court  
Warren, Michigan 48092-2793

Dear Ms. Peace:

RE: 2014 Annual Report – Industrial Pretreatment Program

Enclosed, please find the 2014 Industrial Pretreatment Program Annual Report for the City of Detroit Water and Sewerage Department. This report has been prepared in compliance with the requirements of NPDES Permit No. M10022802. Part 1, Section B, 1.m.

Should you have any questions or comments concerning the enclosed report, or require additional copies, please contact Mr. Thomas Eapen of the Industrial Waste Control Division at (313) 297-5802.

Sincerely yours,

Sue F. McCormick  
Director

SFM/TE/pt  
Enclosures

Cc: Stephen Kuplicki, DWSD



**Detroit Water and Sewerage Department**  
**Detroit Industrial Pretreatment Program Annual Report**  
**January - December 2014.**

The Detroit Water and Sewerage Department (DWSD), in accordance with the requirements of the NPDES permit number MI0022802, is required to submit an annual report to the Department of Environmental Quality (DEQ), consistent with the approved Industrial Pretreatment Program (IPP) and 40 CFR 403.12(i). The following paragraphs summarize the program status for the period of January 1, to December 31, 2014.

**The summary report shall contain, at a minimum, the following items:**

1. **Additions, deletions, and any other modifications to the permittee's previously submitted Nondomestic User Inventory.**

The Nondomestic User Inventory is summarized in Book 2.

2. **Additions, deletions and any other modifications to the permittee's approved Significant Industrial User List.**

Table Ia lists those users added to the list of Significant Industrial Users during the period of January 1, to December 31, 2014. The total number of companies reported as added is 13. Table Ib lists those users who have been deleted from the list of Significant Industrial Users during the period of January 1, to December 31, 2014, and the reason for the deletion of said companies. The total number of companies deleted from the list is 12.

3. **A listing of the names of Significant Industrial Users not inspected by the permittee at least once during the reporting period.**

The Detroit Water and Sewerage Department conducted 654 inspections during calendar year 2014. The Inspection Group conducted 264 comprehensive inspections and 381 unscheduled inspections. All known Significant Industrial Users were inspected at least once during 2014.

4. **A listing of the names of Significant Industrial users not sampled/monitored for all required pollutants at least once during the reporting period, frequency committed to in the approved Industrial Pretreatment Program.**

The Detroit Water and Sewerage Department conducted 6834 sampling/monitoring events during. At least one sampling event was conducted for each Significant Industrial User.

5. **A listing of the names of Significant Industrial Users without an individual control mechanism (permit) at any time during the reporting period.**

All known Significant Industrial Users were operating under an individual control mechanism during 2014. The individual control mechanism includes but is not limited to a wastewater discharge permit, court order, or administrative consent order.

6. **The number of Significant Industrial Users and Categorical Industrial Users.**

At the end of 2014 there were 123 Categorical Industrial Users classified under the National Categorical Pretreatment Standards (*see Table IIb*) and 143 Non-categorical Significant Industrial Users, for a total of 266 Significant Industrial Users (*see Table IIa*).

7. **A listing of the names of Industrial Users in Significant Noncompliance and Proof of Publication in the largest daily newspaper in the permittee's area.**

The Detroit Water and Sewerage Department published the names of those Industrial Users who were found to be in significant noncompliance with one or more of the criteria specified under 40 CFR 403.8(f)(2)(viii). The name of Industrial Users, criteria for Significant Noncompliance and proof of publication done in June and December is provided in Table III.

8. **A summary of the enforcement activities by the permittee during the report period. This summary includes:**

(1) **A listing of the names of the Industrial Users which were the subject of an enforcement action:**

(2) **The enforcement action taken and the date the action was taken; and,**

**(3) Whether the Industrial Users were returned to compliance by the end of the reporting period. Industrial Users returned to compliance will have compliance status marked "compliant."**

Table IV identifies the Industrial Users under enforcement action during 2014. It also includes a list of Industrial Users that received at least one "Notice of Exceedance," and the Fine and Penalty List.

9. **A listing of the names of Significant Industrial Users who did not submit pretreatment reports at a frequency in accordance with 40 CFR 403.12. and,**
10. **A listing of the names of Significant Industrial Users who did not self-monitor in accordance with the requirements specified in their individual control mechanism during the reporting period.**

Table V lists those Significant Industrial Users who are required to submit pretreatment/self-monitoring report and the status and/or action taken regarding their submission or non-submission of the report.

Table Va covers the January to June 2014 report and Table Vb covers the July to December 2014 report.

**The following additional activities are reported:**

1. The IWC - Incident Prevention and Emergency Response Section (IPER) investigates citizen's complaint and referrals on illegal dumping and other incidents involving sewer system. In addition IPER receives, approves and follow up Industrial Users' Slug Control/Spill Prevention Plans (SC/SPP), as required by the City of Detroit Ordinance 08-05, and maintain statistics on these activities.

Table VI lists the details and statistics of the IPER Program.

2. Special Project Program: IWC issues Special Discharge Permits for wastewater generated from groundwater remediation as well and other remediation projects.

Table VIIa lists those industrial users who are regulated by the IWC under the Special Discharge Program.

3. Hauled-in-Waste Program: IWC issues Hauled-in-Waste Discharge Permit to Septage

Waste Haulers in accordance with the Septage Receiving Operating Plan approved by the Department of Environmental Quality (DEQ) on December 7, 2005.

Table VIIb includes the list of Industrial Users monitored under Hauled-in-Waste Program.

4. The PCB/ Mercury Minimization Program Annual Status Report were submitted to DEQ on October 1, 2014.
5. A summary of results of sampling and analyses of the wastewater treatment plant influent, effluent, and sludge is presented in Table VIII.
6. Appointment of Enforcement Authority

The DEQ had granted the City of Detroit an Appointment of Enforcement Authority by means of a document dated December 23, 2002 which has been renewed in October 2012. This authority supplements Detroit's existing authority under its Ordinance 08-05.

**7. Notification to Contributing Jurisdiction**

The Department has notified all the contributing jurisdictions of their requirements to amend and adopt revisions to their Sewer Use Ordinances to coincide with the Detroit's Ordinance 08-05. Seventy-one (71) communities already adopted the revisions to their Ordinances. The remaining Six (6) communities are in various states of adoption of the amendments to their Ordinances. Detroit continues to work with these contributing jurisdictions to adopt these revisions and considering additional actions to bring these communities into compliance.

**8. Pretreatment Program Audits**

The DEQ conducted a Pretreatment Compliance Inspection of the Detroit IPP on September 17, 2014 and the DWSD received the Pretreatment inspection Report on December 12, 2014 and a response was submitted to DEQ on February 26, 2015.



11/17/2015



# **BMP No. 6**







CITY OF DETROIT  
 FINANCE DEPARTMENT  
 PURCHASING DIVISION  
 1008 COLEMAN A. YOUNG  
 MUNICIPAL CENTER  
 DETROIT, MICHIGAN 48226  
 PHONE 313-224-4600  
 FAX 313-224-4374

**IF THIS PURCHASE ORDER  
 DOES NOT AGREE WITH THE  
 BID YOU SUBMITTED,  
 PLEASE CONTACT THE  
 PURCHASING DIVISION.**

**Purchase Order**

PURCHASE ORDER NO. 2875784 REVISION 0 PAGE 1

THE ABOVE NUMBER MUST APPEAR ON ALL INVOICES AND SHIPMENTS

SHIP TO  
 2633 Michigan Ave  
 Detroit, MI 48216  
 United States

BILL TO  
 Coleman A Young Municipal Ce  
 2 Woodward Avenue  
 Ste 642  
 Detroit, MI 48226  
 United States

**SUPPLIER**

HOMRICH WRECKING INC  
 9607 S DEARBORN  
 PO BOX 09370  
 DETROIT, MI 48209

|                |               |                       |                    |                       |           |
|----------------|---------------|-----------------------|--------------------|-----------------------|-----------|
| SUPPLIER NO:   | 12747         | DATE OF ORDER/BUYER:  | 11-FEB-13 M Butler | REVISED DATE/BUYER:   |           |
| PAYMENT TERMS: | Net 45        | SHIP VIA:             | Unspecified        | FOB:                  | Delivered |
| FREIGHT TERMS: | Your Delivery | REQUESTOR/DELIVER TO: |                    | CONFIRM TO/TELEPHONE: |           |

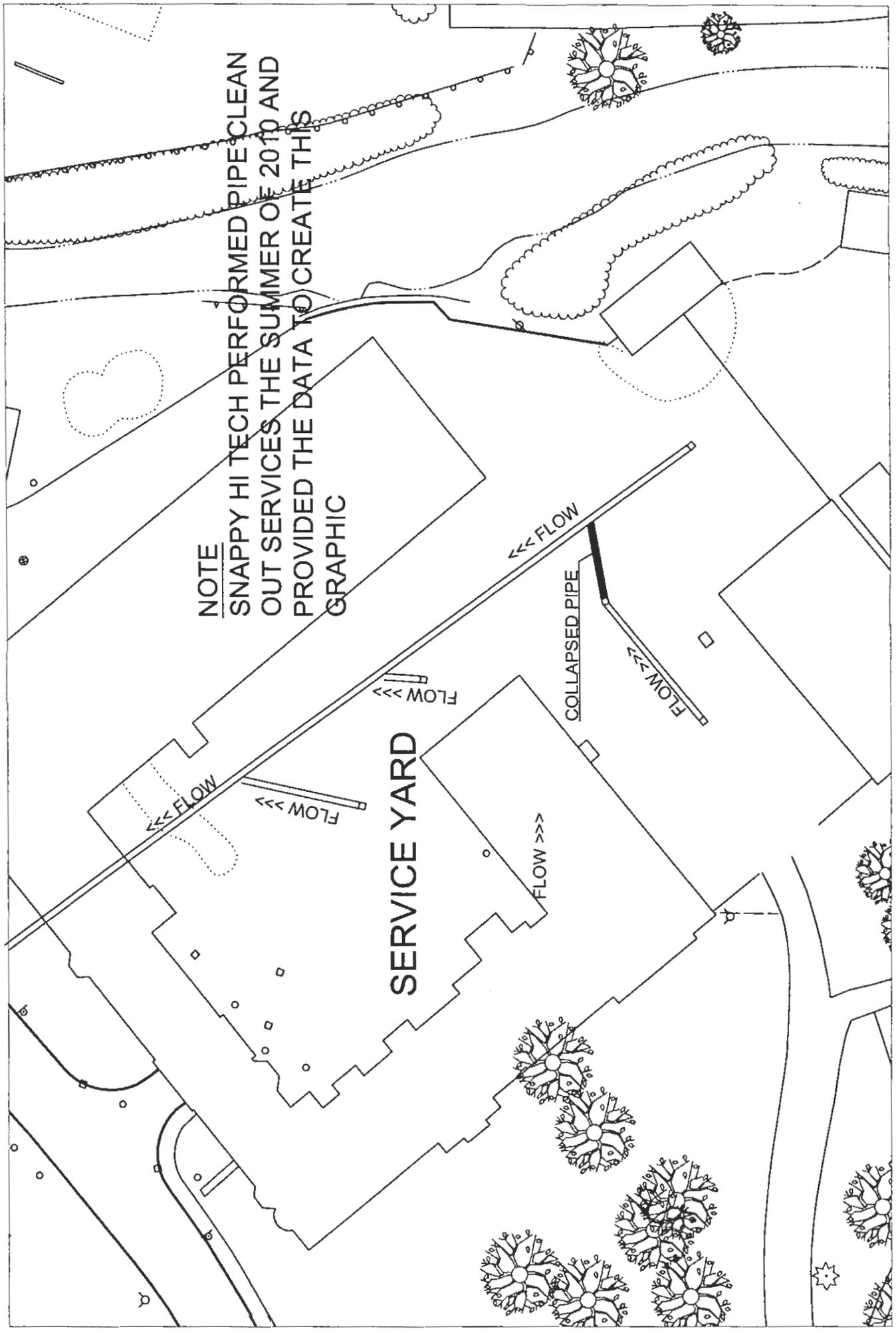
| LINE | ITEM NUMBER/DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DELIVERY DATE | QUANTITY | UNIT | UNIT PRICE | EXTENSION | TAX |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|------|------------|-----------|-----|
|      | THIS PURCHASE ORDER WAS #42462.<br><br>CCR: 30-APR-2013<br><br>FURNISH: HAULING AND DISPOSAL OF STREET DEBRIS FOR TWO (2) YEARS WITH TWO (2) - ONE (1) YEAR RENEWAL OPTIONS FOR THE DEPARTMENT OF PUBLIC WORKS<br><br>RENEWAL: TWO (2) ONE-(1) YEAR PERIODS AVAILABLE<br><br>CANCELLATION:<br><br>THE CITY RESERVES THE RIGHT TO TERMINATE THE CONTRACT FOR CONVENIENCE UPON THIRTY (30) DAYS WRITTEN NOTICE.<br><br>PROTECTION OF WORK, PERSONS, AND PROPERTY:<br><br>DURING PERFORMANCE AND UP TO DATE OF FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE UNDER ABSOLUTE OBLIGATION TO PROTECT THE FINISHED AND UNFINISHED WORK AGAINST ANY DAMAGE, LOSS, OR INJURY. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PROTECT THE PERSONS AND PROPERTY OF THE CITY FROM DAMAGE, LOSS, OR INJURY DURING PERFORMANCE UNDER THIS CONTRACT.<br><br>PRICE IS CONTRACT PRICE IS FIRM FOR THE ENTIRE CONTRACT PERIOD.<br><br>INVOICING:<br><br>ALL INVOICES SUBMITTED AGAINST THE CONTRACT MUST INCLUDE PART OR ITEM NUMBER(S) AND PART OR ITEM DESCRIPTION, LIST PRICE, AND APPLICABLE DISCOUNT. |               |          |      |            |           |     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|
| <p>CONTRACTS AND PURCHASES BETWEEN THE VENDOR AND THE CITY OF DETROIT ARE SUBJECT TO FEDERAL, STATE AND LOCAL LAWS INCLUDING BUT NOT LIMITED TO, EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION. THE CITY MAY TERMINATE THE CONTRACT FOR CAUSE OR CONVENIENCE. NO CHANGES EFFECTIVE UNLESS AGREED TO IN WRITING BY CONTRACT AMENDMENT. ONLY SUCH GOODS WILL BE PAID FOR AS COMPLY EXACTLY WITH WRITTEN DESCRIPTION. WHEN SHIPPED VIA COMMON CARRIER, MAIL SHIPPING NOTICE DIRECTLY TO RECEIVING POINT. CASH TERMS DATE FROM RECEIPT AND ACCEPTANCE OF GOODS AND CORRECT INVOICE. PATENTS CONTRACTORS SHALL PROTECT AND INDEMNIFY AGAINST EXPENSE OF ANY NATURE. SHALL BEAR COST OF ANY SUITS WHICH MAY ARISE AND SHALL PAY ALL DAMAGES WHICH MAY BE AWARDED AGAINST THE CITY FOR THE USE UNDER THIS SPECIFICATION OF ANY PATENTED DEVICE, PROCESS, APPARATUS, MATERIAL OR INVENTION. THE CITY RESERVES THE RIGHT TO AUDIT EMPLOYEE PAYROLL RECORDS TO VERIFY LABOR CHARGES UPON 72 HOURS NOTICE.</p> | <p><b>Total</b></p> | <p>Continued</p> |
| <p><i>Anche Dupuy</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                  |
| <p>PURCHASING DIRECTOR'S SIGNATURE<br/>         NOT VALID WITHOUT AUTHORIZED SIGNATURE</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |                  |



# APPENDIX H





**NOTE**  
 SNAPPY HI TECH PERFORMED PIPE CLEAN  
 OUT SERVICES THE SUMMER OF 2010 AND  
 PROVIDED THE DATA TO CREATE THIS  
 GRAPHIC

SHEET NO. X OF X  
 PROPERTY NO. XXX  
 CLUSTER NO. X



N

SCALE: NTS

PROJECT: **DETROIT  
 SEWER  
 PERMIT**

SHEET TITLE: **BELLE ISLE  
 SERVICE YARD**

|              |             |
|--------------|-------------|
| DRAWN BY: TK | DATE: XX/06 |
| CHECKED BY:  | DATE:       |
| APPROVED BY: | DATE:       |

**PLUMBING DESIGN AND  
 CONSTRUCTION MANAGEMENT DIVISION**  
 Northstar Architecture Center  
 11100 Bryant  
 Detroit, Michigan 48225  
 (313) 324-3000 Phone  
 (313) 224-1734 Fax

