MUNICIPAL STORM WATER NPDES PERMIT MI0053902
FISCAL YEAR 2015-2016 ANNUAL REPORT
FOR
THE UNIVERSITY OF MICHIGAN
ANN ARBOR, DEARBORN & FLINT CAMPUSES
& OTHER REGULATED U-M PROPERTIES

UPDATED PER THE REQUIREMENTS OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT (NPDES) FOR DISCHARGE OF STORM WATER TO SURFACE WATERS FROM A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

PREPARED BY:

OCCUPATIONAL SAFETY & ENVIRONMENTAL HEALTH
UNIVERSITY OF MICHIGAN

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October 1, 2016
For clarification purposes, the following acronyms/definitions are used throughout this report:

**AEC**  
UMAA Architecture, Engineering and Construction

**ARC**  
Alliance of Rouge Communities

**BMPs**  
Best Management Practices

**CAER**  
Center for Applied Environmental Research associated with UMF

**CCRB**  
Central Campus Recreation Building located on the UMAA campus

**City**  
The City of Ann Arbor, Dearborn or Flint, as appropriate

**DPSS**  
UMAA Division of Public Safety & Security

**EIC**  
The Environmental Interpretive Center on UMD campus

**EHS**  
UMF Environment, Health and Safety Department

**EHSEM**  
UMD Environmental, Health, Safety and Emergency Management Department

**F&O**  
UMF Facilities and Operations

**FOTR**  
Friends of the Rouge River

**FRWC**  
Flint River Watershed Coalition

**GIS**  
Geographical Information System

**G&WM**  
Plant Operations Grounds and Waste Management Department

**HRWC**  
The Huron River Watershed Council

**HVAC**  
Heating, Ventilation, and Air Conditioning

**IDEP**  
Illicit Discharge Elimination Program

**Illicit Connection**  
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).

**Illicit Discharge**  
Any discharge or seepage that is not composed entirely of storm water into the drainage system, except for discharges specified in Parts I.A.1.b. and c. of the permit. Illicit discharges include dumping of motor vehicle fluids, hazardous wastes, grass clippings, leaf litter, domestic animal wastes, litter or unauthorized discharges of sewage, industrial waste, food services wastes, or any other non-storm water waste into the drainage system.

**MGP**  
Manufactured Gas Plant

**MDEQ**  
Michigan Department of Environmental Quality

**MHI**  
Middle Huron Initiative

**NPDES**  
National Pollutant Discharge Elimination System

**NREPA**  
State of Michigan Natural Resources Environmental Protection Act, Act 451

**OCS**  
Office of Campus Sustainability (OCS) associated with UMAA

**OSEH**  
U-M Department of Occupational Safety and Environmental Health

**Outfall**  
A discharge point from an MS4 directly to surface waters of the state

**P2**  
Pollution Prevention

**PCSW**  
Post-Construction Storm Water Runoff

**PEP**  
Public Education Program

**Permit**  
The NPDES Storm water Permit Number MI0053902 issued by MDEQ to the U-M, effective October 1, 2001
Pollution Incident Prevention Plan

This division includes architects, engineers, construction managers, and the planner involved in facilities design activities

Plant Operations
This division includes G&WM, Utilities, Parking Services, Maintenance Services and other activities associated with maintenance of the facilities

Personal Protective Equipment

Public Service Announcement

Resources Conservation and Recovery Act

Southeast Council of Governments

Soil Erosion and Sedimentation Control

Spill Prevention and Countermeasure Control

Storm Water Management Program Plan prepared for the Permit and approved by MDEQ

Storm Water Pollution Prevention Plan

Total Maximum Daily Load

Total Suspended Solids

The University of Michigan, Ann Arbor, Dearborn & Flint

The University of Michigan Ann Arbor Campus

The University of Michigan Dearborn Campus

The University of Michigan Flint Campus

U-M Police Department, within the U-M DPSS

The University of Michigan, Ann Arbor, Dearborn & Flint

University of Michigan School of Natural Resources and Environment

The United States Environmental Protection Agency
In accordance with Part I, Section C.1.e. of National Pollutant Discharge Elimination System (NPDES) Permit MI0053902, the University of Michigan (University/U-M) is required to submit an annual report of activities associated with the storm water management program. This program is a requirement of the NPDES permit reissued by the Michigan Department of Environmental Quality (MDEQ) Surface Water Quality Division on October 1, 2001. This report covers the period July 1, 2015 through June 30, 2016 and follows the format identified in the permit.

1) Compliance Assessment

a) Describe the status of compliance with permit conditions.

The U-M is in compliance with the Storm Water Management Program Plan (SWMPP) for the Ann Arbor (UMAA), Dearborn (UMD), and Flint (UMF) campuses, as revised in May 2010 and approved by the MDEQ on June 2, 2010. The University is also continuing to implement the MDEQ approved post-construction storm water management requirements outlined in the Storm Water Management – Post-Construction Requirements Guideline (EP3-001) located on the OSEH web site. On May 28, 2013, U-M submitted a Phase II permit renewal application to the MDEQ in accordance with the notification from the MDEQ dated February 5, 2013, and is awaiting reissuance of a NPDES permit. For the purposes of this report, please note that the Occupational Safety and Environmental Health (OSEH) Department is associated with UMAA, the Environmental Health Safety and Emergency Management (EHSEM) Department is associated with UMD, and the Environment, Health, and Safety (EHS) Department is associated with UMF.

b) Provide a report of illicit discharges and illicit connections removed.

There was one new cross connection identified during this reporting period and there were three illicit discharges:

Illicit Discharges:

U-M Ann Arbor – Lurie Nanofabrication Facility
On October 22, 2015, an illicit discharge of salt brine was discovered emanating from the secondary containment structure for the salt brine tank at the Lurie Nanofabrication Facility (Electrical Engineering and Computer Science Building) at UMAA. The MDEQ was notified within hours of the discovery of this illicit discharge. The cause of the overflow was that the salt brine tank did not auto shut-off when recharging that morning. It had been serviced the previous day by a vendor and apparently the repair was not correct. The tank overfilled and discharged to the secondary containment. Upon observing the overfilled containment, staff shut the tank off and opened the drain valve to the secondary containment causing overflow from the secondary containment. It was determined that approximately 125 gallons may have been discharged from the secondary containment. OSEH was able to collect approximately 25 gallons from the surrounding paved surfaces. Therefore, approximately 100 gallons entered the storm water system. U-M Plumbing Shop was contacted to vac or and jet the storm system in the area and collect the salt brine before it was released to surface waters. Employees that work in the area were re-trained on the purpose of the secondary containment structure and allowable discharges to the storm water system.

U-M Dearborn – Fair Lane Lake
On October 27, 2015, UMD EHS was notified that there had been an incident that could impact surface waters on October 24, 2015. MDEQ PEAS was contacted on October 28, 2015 and the incident was closed by November 5, 2015. In summary, the UMD Police responded to a trash bin (55-gallon drum) fire on the grass by the shoreline
of Fair Lane Lake. The fire burned itself out, however it was noted that a quart size plastic drink bottle was in the trash bin that contained a clear liquid. The liquid was thought to be a petroleum product (e.g., gasoline or kerosene). A rainbow colored sheen was noted on the lake near the trash bin. UMD EHS contained, collected and properly disposed of the sheen using absorbent pads and pillows. UMD EHS was informed that a natural organic sheen is sometimes present in the same area of the lake. Clean up was completed by October 30, 2015. MDEQ PEAS closed the incident on November 5, 2015.

U-M Ann Arbor – Street Sweeper on Hubbard Road
On June 21, 2016, UMAA OSEH received a call from U-M Waste Management staff regarding a blown hydraulic line that dumped hydraulic fluid (~33 gallons) on Hubbard Road. OSEH Hazardous Materials staff immediately responded to the spill, and began applying oil-dry to the affected pavement. During the response, some hydraulic oil was observed in a storm water catch basin, triggering additional response from U-M OSEH Environmental Protection and Permitting staff. Upon further investigation, droplets of oil and an oil sheen were observed at the outfall to Millers Creek in a natural step pool. The oil droplets and sheen in this pool were contained by the placement of oil booms and sorbent pads. Throughout the spill and response, the flow of Millers Creek in this location was almost non-existent, which helped the response team to be able to contain and capture the spilled material within the step pool.

The U-M vacuum truck was dispatched to the scene, and cleaned and jetted the impacted storm line and catch basin. The vacuum truck then skimmed oil droplets and sheen from the boomed off step pool in Millers Creek. The oil absorbent booms and pads were left in the step pool as a preventive measure to ensure any droplets not skimmed off would be captured overnight. The oil-dri that was placed on Hubbard Road was collected for proper disposal.

OSEH staff returned to the spill location the afternoon of June 22, 2016 and verified that there was no oil remaining within the boomed area and removed the pads and booms for proper disposal.

In accordance with our permit requirements, verbal notification was provided on June 21, 2016 followed by a detailed written communication sent on June 27, 2016.

U-M Flint – Manufactured Gas Plant (MGP) While not an illicit discharge from the U-M storm system, it is relevant to note that during 2011-2012, Consumers Energy reported that while investigating their company’s former MGP located under and adjacent to property currently owned by the UMF Campus, a sheen was observed along the riverbank adjacent to the University property. This was reported to the MDEQ by Consumers Energy; booms have been deployed, and the situation is being closely monitored/investigated with oversight from the MDEQ. Consumers Energy and their environmental consultant continue to maintain the booms and are planning a remediation of the sediment and riverbank upstream of the Hamilton Dam in 2017. Consumers Energy continues to keep UMF as well as the MDEQ and The City of Flint informed of their ongoing monitoring/investigations and their remediation plans. Consumers Energy is preparing / submitting the appropriate permits for the proposed 2017 activities.

Cross-Connections:

Dye testing was completed to detect sewer cross-connections by UMAA at (1) the Ross School of Business on July 21, 2015, (2) the Intramural Building (East and West Side of a mechanical room) on August 19 & 20, 2015, (3) and Medical Science I on April 14, 2016. No cross connections were identified during these testing events at Ross School of Business or the Intramural Building. Cross connections were identified at Medical Science I.
Medical Science I
Dye testing at Medical Science I was completed on April 14, 2016 to determine if an adjacent project could tie into the sanitary sewer through floor drain lines in mechanical room 3016. The floor drains were confirmed to be connected to the storm sewer at Medical Science I resulting in no connection from the adjacent project. These drains have been marked with “Drains to River.” Disconnection of these drains from the storm sewer will be further evaluated as part of any major future renovation project. No major renovation projects at this location are planned at this time.

The following potential and existing illicit connections, as listed in previous reports, are under further investigation.

- Central Campus Recreation Building (CCRB): It was determined that the pool and pool area drains are connected to the storm sewer system through dye testing conducted in August 2012. Backwash water has been redirected to the sanitary sewer. The deck drains discharge de minimis amounts of chlorinated splash water while the pool drain only discharges once the water has been de-chlorinated. Based on the characteristics of the expected discharge water and the travel distance from CCRB to the Huron River outfall at Glen Ct., it is estimated that little to no chlorine will reach the river. Evaluations at CCRB are currently ongoing.

Canham Natatorium, the Intramural Sports Building, and North Campus Recreation Building were previously investigated and found to not be cross connected to the storm sewer system. Since then, the pool at Intramural Sports building was removed as part of a renovation in 2016.

- Modern Languages Building (MH-14): MH-14 is located in North Ingalls Mall. Prior dry weather screening showed evidence of dry weather flow. In 2015, an underground storm water infiltration system was installed immediately downstream of MH-14 essentially directing low flows to the infiltration area and not the storm sewer system. During construction, no flow was observed at MH-14. Follow-up investigations were conducted in August 2016 and dry weather flow was again observed with no visual or olfactory indicators of pollution. Televising of the upstream system is being conducted to understand the source of flow.

c) Assess Best Management Practice Appropriateness and Progress toward Goals Identified in the SWMPP.

This section presents the progress made this reporting period toward meeting the measureable goals which were written in the SWMPP to support the program elements (e.g. Total Maximum Daily Loads, Public Education Program, Public Involvement and Participation, etc.). Each subsection below is prefaced with excerpted language from the SWMPP (italicized) followed by a table of measureable goals and the U-M activities, which help to meet the measureable goals. The table also indicates in which fiscal year actions were initiated to support a particular measureable goal and whether U-M is in compliance with that goal. Compliance presents in the form of a discrete set of activities that have previously been completed and reported or an ongoing effort with activities that are updated in each report. Additional activities supporting a program element are also noted at the end of each subsection.

i. Total Maximum Daily Loads (TMDL)

The U-M participates in TMDL reduction efforts throughout the permit cycle for Total Phosphorus – Ford & Belleville Lakes; E.coli – Geddes Pond; Biota – Mallets Creek; E.coli – Rouge River; and Biota – Rouge River.

Table 1 presents the status of each TMDL activity, associated measureable goals as written in the SWMPP, and current or past activities supporting the measurable goals.
Table 1 Total Maximum Daily Load Activities

<table>
<thead>
<tr>
<th>TMDL Activities</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td>In Compliance</td>
</tr>
<tr>
<td>Review existing outfalls to identify major discharge points (≥ 36-inch conveyance) discharging directly to surface waters of the state within the portion of the TMDL.</td>
<td>FY 2011-2012 (Annual)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>By April 15, 2012, U-M will take samples of at least 50% of the major discharge points within the portion of the TMDL watershed in the urbanized area. At a minimum, these samples will be analyzed for the applicable TMDL parameter (E. coli or total phosphorus). The sampling results will be retained and reported in the second progress report.</td>
<td>FY 2011-2012 (Annual)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>By October 1, 2013, sampling results and other available information will be reviewed. A plan will be developed to reduce the discharge of the applicable TMDL parameter (E. coli or total phosphorus). These prioritized actions will be reported with implementation targeted during the 5-year permit cycle that begins 2013. Note that as of the date of this report, U-M is still operating under the 2010 SWMPP.</td>
<td>FY 2012-2013 (Annual)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

TMDL Activities

U-M Ann Arbor – Previously Reported

- As previously reported, outfalls have been evaluated to determine if they are “major” discharge points. A list of major outfalls is kept on file. UMAA has identified four major discharge points within TMDL reaches. O-41 and O-47R discharge directly into Millers Creek. O-30R and O-88R discharge directly to the Huron River.
- As previously reported, UMAA conducted sampling and analysis of O-41 and O-47R on March 30, 2012 for E. coli and total phosphorus. This represents 50% of the major discharges.
- As previously reported, based on the sampling results and an overall review of the SWMPP, the U-M has developed a plan to reduce the discharges of the applicable TMDL parameters. In an effort to maximize resources and minimize duplicate efforts, U-M is addressing TMDLs in a consistent manner as the HRWC and other area MS4s. HRWC has written a TMDL Implementation Plan for the Huron River Watershed MS4s in Washtenaw County. Aspects of that Implementation Plan are incorporated in the updated SWMPP as part of the NPDES Application for discharge of storm water to surface waters from an MS4. Management activities addressing the specific TMDLs have been identified and prioritized in Appendix I of the updated SWMPP.

U-M Dearborn – Previously Reported

- UMD identified three major discharge points, two of which discharge directly into the Rouge River and one that discharges into the City of Dearborn’s storm line on Hubbard Drive.
- UMD conducted sampling and analysis on all identified major discharge points. Two discharge points were sampled on November 22, 2011 and the last discharge point was sampled on June 19, 2012.

U-M Flint – Previously Reported

- UMF is not currently in a TMDL program.
ii. Public Education Program (PEP) – Education and Outreach on Storm Water Impacts

Recognizing the need for public involvement in the effort to reduce storm water pollutants, the U-M has developed a broad and aggressive storm water education and outreach program. This multi-faceted program is closely connected to the U-M’s pollution prevention (P2) program and its many initiatives. Specifically, the storm water education curriculum is designed to promote, publicize, and facilitate watershed education while encouraging the P2 practices developed under the U-M’s environmental stewardship agenda. The intended audience for the program is all persons associated with the University who could potentially affect the quality of storm water discharges, including, but not limited to: campus residents; University faculty, staff, and students; visitors to the campus; contractors and vendors working on the campus; and commercial and industrial operations on campus. U-M’s overall goal for the PEP is to bring awareness of storm water issues to 70% of the University community by the end of 2013. Levels of storm water awareness are anticipated to vary widely among the different community groups, with more emphasis given to key staff having greater potential to impact storm water quality during their day-to-day work activities. The remainder of the University community is targeted through other means, such as brochures, posters, websites, storm drain markers, PSAs, etc.

The following is a description of each of the public education topics identified in the permit, to be included as appropriate, based on the potential impact on the receiving waters:

- Educate the public of hazards associated with illicit discharges and improper disposal of waste. Part of this education is to encourage public reporting of the presence of illicit discharges or improper disposal of materials into the U-M drainage system.
- Educate the public concerning the water body that would be potentially impacted by improper actions at or near a person’s home.
- Educate the public on the availability, location and requirements for household hazardous waste disposal, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes and motor vehicle fluids.
- Educate the public regarding acceptable application and disposal of pesticides, herbicides, and fertilizers, including the use of phosphorus-free fertilizer alternatives, as appropriate.
- Educate the public on preferred car cleaning agents and procedures for noncommercial car washing.
- Educate property owners with a septic system on proper maintenance and how to recognize system failure.
- Educate riparian land owners of management of lands to protect water quality.
- Educate the public about their responsibilities and stewardship of their watershed.
- Educate the public on the benefits of using native vegetation instead of non-native vegetation.
- Educate commercial and institutional entities likely to have significant storm water impacts. (At a minimum, commercial food services shall be educated to prevent grease and litter discharges to the MS4).

Table 2 presents the status of each public education program activity, associated measureable goals as written in the SWMPP, and current activities supporting the measurable goals. Table 3 includes activities that go beyond the expectations of the original measurable goals.
Table 2 Public Education Program Activities

### PEP-1 Storm Water Education Brochures

In cooperation with the U-M School of Natural Resources and Environment (SNRE), OSEH developed a series of brochures to assist various members of the University community in preventing storm water pollution on campus. The brochures have been designed to meet the overall program objectives for specific audiences.

Over the years, the storm water public education program has evolved and grown. The program has largely converted the educational content from paper brochure format to digital posters in an effort to reduce paper waste and align with the University’s sustainability goals. The digital posters use the messages and content from the original brochures. The target audience remains students, faculty, staff, and visitors.

<table>
<thead>
<tr>
<th>PEP Activity Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Compliance</td>
<td>Completed as Previously Reported</td>
</tr>
<tr>
<td>A minimum of 1,800 brochures will be distributed annually during presentations, training courses and new employee orientation sessions. The quantity of brochures distributed throughout the year will be tracked.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓</td>
</tr>
<tr>
<td>In 2010-2011, develop/add additional brochures to fill any gaps in the topics needed to meet the permit requirements. Keep a copy of newly developed/added brochures with dates finalized.</td>
<td>FY 2011-2012 (mid-year)</td>
<td>✓</td>
</tr>
<tr>
<td>In 2011-2012, create a dissemination strategy to reach the target audiences and any new audiences identified by U-M. Identify educational information available/developed for each target audience applicable at U-M and keep this information on file.</td>
<td>FY 2011-2012 (annual)</td>
<td>✓</td>
</tr>
<tr>
<td>In 2012-2013, implement the new dissemination strategy/plan for educational brochures. Tally the number of brochures distributed and provide in the annual reports.</td>
<td>FY 2012-2013 (annual)</td>
<td>✓</td>
</tr>
</tbody>
</table>

### PEP-1 Activities

#### U-M Ann Arbor

- UMAA-OSEH published storm water messaging in the electronic “OSEH Update” in Summer 2015. This newsletter is posted on the OSEH website and is distributed to the campus community.
- UMAA OSEH continues to post the storm water digital display; titled “Keep our Michigan Waters BLUE!” which explains what storm water runoff is and why it can pose a threat to surface waters. The digital display was exhibited on flat screen televisions located within the Shapiro Undergraduate Library and the Hatcher Graduate Library. The Shapiro Library displays are located in the first floor lobby next to Bert’s Cafe and the third floor lobby entrance to the Science Library.
- UMAA was a listed community partner in the 2016 Huron River Watershed Community Calendar and supported its distribution. The 2016 Calendar is a collaborative effort to educate communities about the importance of water stewardship and nonpoint source pollution prevention. In all, the HRWC and its partners distributed 37,000 2016 Calendars to residents, staff, volunteers, constituents, and members of the
watershed community.

- U-M’s Graham Institute distributed 12,000 copies of the 2014-2015 Sustainability Guide to housing facilities, Greek Life, libraries, and staff across campus. The guide provides valuable tips and information related to the following core areas of sustainability on campus: climate action, waste prevention, healthy environments, land and water management (including a section on water quality/storm water), and community awareness. A copy of the guide is located at the following website: 
  

U-M Dearborn
- EHS continues to pass out (6) pamphlets related to storm water, a bookmark, and a storm water mouse pad at all training events, orientations, and other various campus events. This packet provides general storm water awareness to the campus with additional tips on how to handle household hazardous waste and pet waste as well as information on fertilizers, pesticides, paints, and vehicle maintenance. One of the pamphlets is passed out to contractors titled “Storm Water: A Shared Responsibility” which provides a brief overview of how storm water is discharged from campus and some best management practices for the various types of contractors (food services, custodial services, construction contractors, etc.) to use while working on campus. A total of 1,250 storm water brochures and bookmarks were distributed during the reporting period.

U-M Flint
- EHS continues to distribute the two-sided “Only Rain in the Drain” bookmark that provides campus specific storm water educational information, including information on the Flint River, and specific BMPs that students, faculty & staff could do to protect drains and the quality of surface waters. More than 500 bookmarks are distributed via the Campus Bookstore, the University Library and are available at UMF Information Centers in several campus buildings. Approximately 100 more bookmarks were distributed in the Spring of 2016 during the annual Earth Day Celebration, and another 50-100 bookmarks were distributed at the annual M-Gagement event (Fall term) and the annual Fit Fair at UM-Flint.

- EHS provided storm water education and awareness information, handouts, and encouraged volunteers to sign up for storm drain stenciling activities at the UMF Welcome Back Picnic as well as the annual M-gagement fair. Approximately 70 storm drains were stenciled in FY 2015-2016. An estimated 2,500-3,000 students, staff and faculty attended the Welcome Back Picnic. Additional materials were distributed during the Work Study Job Fair, the Annual Fit Fair located in the Recreation Center, and the annual Earth Day Celebration, in which more than 700 people including students, community partners, and families attended.

- EHS continues to promote storm water awareness, watershed management, BMP’s, and spill prevention and response using a few bulletin boards on campus; some boards focusing solely on F&O employee responsibilities (Hubbard Building) related to the new SWPPP and another outdoor display board posted over the summer of 2014, and was updated in this reporting period during Winter 2015 for the broader campus community (Harrison Parking Ramp).

- EHS continues to utilize several different flyers and posters to promote storm water management and related best environmental practices for the UMF campus community. Flyers include our “Top Ten Storm Water BMP’s” flyer which was similar to the MDEQ’s “Our Actions Can Affect Michigan’s Rivers” brochure to specifically identify the Flint River, provide specific contact information to report spills in the UMF community and to highlight the University’s storm water management website for further information. Additionally, newly created 2-sided, 11”x17” training guides served as visual aids for this past year’s annual employee storm water management training. A flyer that specifies BMP’s for food vendors was also developed this year to aid with annual storm water and spill prevention training.

- Over 100 EHS Storm water mousepads which identify the ‘Top 10 Storm water Tips’ are currently located
across campus in numerous computer labs and public computer stations to further help reinforce the importance of storm water management and the protection of the Flint River watershed.

- EHS continues to use a Storm Water Reference Sheet for Contractors that is posted on the EHS website as a tool to educate contractors and project managers about storm water management and protection of drains and surface water.

- At UMF, the campus community is instructed through trainings, posters, signage, websites, display boards, bookmarks, flyers, and e-mail communications to contact UMF Public Safety in the event of any emergency, including those involving a potential release of pollutants to a sewer or surface water. Additionally, individuals are instructed to always attempt to protect nearby drains if a material is spilled in the area, if it is safe to do so.

**PEP-2 OSEH/SNRE Websites**

*Developed in cooperation with the U-M SNRE and maintained by OSEH, the Storm Water Education Website builds upon the information contained in the brochures and disseminates information to the general University community and the public at large. This website is intended to help students, employees, and visitors in the U-M community understand how the University’s storm water system operates, various legal requirements, and what individuals can do to reduce contamination in the storm water system from surface runoff. As viewers move through the site they learn about storm water, what they can do to help protect it, how regulations impact the University’s operation, and various safe practices. The UMD and UMF websites also provide topical information for practices potentially impacting storm water.*

*Storm water website content is updated on a regular basis to include pertinent information related to storm water management and pollution prevention.*

Current material on the websites can be viewed via the following links:
- UMAA: [www.oseh.umich.edu/environment/storm.shtml](http://www.oseh.umich.edu/environment/storm.shtml)
- UMD: [www.umd.umich.edu/691923/](http://www.umd.umich.edu/691923/)

An additional website has been developed through the UMAA Office of Campus Sustainability (OCS) and Planet Blue at [http://sustainability.umich.edu/](http://sustainability.umich.edu/). Through Planet Blue, staff and students can become a Planet Blue Ambassador by completing modules. More information regarding the implementation of this program is outlined in the additional measures taken to achieve the PEP goals at the end of this section.

### PEP Activity Measurable Goals

<table>
<thead>
<tr>
<th>PEP Activity</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review and update existing websites and perform periodic review. Print a copy of website changes made, noting the date of revision, etc. A copy of these changes will be kept on file.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>In 2010-2011, create a website information dissemination and coordination strategy (all campuses) to reach the target audiences. Identify educational information available/developed for each target audience applicable at U-M. This information will be kept on file.</td>
<td>FY 2011-2012 (mid-year)</td>
<td>✓ ✓</td>
</tr>
</tbody>
</table>
PEP Activity
Measurable Goals

<table>
<thead>
<tr>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>In Compliance</td>
</tr>
<tr>
<td>In 2011-2012, develop/add additional topics, web links, etc. to fill any gaps in the topics needed to meet the permit requirements. Print a copy of website changes made, noting the date of revision, etc. A copy of these changes will be kept on file.</td>
<td>FY 2011-2012 (annual)</td>
</tr>
<tr>
<td>In 2012-2013, implement the new dissemination strategy/plan for the storm water education website. The number of website hits will be tracked for reporting (above).</td>
<td>FY 2012-2013 (annual)</td>
</tr>
</tbody>
</table>

PEP-2 Activities

**U-M Ann Arbor**

- A QR code is provided on printed materials and digital posters which can be scanned by smart phones to direct viewers to the OSEH storm water website.

- As of July 1, 2016, there were 27,696 (since Nov 2003) website hits on the UMAA SW website. That equates to 873 hits since January 1, 2016 and 1,705 over the 2015-2016 fiscal year.

- The 2015 municipal annual storm water NPDES report was added to the website and the individual storm water pages were combined into one for ease of use on November 16, 2015 at the following location: [http://www.oseh.umich.edu/environment/storm.shtml](http://www.oseh.umich.edu/environment/storm.shtml)

- UMAA is in the process of revising the OSEH website. The goals of the revisions are to increase ease of use, and to review and update content as needed. The storm water page will be reviewed and updated as part of this process.

**U-M Dearborn**

- The UMD storm water website received 325 views during this reporting period. The website provides the UMD campus community with information on how the storm water system operates, what the laws require, and what can be done to reduce contamination in our storm system and ultimately, the Rouge River. The website offers links to various external organizations such as Friends of the Rouge (FOTR), Alliance of Rouge Communities (ARC), the Department of Environmental Quality (DEQ), Southeast Michigan Council of Governments (SEMCOG), and Earth 911. The storm water webpage also provides links to two storm water awareness videos. ([http://www.umd.umich.edu/691923/](http://www.umd.umich.edu/691923/))

**U-M Flint**

- The UMF storm water website is available at the following link: [http://www.umflint.edu/ehs/flint-river-storm-water-management-university-michigan-flint](http://www.umflint.edu/ehs/flint-river-storm-water-management-university-michigan-flint). UMF EHS posts annual and semi-annual reports along with educational information concerning the campus and the Flint River Watershed. Links to other local and state environmental and storm water resources are also provided at this website. There were approximately 5,124 visits to the website for the previous reporting period (2014-15), and 7,776 visits for the current reporting period. Note: tracked visits are not specific to the storm water webpage; visits are tracked for the entire UMF EHS website.

- UMF Facilities and Operations maintain a website, located at: [http://www.umflint.edu/facilities/contractinfo.htm](http://www.umflint.edu/facilities/contractinfo.htm) to help contractors and project managers quickly locate environmental health and safety information. EHS also maintains a separate departmental link with reference materials and environmental programs for contractors, located at:
Website topics include: storm water management, spill prevention, response and mitigation, SESC, and environmental due care requirements, all of which are critical in ensuring contractors clearly understand and comply with the University’s storm water management program and University expectations when working on University property. The web links for the U-M construction safety requirements, storm water management requirements, and SESC requirements are all incorporated into contractor bid specifications and contract documents. Additionally, a fact sheet developed in 2013 specifically for contractors working on UMF campus continues to be posted/available for contractors working at UMF.

PEP-3 Video & Public Service Announcements

The video ‘Storm Water Management at the University of Michigan’ provides viewers with an overview of storm water issues as they pertain to University operations and activities. The video begins with an overview of the UMAA’s storm water drainage system and its receiving bodies followed by a synopsis of the legal requirements that mandate the NPDES permit and the development of a storm water management program. The remainder of the video focuses on how storm water can become polluted because of human activities. It proceeds to inform viewers of the University’s actions to protect storm water quality in the following areas: salt use and deicing activities, waste management and spill response, campus planning and expansion, cleaning outdoor equipment and vehicles, chemical disposal practices, and food vendor training.

This video or other storm water video content is offered for viewing on an as needed basis for inclusion in faculty and staff presentations, classes, workshops, etc.

<table>
<thead>
<tr>
<th>PEP Activity</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Storm water, waste disposal, and recycling related Public Service Announcements will be distributed annually for use during the Football season home games. These short educational messages will provide storm water information to visitors, students, staff and contractors attending the U-M football games. The total anticipated audience for these messages is over 109,000 per game.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓ ✓ ✓</td>
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</tbody>
</table>

PEP-3 Activities

U-M Ann Arbor

- Public Service Announcements (PSAs) were made at seven U-M football home games during the 2015 football season, reaching an audience in excess of 770,000 people. PSAs were played at football entrance gates approximately 15 times per game. Additionally, an educational storm water message was posted on the stadium video boards (typically once per game) and on the 27-ft x 48-ft football stadium marquee (up to 20 times per game). OSEH continues to work with the Athletics Department for additional opportunities.
• Storm water video content is offered for viewing on the U-M OSEH website, located here: www.oseh.umich.edu/environment/storm.shtml [ALSO PART OF PEP-4 BELOW]

• Through the Planet Blue Ambassador program, students, faculty, and staff can complete the online training modules described above on different relevant topics (e.g., water). 509 individuals completed the online training module during FY 2015-2016. For the Water module portion of the Planet Blue Ambassador Training, students and staff are encouraged to make pledges including, but not limited to:
  - I will always properly dispose of extra household hazardous waste (HHW).
  - I will fix any oil or other automotive fluid leaks on my vehicle immediately.
  - I will wash my vehicle on a permeable surface or at a carwash that reuses water.
  - I will properly dispose of my extra medications and not flush them. [ALSO PART OF PEP-4 BELOW]

The videos may be viewed on YouTube at the following link: https://www.youtube.com/playlist?list=PLkpBjHvzRryplN_ahL0_TQ7f4E12tFixN

• All new employees are sent a welcome email that includes the following:
  Storm water: The State requires that everyone at U-M be trained on storm water management. Learn about your responsibility to help reduce pollutants reaching our storm drains: http://www.oseh.umich.edu/environment/storm.shtml

  There were approximately 1,267 new employees during the reporting period. [ALSO PART OF PEP-4 BELOW]

• UMAA implements campus wide recycling in all buildings and encourages proper management of waste whether one is on campus or at home. UMAA promotes and provides support with various ‘Zero Waste’ events to further promote the proper disposal of waste.

U-M Dearborn

• EHS created an online storm water training course which is offered on the storm water webpage. The training consists of a video and an 8 question quiz. During this reporting period 137 people have completed the training. http://www.umd.umich.edu/696586/ [ALSO PART OF PEP-4 BELOW]

• The exhibit area at the UM-Dearborn’s Environmental Interpretive Center (EIC) is open to the public six days a week from 10 am until 5 pm. The exhibit area contains several interactive exhibits that allow the visitors to learn about various aspects of the Rouge River Watershed, water quality concerns and conservation efforts and practices. These exhibits are also used in our formal education programs and university courses. The exhibits begin with an overview of the concept of a watershed and aerial photo of the Rouge River so visitors can get a perspective of the entire area of southeastern Michigan. The multimedia videos offer three, six-minute videos about the watershed, hydrologic cycle, and the problems facing the Rouge River. The exhibit area also houses several kiosks that encourage visitors to find ways to be a
part of the solution with steps you can take at home to improve water quality.

- Due to the fact that the UM-Dearborn Fieldhouse is not equipped with an announcement system, EHS used one of the poster designs that was created by the Communications and Marketing Department and posted several of them in the Fieldhouse/Wellness Center in order to spread storm water awareness.

**UM-Flint**

- UMF implements campus wide recycling in all buildings and encourages proper management of waste whether one is on campus or at home. UMF promotes and provides support with various ‘Zero Waste’ events to further promote the proper disposal of waste. UMF also provides PSA’s promoting community household hazardous waste collection days in October and May of each year through e-mails and printed materials, phone calls, etc. These are sent to all faculty, staff and students (> 9,000 individuals).

### PEP-4 Presentations (training sessions, workshops, etc.)

Storm water education presentations are provided to key staff having greater potential to impact storm water quality during their day-to-day work. The remainder of the University community is targeted through other means. The presentations discuss the storm water drainage system; the need for protecting the quality of storm water discharges; the NPDES permit, its legal requirements, and the storm water management program; and the most common storm water pollutants and ways to limit their effects on storm water. The presentations can also feature the storm water video.

Storm water education is provided during new employee orientation sessions (all employees at the U-M), new laboratory employee training classes and at new Plant employee training classes. In addition, presentations including storm water topics are provided on an annual basis to UMAA Plant staff which includes the following sub-groups:

- **Building Services**,  
- **Construction Services** (including the Cabinet, Sign, Glass, and Upholstery shop departments),  
- **Facilities Maintenance** (including HVAC, Plumbing, Pumps, Steam Distribution & Insulation, Electrical, Fire Systems, Elevators, Roofing, Metal Crafts & Machine Repair shop departments),  
- **Grounds & Waste Management Services**,  
- **Utilities & Plant Engineering** (includes purchasing, generation, distribution, conservation, and accounting of utilities for the University), and the  
- **Work Control group** (responsible for single point of contact for services, all estimates and preventive maintenance planning).
### PEP Activity

**Measurable Goals**

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<th>Initial Action Reported in:</th>
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<td>In Compliance</td>
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<td>FY 2009-2010 (annual)</td>
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#### A minimum of 500 laboratories will be inspected annually.
The inspections will include a review of issues impacting storm water quality, chemical storage, waste management and disposal. These inspections may also serve as an indicator of the effectiveness of storm water education received, or the need for additional education. The number of inspections performed annually will be tracked for subsequent reporting.

#### All outdoor food vendors will receive training/education including related storm water issues annually.
Food establishment inspections will include items to ensure storm water BMPs are being followed. These inspections may also serve as an indicator of the effectiveness of storm water education received, or the need for additional education. The number of inspections performed will be tracked for subsequent reporting.

### PEP-4 Activities

#### U-M Ann Arbor
- UMAA OSEH developed an online Storm Water Pollution Prevention Plan (SWPPP) training module for all applicable operational staff and facility managers at fleet maintenance and storage yards involved in the U-M SWPPP program. As of January 1, 2016, 53 U-M staff members from over twelve different facilities had successfully completed the online training. UMAA OSEH continues to use the online training module for refresher training of U-M staff members.

- Storm water topics were included in classes, workshops or presentations that reached over 4,220 people during the reporting period. Examples of classes include: Storm Water Pollution Prevention Plan (SWPPP) training, Spill Prevention Control and Countermeasure training, Storm water/SESC Awareness training, Bloodborne Pathogens training, Asbestos Awareness Refresher training, and lead awareness training. Participants include staff from OSEH, Plant Operations, athletics, researchers, other groups.

- A total of 3,657 laboratory rooms (1,451,636 ft² of lab space) and 191 shop rooms (187,500 ft² of shop space) were inspected during the reporting period at UMAA.

- A total of 156 inspections were performed by OSEH sanitarians on temporary food establishments during the reporting period. Additionally, 58 food selling locations were inspected at each home football game to ensure the appropriate food safety signage/poster, displaying proper grease disposal and wastewater management tips, were conspicuously displayed at each location, which resulted in 406 total signage verification checks.

#### U-M Dearborn
- UMD held 5 storm water training sessions for faculty, staff, students and contractors where a total of 41 people were trained.

- UMD conducted a total of 20 lab inspections during this reporting period.
UMD provides training for their food vendors even though they typically do not partake in any outdoor cooking activities.

**U-M Flint**

- EHS has had three student interns working during this report period that played a key role in annual storm water and spill prevention training, storm water awareness and education, as well as SWPPP compliance inspections. One intern is from UMF Earth and Resource Science Department and devoted their time to performing annual F&O employee training sessions, updating training and website materials, assisting F&O with quarterly inspections and coordinating storm water stenciling and Flint River clean-up activities. Another intern assisted on several projects involving the update of the campus’ Integrated Pest Management Plan, as well as storm water education and other related health/safety initiatives. The third intern focused much of their work effort on improving storm water and other environmental related communications to the campus community presented on the UMF EHS website.

- Storm water training classes were held from August to October 2015 for a variety of F&O and dining service employees (77 attendees, 10 classes). The groups of staff members that underwent training last year included Skilled Trades, Building Maintenance, Grounds, Auto Shop, Custodial Services, Moving Services, and Project Managers, Food vendors and Event and Building Service (EBS) staff. Annual training classes focused on each particular unit’s unique role/responsibilities in protecting drains and implementing BMPs in their respective areas.

- UMF updated employee annual training storm water materials to incorporate the new SWPPP, finalized in December 2014. Training materials included updated PowerPoint slides, and the use of the newly updated 11”x17” visual aid posters that training participants could keep for further reference. 2016 training is currently in progress with Facilities and Operations staff as well as food service groups. EHS also includes storm water education in health & safety classroom training sessions taught by EHS such as hazard communication, HAZWOPER, hazardous waste, Student Housing Resident Assistant Orientation, Respiratory training and many other forms of training. Approximately 52 staff were trained in either online or classroom training sessions for hazardous waste awareness, storm water pollution prevention for industrial operations, and bloodborne pathogens training.

- UMF EHS conducted 16 lab inspections during this reporting period, however, this number does not include lab inspections conducted by the individual departments including, Biology, Chemistry/Biochemistry, CSEP etc., who each complete their own inspections regularly.

- UMF EHS provided training to food vendors operating on the UMF campus. EHS routinely inspects loading dock areas that are used by food service vendors and their suppliers to ensure waste materials, such as grease, are being properly stored and managed.

**Table 3 Additional Public Education Program Activities**

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<th>Activities</th>
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<td><strong>All Campuses</strong></td>
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<td>U-M campuses continue to maintain recycling programs. The programs divert waste from entering landfills; reduce carbon dioxide emissions; and save gallons of water, energy, and trees. Proper disposal of potentially hazardous materials prevents contamination to the environment including surface waters.</td>
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<tr>
<td><strong>U-M Ann Arbor</strong></td>
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<tr>
<td>The U-M Graham Sustainability Institute Water Center published newsletters in Summer 2015, Fall 2015, and Winter 2016. The U-M Water Center supports and engages in research focusing on water quality, water quantity, coastal infrastructure, water policy, and more. Collaborative research teams provide users in the</td>
</tr>
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</table>
region, such as community leaders, legislators, resource managers, and environmental NGOs, with usable information and practical tools to support and enhance the protection, restoration, and management of Great Lakes and its watershed.

- The U-M Water Center collaborated with the City of Detroit to repurpose some of the over 80,000 vacant residential properties. This project uses the Detroit’s vacant property demolition process as an opportunity to design and assess green infrastructure (GI) innovations that aim to make rivers cleaner and neighborhoods more attractive.

- OSEH continues to work with U-M football stadium vendors/concession stands to prevent potential discharges from entering the storm water system. Concession stand signage detailing procedures for proper grease and wastewater management were reposted prior to the 2015 football season. Approximately 50 laminated posters were posted in August 2015. OSEH plans to replace any missing signs ahead of the next football season (2016).

- The U-M has a 24-hour Emergency Response Team to quickly and efficiently respond to and mitigate releases of polluting materials on campus. The campus community is encouraged, through presentations, training, signage, and other educational materials, to report illicit discharges and spills to OSEH/EHSEM/EHS and to the U-M Police Department (UMPD) so appropriate measures can be taken to correct issues which may impact storm water quality. The response team is primarily comprised of U-M staff as well as 24-hour emergency response vendors to efficiently respond to and mitigate releases on campus.

- As part of the UM暑期 Spill Prevention Control and Countermeasure Plan (SPCC), initial and annual refresher training is provided to applicable staff. All appropriate staff are trained in the laws and regulations regarding spills, releases, and pollution control; the contents of SPCC; and the operation and maintenance of equipment to prevent discharges.

- On September 17, 2015, “2015 Earthfest” was held at the UMAA campus. This event promoted overall sustainability practices including waste prevention and healthy environments.

- UMAA continues to work with the U-M Outdoor Events Coordinator to provide environmental guidelines for events that may impact storm water. As part of this effort, UMAA OSEH recommends storm water BMPs and provides requirements to event staff to ensure Waters of the State are properly protected from potential impacts.

### U-M Dearborn

- The Dearborn campus started their single stream recycling program campus wide on July 1, 2012. The program is projected to divert 1.4 million pounds of waste from entering landfills; 1,913 metric tons of carbon dioxide emissions (equivalent to taking 69 cars off of the road); and will save 4.3 million gallons of water, 3.4 million kWh of energy, and 9,982 trees over a 5 year period.
  
  [https://umdearborn.edu/facplan_recycling/](https://umdearborn.edu/facplan_recycling/)

- EHS partners with several internal groups around campus to pass out storm water materials. This includes Mailing/Parking and the University Center who pass out Car Care brochures with parking passes to all faculty, staff, and students; University Police Department who pass out our storm water brochure packets during student orientation; and the campus library and bookstore who pass out bookmarks throughout the year.

- Annually in May, the Environmental Interpretive Center (EIC) sponsors the Rouge River Water Festival. This year, an estimated 1,000 participated in the event which consists of multiple presentations by professionals from local, state, and federal agencies, natural resource groups, universities, museums, and
Activities

- The EIC hosts monthly Stewardship Saturdays. Volunteers are called upon to participate in the removal of invasive species and garbage from the EIC grounds near the Rouge River.
- In June 2016, 17 Ford volunteers installed a new rain garden by the Friends of the Rouge office.
- Friends of the Rouge (FOTR) have office space on the UMD campus. They host monthly Public Involvement Task Force Meetings, Rouge Education Project Task Force Meetings and board meetings. FOTR facilitates several volunteer monitoring programs including benthic macroinvertebrate monitoring, frog and toad surveying, and fish monitoring. Additionally, FOTR provides various workshops and educational presentations as well as play active roles in restoration projects within southeastern Michigan. Reports and additional information on their services can be found on their website at http://therouge.org/.
- UMD maintains three (3) pet waste stations along the Rouge River Gateway Greenway Trail.
- All UMD safety training classes include information on our storm water program.
- EHS updated the UMD Spill Prevention Control and Countermeasure (SPCC)/Pollution Incident Prevention Plan (PIPP) in February of 2015.
- EHS provides storm water management training to contractors to ensure awareness of environmental and occupational safety requirements. They are provided a flip chart that provides them with a variety of topics including tornado safety, power outages, storm water, soil erosion and sedimentation control, etc. along with emergency contact information. http://www.umd.umich.edu/fileadmin/env-health-safety/public/files/Contractor_Emergency_Flipchart.pdf.

U-M Flint

- All Hazard Communication, Hazardous Waste, PPE, HAZWOPER, and other general safety training classes address the difference between sanitary and storm drains, illicit discharges, reporting spills, protection of drains, and who to call if an illicit discharge or spill is observed.
- EHS currently employs 4 student interns as of Summer 2016. One of the interns, from the Earth and Resource Science Department, helped to update the UMF SPCC /PIPP and the SWPPP for the UMF campus. The intern also helped with spill prevention education, storm water management education, and related environmental initiatives. Another intern devoted time to health and safety training/awareness, to updating the Chemical Hygiene Plan, and to updating various Standard Operating Procedures, which provide a safer environment within the labs on campus. Another helped to improve the organization and formatting of educational information on the EHS website.
- UMF promotes the local Genesee County Household Hazardous Waste Collection in the spring and summer of each year to the campus community
- Annual Earth Day events and activities include participation of many local environmental organizations including the Flint River Watershed Coalition and the Flint River Corridor Alliance (in which UMF participates in both). During the annual Earth Day events, participating organizations provide educational materials on how to protect the Flint River, by handing out brochures. In addition, organizations participate in one-on-one discussions with University and community members about specific actions individuals can do to improve water quality, how individuals can report problems, how individuals can get involved, and how individuals can participate in river clean ups, etc. Participating organizations also offer presentations to the general public during the Earth Day event. Planning efforts for the 2016 UMF Earth Day Celebration
Activities

(scheduled for April 11th, 2016) have been underway since December 2016.

- UMF student clubs, including Future Urban Environmental Leaders (FUEL), and Block Club partner with EHS and have organized several (3-4) Flint River clean up volunteer days during the spring and fall. These clubs combined their efforts to coordinate the student and community volunteers, and by also coordinating the transportation and disposal of the trash and debris that is picked up & pulled from the banks of the Flint River by volunteers.

- UMF EHS meets with contractors prior to starting jobs to go over environmental and occupational safety requirements; this includes discussion of soil management, University’s construction safety requirements, protection of storm drains, etc. EHS staff also conducts random inspections of work sites to ensure cautionary measures are in place prior to, and during, contractor work. In some cases, SESC weekly inspections are conducted.

- The web links for the U-M construction safety requirements, storm water management requirements, and SESC requirements are all incorporated into contractor bid specifications and contract documents during the reporting year.

- UMF’s University Outreach continues to be an engaged and active supporter of: promoting environmental stewardship, watershed management planning, greening of the community, storm water intervention workshops, Flint River clean ups, and volunteer projects throughout the City of Flint including the Genesee County area and surrounding counties within the Saginaw Bay Watershed. For more information about past and present University Outreach activities in the community regarding watershed management, contact Sara McDonnell at (810) 424-5489, or visit [http://www.umflint.edu/outreach/land-water-people](http://www.umflint.edu/outreach/land-water-people).

iii. Public Involvement and Participation

The University encourages public input in all aspects of its storm water management program. In order to facilitate public participation, this plan and information related to the storm water management program are made available on the storm water web site. By viewing the Annual Reports that are placed on the web site, the general public and members of local stream and watershed protection organizations can make themselves aware of activities the University carries out under its storm water management program. In addition, when new storm water management program plans are developed and finalized, the City, County, and interested local stream and watershed protection organizations are allowed to review and comment on them. Website feedback link(s) will be provided to facilitate feedback on the Storm Water Management Program Plan (SWMPP) from the community.

One public awareness group that UMAA works with on a regular basis is the Huron River Watershed Council (HRWC). Many of the HRWC’s goals are consistent with the University’s ideals for the preservation and protection of the surrounding natural water bodies. As a result, the University has established an informal partnership with the HRWC and has provided input to the HRWC on issues concerning the Total Maximum Daily Load program for water bodies that lie within the Huron River Watershed.

Table 4 presents the status of each Public Involvement and Participation activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals.
### Table 4 Public Involvement and Participation Activities

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<th>PIP Activity</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in:</th>
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<tr>
<td></td>
<td>The SWMPP and NPDES reports will be made available on the U-M storm water web site, <a href="http://www.oseh.umich.edu/environment/storm.shtml">http://www.oseh.umich.edu/environment/storm.shtml</a>. The date of addition to the website will be tracked for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td>✅ ✅ ✅</td>
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<td>The annual report for FY 2014-2015 was added to the U-M OSEH storm water website on November 16, 2015 and the semi-annual report for FY 2015-2016 was added to the U-M OSEH storm water website on August 22, 2016.</td>
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<td>The U-M will attend a minimum of ten (10) meetings annually with local watershed/creekshed organizations like the HRWC, Washtenaw County Drain Commission, City of Ann Arbor, the Millers Creek Action Team (MCAT), Flint River Corridor Alliance, FOTR, or other local stream protection organizations for collaboration on storm water issues in the community. U-M’s participation in meetings, community events, etc. with these groups will be tracked for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td>✅ ✅ ✅</td>
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<td>Thirteen (13) meetings were attended during the reporting period including the City of Ann Arbor CIP Storm Water Meeting, Middle Huron Initiative (MHI) Watershed Meeting, U-M Storm Water Committee Meeting, Coalition for Action on Remediation of Dioxane meetings, Washtenaw County Water Resource Commissioner’s Office Meeting on Rule Changes, Alliance of Rouge Communities meetings, and Flint River Corridor Alliance.</td>
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<td>UMAA was a listed community partner in the 2016 Huron River Watershed Community Calendar and supported its distribution. The 2016 Calendar is a collaborative effort to educate communities about the importance of water stewardship and nonpoint source pollution prevention. In all, the HRWC and its partners distributed 37,000 2016 Calendars to residents, staff, volunteers, constituents, and members of the watershed community.</td>
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<td>UMD EHSEM attended one (1) Friends of the Rouge Task Force Meetings during this reporting period.</td>
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<td>UMD EHSEM is an active member of the Alliance of Rouge Communities (ARC).</td>
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<td>At the UM-Dearborn’s Environmental Interpretive Center (EIC) we also support various off-campus community organizations that are involved in a variety of initiatives to improve the surrounding watershed and educate the public about the importance of being good stewards of our water resources and surrounding land. We host events, meetings and are involved in various activities involved in education and outreach with the following organizations that are directly related to water quality concerns:</td>
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<td>-Friends of the Rouge</td>
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<td>-Friends of the Detroit River</td>
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<td>-Southeast Michigan Land Conservancy</td>
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<td>-Stewardship Network: Lakeplain Cluster</td>
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<td>-Sustainable Business Forum</td>
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UMF is involved in the local watershed planning and outreach related activities both by attending meetings as well as playing a leadership role on various committees. UMF involvement includes the following:

UMF is an active and committed Flint River Corridor Alliance (FRCA) Partner member. During the reporting period, the UMF Government Relations Director, David Lossing, was the administrative contact for FRCA. Mr. Lossing also co-chairs the FRCA Hamilton Dam subcommittee. A UMF Environment, Health and Safety employee attends most meetings throughout the year. UMF occasionally hosts the monthly meetings when needed. [http://www.frcalliance.org/](http://www.frcalliance.org/).

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<tr>
<td>The City, County and interested local stream and watershed protection organizations will be notified of the online availability of the U-M SWMPP for review and comment on the same frequency the information is provided to the Department. The SWMPP will be accessible on the U-M website for review by the public. Any comments received will be reviewed by U-M OSEH/EHSEM/EHS and evaluated for inclusion in the SWMPP. Comments submitted and any actions taken in response to comments will be documented and kept on file.</td>
<td>FY 2009-2010 (annual)</td>
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<td>The U-M will participate in meetings of the MHI (typically semi-annual) to address the Ford &amp; Belleville Lake TMDL on phosphorus reduction throughout the permit cycle. Attendance at these meetings will be tracked for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓</td>
<td>✓</td>
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<td>U-M participated in one MHI meetings during this reporting period. The MHI partnership continues to contract with the HRWC to perform monitoring of the Middle Huron tributaries for the 2015 and 2016 sampling seasons.</td>
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<tr>
<td>The U-M will participate in Geddes Pond – E. coli TMDL efforts throughout the permit cycle. Management activities addressing E. coli include dry weather screening and illicit discharge elimination, semi-annual catch basin cleaning, pollution prevention, and public education. These efforts as well as attendance at meetings/events on this issue will be documented for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>No meetings were held during this reporting period; however, U-M staff attends HRWC meetings and other creekshed meetings to help address regional TMDLs. The management activities are reported in other portions of this report.</td>
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<td>PIP Activity</td>
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<td>The U-M will sponsor/offer a semi-annual volunteer opportunity for participants to get involved with storm water improvement and education programs. Examples of opportunities include storm drain stenciling/marking and invasive species removal projects. The number of volunteer events offered will be tracked annually for subsequent reporting. The number of participants in volunteer stewardship events will be tracked for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td></td>
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</tbody>
</table>

**U-M Ann Arbor**

- The UM-AA Radrick Farms Golf Course and University of Michigan Golf Course were awarded the Clean Corporate Citizen (C3) designation from the MDEQ in 2014 and 2015, respectively. According to Jim Sygo of the DEQ, “Michigan’s C3 program is one of the most rigorous and long-standing environmental stewardship programs in the nation, requiring facilities to have an active Environmental Management System; a strong environmental compliance history; and pollution prevention goals and measures in place.” While the Radrick Farms Golf Course is outside of the urban area boundary, U-M still considered this prestigious award worth mentioning.

- Both of the Golf Courses noted above and the U-M Wilpon Baseball and Softball Complex are certified in the Michigan Turfgrass Environmental Stewardship Program (MTESP). This certification involved implementing practices which reduce pollution, limit energy consumption, and protect the surrounding watershed. The MTESP certification includes water conservation and stream protection criteria.

- The U-M was the first campus to receive a Tree Campus USA recognition in 2008 from the Tree Campus USA program, sponsored by the Arbor Day Foundation and Toyota and has continued to be part of the program annually since 2008. According to Tree Campus USA, there are five requirements to receive this recognition, including: “establishment of a tree advisory committee, evidence of a campus tree-care plan, dedicated annual expenditures for this campus tree program, an Arbor Day observance and the sponsorship of student service-learning projects.”

- U-M OSEH organized an invasive species plant pull on October 31, 2015 on north campus near a woodlot adjacent to School of Music. Sixteen volunteers spent four hours learning how to identify invasive species and subsequently removing them. The event is coordinated with Grounds staff who chip the plants as they are removed from the woodlot. The primary invasive species in this area are buckthorn and honeysuckle.

**U-M Dearborn**

- UM-Dearborn EHS applied and was approved by the state for a notice of intent to use rule 97 tracer dye when necessary.

- Friends of the Rouge (FOTR) have office space on the UM-Dearborn campus. They host monthly Public Involvement Task Force Meetings, Rouge Education Project Task Force Meetings and board meetings. FOTR facilitates several volunteer monitoring programs including benthic macroinvertebrate monitoring, frog and toad surveying, and fish monitoring. Additionally, FOTR provides various workshops and educational presentations as well as play active roles in restoration projects within southeastern Michigan. Reports and additional information on their services can be found on their website at [http://therouge.org/](http://therouge.org/).
U-M Flint

- UMF EHS coordinated the 2016 Earth Day Celebration Community event, where more than 30 organizations participated and approximately 30 volunteers helped with planning, setup, and moderating presentations throughout the day’s activities. An estimated 700 individuals attended. A significant portion of the day’s activities addressed environmental stewardship, conservation, protecting natural resources, Flint River watershed management, organic gardening, composting and permaculture, alternative energy technologies, and recycling/waste management through ‘Zero-Waste’ Initiatives.

- UMF EHS organized and coordinated the “Flint College Recycling Challenge 2016”. The 2-month long event was a combined effort between UMF, Kettering University, Baker College and Mott Community College to collect as many plastic containers as possible, in light of the increased need for bottled water in surrounding areas. The multiple campuses worked together throughout March to early May 2016. While promoting the event, colleges were able to highlight the importance of environmental stewardship for the Flint community. EHS included the City of Flint in the event to further help the new Flint curbside recycling program created in 2014.

- UMF had 12 individuals involved with the UMF student organization, FUEL, (Future Urban and Environmental Leaders) that participated in EHS’s storm water stenciling activities in the fall of 2015. Additional stenciling activities will occur during the summer or fall of 2016. FUEL also organized two individual Flint River Clean-up events during Fall of 2015 and Spring of 2016 and partnered with the Crim Foundation in Summer 2016 to clean a large stretch of the Flint River Bike Trail before the annual Tour de Crim event.

<table>
<thead>
<tr>
<th>PIP Activity Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>In 2010-2011, meet with local watershed/creek groups to identify joint activities and opportunities to meet permit requirements. Identify local creek/watershed groups, etc. timeframes, staffing and participation opportunities. This information will be kept on file.</td>
<td>FY 2011-2012 (mid-year)</td>
<td>Complete as Previously Reported</td>
</tr>
<tr>
<td>In 2011-2012, develop a participation plan for all campuses. Keep records of meetings attended, possible opportunities for coordination with local groups, etc. This information will be kept on file.</td>
<td>FY 2011-2012 (annual)</td>
<td>Complete as Previously Reported</td>
</tr>
<tr>
<td>In 2012-2013, implement the participation plan. Tally the number of meetings attended for annual reporting (as detailed in goals above).</td>
<td>FY 2012-2013 (annual)</td>
<td>Complete as Previously Reported</td>
</tr>
</tbody>
</table>
iv. Illicit Discharge Elimination Program (IDEP)

The removal of illicit discharges is an ongoing program being conducted by the U-M. As illicit discharges are identified, they are discontinued or otherwise corrected. The program described in this section will be used to determine the existence, location, and extent of possible illicit connections and discharges to the storm water drainage system. At a minimum, it will address the elements presented in Part I, Section B.3 of the Permit.

The UMAA has been involved in an ongoing program for identifying and controlling non-point source pollution to the Huron River. The Huron River Pollution Abatement Project was developed from a grant from the federal Clean Water Act and used by the UMAA to identify illicit connections to the storm water system. The project was completed in 1990.

The U-M will continue to encourage reporting of water quality problems and possible illicit connections and discharges to the storm water system. OSEH, Plant Operations, and/or Facilities Management will receive reports of water quality problems and possible illicit connections and perform follow-up investigations, leading to elimination where appropriate.

Table 5 presents the status of each Illicit Discharge Elimination Program activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 6 includes activities that go beyond the expectations of the original measurable goals.

### Table 5 Illicit Discharge Elimination Program Activities

<table>
<thead>
<tr>
<th>IDEP Activity Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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</thead>
<tbody>
<tr>
<td><strong>IDEP-1 Storm Sewer Map</strong></td>
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<tr>
<td>A storm sewer system map is required in Part I.A.7.b.1 of the Permit. The map must include the location of all discharge points the permittee owns or operates, and the names and location of all surface waters of the state which receive discharges from the MS4.</td>
<td>FY 2010-2011 (Mid-year)</td>
<td>✓</td>
</tr>
<tr>
<td>By February 1, 2011, the U-M will create a storm sewer system map identifying the location of all if its discharge points and the names and locations of all the surface waters that the MS4 discharges into.</td>
<td>FY 2010-2011 (Mid-year)</td>
<td>✓</td>
</tr>
<tr>
<td>The storm sewer system map will be updated periodically as discharge points are identified or added. The dates of modification of the system map will be tracked and kept on file.</td>
<td>FY 2010-2011 (Mid-year)</td>
<td>✓</td>
</tr>
</tbody>
</table>

- UMAA continues to work with the Plant Utilities Department to review and update the storm sewer maps as changes/updates are needed.
- UMD updates campus storm water maps as needed. Updated information is sent to a vendor to provide up-to-date master copies.
- At UMF, no changes or edits occurred to the maps during this reporting period.
IDEP-2 Survey of Facility Discharge Points into the System

OSEH has implemented a program to identify discharge points from facilities into either the sanitary sewer or storm water systems. The first phase of this program began several years ago and resulted in the identification of facility discharge points on the Ann Arbor Campus. Information collected included water usage rates, category of activity, and categorization of water flows as domestic or non-domestic based on the activity occurring at the facility.

The second phase of the identification of facility discharge points will be implemented as part of this SWMPP. The second phase will consist of a continual observation process performed by OSEH, EHS & CSS personnel as they perform other activities across campus facilities. The activities associated with this program are conducted as illicit discharges are identified. They are prioritized and discontinued or otherwise corrected.

<table>
<thead>
<tr>
<th>IDEP Activity</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>U-M will create a prioritized listing for the performance of dry-weather screening considering the criteria in Part I.A.7.b.2 of the permit. The list will be developed in 2011 to ensure the use of the most up to date storm sewer system map/information will be utilized. The list will be kept on file.</td>
<td>FY 2011-2012 (Mid-year)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
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IDEP-3 Dry Weather Screening

In accordance with Part I, Section A.7.b of the permit, the purpose of dry weather field screening is to determine the existence, location, and extent of possible illicit discharges into the UM storm water drainage system. The screening program has been designed to target discharge points within the storm water system that will help identify non-storm water flow. The current procedure used for dry weather screening is attached as Appendix E [of the SWMP]. This procedure will be updated periodically, and the most current copy of the procedure will be available for review in the OSEH, EHS or CSS offices.

For the purposes of dry weather screening, the UM will be divided into five regions. The UM-D and UM-F will comprise one region for screening purposes. The remaining four regions will be comprised of UM-A2 areas determined from the outfall prioritization task in section 5.2 above. The regions are as follows:

- UM-Dearborn & UM-Flint
- UM-A2 I
- UM-A2 II
- UM-A2 III
- UM-A2 IV
<table>
<thead>
<tr>
<th>IDEP Activity Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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<td>In Compliance</td>
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<td>Effort</td>
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<td>Report</td>
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<tr>
<td>The UM will perform dry weather screening on each MS4 discharge point at least once every 5-years beginning on February 1, 2010, (per Part I.A.7.b.3) to determine the existence, location, and extent of possible illicit discharges into the UM storm water drainage system on all three campuses. This is typically done during four to five rounds of screening. Any issues identified for further investigation or correction will be tracked for subsequent reporting. The number of illicit discharges and connections identified and subsequently corrected or removed will be tracked for subsequent reporting.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓</td>
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**U-M Ann Arbor**
- In conformance with the revised, MDEQ approved (November 4, 2013), dry weather screening program guideline, UMAA completed dry weather screening of all outfalls with a direct discharge to surface waters of the State. Based on the most up-to-date UMAA GIS data, it was determined that there are 70 discharge points that meet the screening requirement criteria. Of these 70 outfalls screened, it was determined that four (4) outfalls had flow that warranted follow-up sampling. The outfalls are located on the Medical Campus (O-25, O-26, O-30R, O-88R). Initial visual and olfactory screening did not indicate any potential concerns from the four outfalls with flow. Preliminary evaluation of the sampling analytical data indicates that these flows are not a significant contributor of pollution and do not pose a threat to human health or the environment, however; follow-up investigation activities will be conducted in conjunction with other construction and utility replacement projects. In addition to the four outfalls with flow, one outfall could not be located (O-27).

**U-M Dearborn**
- UMD performed dry weather screening on two major outfalls (DOF-001 and DOF-006) on May 21, 2012. As of September 2014, UMD EHS dry weather screened 186 catch basins. No additional UMD information to report for this section from July 1, 2015 to June 30, 2016.

**U-M Flint**
- As previously reported, UMF completed dry weather inspections on all 13 outfalls associated with the campus between the months of June and October 2012. The inspections were performed following the guidance in U-M’s *January 2010 Dry Weather Screening Program Guideline for the University of Michigan*. Flow was observed at four of the outfalls during dry weather conditions. Two of the sources were backtracked to off campus sources, and the remaining two were determined to be building foundation sump pumps. The complete report, including figures, analytical data and field data sheets, was provided as an attachment to the April 2013 Mid-Year Report.
IDEP-4 Public Reporting of Illicit Discharges

Public involvement in the reporting of illicit discharges to the storm water system is a voluntary program. G&WM currently coordinates extensive recycling promotions with student housing and individual colleges on campus. These promotions include information regarding reporting of illicit discharges to OSEH for follow-up. By means of its public education program, UM advises the University community to report discharges for appropriate investigative and follow-up action.

The University maintains a 24-hour 911 emergency response system (also 734-763-1131 at UMAA) which is coordinated and manned by the Department of Public Safety. Any calls reporting dumping, accidental spills, etc. are dispatched from DPS to OSEH for emergency response, containment and control. In addition, calls can be made to OSEH directly reporting such incidents for emergency response.

<table>
<thead>
<tr>
<th>IDEP Activity</th>
<th>Measurable Goals</th>
<th>Current Status</th>
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<tr>
<td></td>
<td></td>
<td>Initial Action Reported in: FY 2009-2010 (annual)</td>
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<td>Completed as Previously Reported</td>
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The emergency response system on campus will be maintained by the University of Michigan Police Department (UMPD) (24/7) for use by the public to report illegal dumping, spills or suspicious discharges at the University throughout the permit term. The number of calls received by the UMPD/OSEH emergency response call system on potential discharges to the storm water system will be tracked for subsequent reporting. The number of incidents remedied as a result of these calls will also be tracked and reported annually.

All Campuses
- A total of 38 calls of outdoor incidents were reported via the UMPD/OSEH/EHS/EHSEM emergency response systems. Typically, the spilled materials were contained with spill kits; cleaned up using absorbent materials, and removed for appropriate disposal by U-M’s on-call emergency response team. Response activities involved leaks and spills of materials such as automotive fluids (gasoline, hydraulic oil, glycol, transmission fluid, diesel, power steering fluid, brake fluid, antifreeze, and motor oil) and blood.

U-M Ann Arbor
- During this reporting period, UMAA personnel responded to approximately 148 indoor and outdoor incidents, involving natural gas leaks, fires, improper disposal of medical equipment, and spills and leaks of materials. The majority of the spills were small, ranging from a few milliliters to five gallons. A majority of the outdoor incidents were remedied (35 of 36) prior to storm drain impact; however, one (1) incident resulted in materials entering Waters of the state (Millers Creek in Ann Arbor) as described below and in Section 1).b):
  - On June 21, 2016 OSEH received a call from U-M Waste Management staff regarding a blown hydraulic line that dumped hydraulic fluid (~33 gallons) on Hubbard Road. OSEH Hazardous Materials staff immediately responded to the spill, and began applying oil-dry to the affected pavement. During the response, some hydraulic oil was observed in a storm water catch basin, triggering additional response from U-M OSEH Environmental Protection and Permitting staff. Upon further investigation, droplets of oil and an oil sheen were observed at the outfall to Millers Creek, in a natural step pool. The oil droplets and sheen in this pool were contained by the placement of oil booms and sorbent pads. Throughout the spill and response, the flow of Millers
Creek in this location was almost non-existent, which helped the response team to be able to contain and capture the spilled material within the step pool.

The U-M vacuum truck was dispatched to the scene, and cleaned and jetted the impacted storm line and catch basin. The vacuum truck then skimmed oil droplets and sheen from the boomed off step pool in Millers Creek. The oil absorbent booms and pads were left in the step pool as a preventive measure to ensure any droplets not skimmed off would be captured overnight. The oil-dri that was placed on Hubbard Road was collected for proper disposal.

OSEH staff returned to the spill location the afternoon of June 22, 2016 and verified that there was no oil remaining within the boomed area and removed the pads and booms for proper disposal.

In accordance with our permit requirements, verbal notification was provided on June 21, 2016 followed by a detailed written communication sent on June 27, 2016.

U-M Dearborn
- On October 27, 2015, UMD EHSEM was notified that there had been an incident that could impact surface waters on October 24, 2015. MDEQ PEAS was contacted on October 28, 2015 and the incident was closed by November 5, 2015. In summary, the UMD Police responded to a trash bin (55-gallon drum) fire on the grass by the shoreline of Fair Lane Lake. The fire burned itself out, however it was noted that a quart size plastic drink bottle was in the trash bin that contained a clear liquid. The liquid was thought to be a petroleum product (e.g., gasoline or kerosene). A rainbow colored sheen was noted on the lake near the trash bin. UMD EHSEM contained, collected and properly disposed of the sheen using absorbent pads and pillows. UMD EHSEM was informed that a natural organic sheen is sometimes present in the same area of the lake. Clean up was completed by October 30, 2015. MDEQ PEAS closed the incident on November 5, 2015.

U-M Flint
- At UMF, there was one outdoor spill that did not result in material entering a storm drain. It was reported in April 2016 at the UMF Ice Rink at the Pavilion Annex. The spill material involved a 40% solution of ethylene glycol and occurred when contractors were deconstructing the ice rink cooling mat for the season. The glycol solution was pumped/removed from the cooling mat prior to deconstruction. A de minimis amount remained in the mat and when rolling the cooling mat up, material spilled from mat onto concrete. The volume of the spill was difficult to determine, but was estimated to be approximately 5 gallons or less. The spilled material was immediately cleaned up and contained to prevent the material from entering any storm drains.

<table>
<thead>
<tr>
<th>Table 6 Additional Illicit Discharge Elimination Program Activities</th>
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<tbody>
<tr>
<td><strong>Activities</strong></td>
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<tr>
<td><strong>All Campuses</strong></td>
</tr>
<tr>
<td>- Recycling Efforts – The U-M promotes environmental awareness by sponsoring recycling programs on campus. Educational materials have been developed that address student contributions to the U-M recycling effort, educate students on the types of recyclables and where they may be taken for recycling, and educate students on the impact that recycling has on the environment.</td>
</tr>
<tr>
<td>- The University continues to review owned facilities in an effort to identify discharges into the storm and sanitary systems. As part of this survey, any areas that contain suspect flows are noted for potential dye testing.</td>
</tr>
</tbody>
</table>
Activities

- **Erosion Control** – Part 91 of the Natural Resources Environmental Protection Act (NREPA) provides for a statewide soil erosion and sedimentation control program. This program outlines the proper provisions for water disposal and the protection of soil surfaces during and after construction and is adhered to by the U-M.

- **Employee Training and Education** – U-M personnel involved in the application of herbicides, pesticides, and fertilizers have been trained and are licensed applicators. All applicators are trained and licensed. In addition to the courses taken through the Michigan Department of Agriculture, U-M trains all of its grounds employees. Training programs will also be conducted to address the purpose and operation of BMP activities under this SWMPP. In addition, staff in various departments have received, or are in training to receive certification from MDEQ in Storm water Management – Construction Site, Storm water Management – Industrial Site or Soil Erosion & Sedimentation Control.

- **Hazardous Materials Response** – OSEH, EHS & EHSEM are instrumental in maintaining a safe and healthy environment for faculty, staff, students, and visitors. Routine training is provided to new faculty, staff, and students regarding hazardous materials and conditions at U-M facilities. The University also maintains spill response teams (U-M staff and contracted vendors) for each campus that can quickly and efficiently respond to and mitigate releases of hazardous materials.

- **Hazardous Waste Disposal** – OSEH is responsible for the appropriate collection and disposal of hazardous waste and hazardous materials used and generated by the U-M units. The program ensures tracking of the materials from point of generation through collection and ultimate disposal. Personnel are properly trained and appropriately licensed to handle the material and transport the waste on campus. Qualified contractors are used for ultimate transport and disposal off site. The UMD EHS and UMF EHS oversee the disposal of hazardous wastes on their respective campuses. UMD EHS and UMF EHS personnel are properly trained in the Resources Conservation and Recovery Act (RCRA) and the University utilizes qualified contractors for transport and proper disposal of waste off site.

- **Plan Review** – OSEH, UMD EHS & UMF EHS review plans for the renovation of existing structures and the construction of new facilities. The plans are reviewed to identify potential environmental concerns and to ensure the protection of storm water quality and the storm water drainage system.

- **Storm Water Basins** – Storm water management basins are used to reduce the impact of storm water discharges from campus locations. Although the primary function of these basins is to provide first-flush holding capacity for storm water, the design also provides for sediment deposition within the basin structure which can significantly reduce pollutant loads in receiving waters.

**U-M Ann Arbor**

- UMAA recycled approximately 169 tons of consumer electronics.

- OSEH sanitarians continue to work with kitchen and food vendors on campus to ensure proper waste management and disposal methods are used. In addition, OSEH continues to work with U-M football stadium vendors/concession stands to prevent potential discharges into the storm water system. Concession stands were posted with signage detailing procedures for proper grease and wastewater management for these operations during the 2013 football season to reinforce proper waste management for these temporary operations. OSEH plans to replace any missing signs ahead of the next football season (2016).

- OSEH requires that new building construction and building renovation projects resulting in new and/or modified internal piping be dye tested to confirm proper connection to the sanitary system. This requirement is in place for projects where more than 10 fixtures are impacted, and dye testing is also required of new construction projects and renovations for confirmation of taps to exterior pipes.

- UMAA OSEH conducts quarterly SWPPP inspections at seven maintenance facilities. UMAA OSEH has also developed an online Storm Water Pollution Prevention Plan (SWPPP) training module for all applicable
Activities

operational staff and facility managers at fleet maintenance and storage yards involved in the U-M SWPPP program. As of January 1, 2016, 53 U-M staff members from over twelve different facilities had successfully completed the online training. UMAA OSEH continues to use the online training module for refresher training of U-M staff members.

U-M Dearborn
- UMD recycled a total of 4,920 fluorescent light bulbs and 22,662 pounds of electronic equipment.
- The UMD EHS Department oversees the disposal of hazardous waste. EHS personnel are properly trained in RCRA and the University utilizes qualified contractors for transport and disposal off site.

U-M Flint
- UMF recycled 2808 spent lamps and other electronic waste, totaling approximately 13 tons of e-waste.
- UMF EHS organized the annual Flint College and University Recycling Challenge in which UMF, Kettering, Baker and Mott Community College worked together in order to recycle as many plastic containers as possible from March through May of 2016. This collaborative effort was in light of the recent water quality issues that required Flint residents to drink bottled water. For the first time, the recycling challenge was a student-led collaborative effort instead of a competition between the local colleges and universities.
- UMF EHS routinely walks the campus and inspects loading dock areas, dumpsters, facilities operations and vehicle maintenance/storage areas, and refueling operations and construction activities to ensure that materials continue to be stored properly, secondary containment is functioning and any outdoor storage containers remain in good condition.
- EHS has had three student interns working during this report period that played a key role in annual storm water and spill prevention training, storm water awareness and education, as well as SWPPP compliance inspections.
v. Post-Construction Storm Water Control for New Development and Redevelopment Projects

The U-M has a program to address storm water runoff from new development and redevelopment projects. As part of this program, the U-M manages, reviews, and continually updates campus-wide planning to address storm water runoff from each new regulated development and redevelopment project. This program helps to ensure that controls are in place that will minimize and in some cases prevent impacts on water quality from new development and redevelopment projects that disturb areas greater than one acre or disturb areas less than one acre but which are part of a larger common plan of development.

Table 7 presents the status of each Post-Construction Storm Water Control activity, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 8 includes activities that go beyond the expectations of the original measurable goals.

### Table 7 Post-Construction Storm Water Control Activities

<table>
<thead>
<tr>
<th>PCSW Activity</th>
<th>Measurable Goals</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>PCSW-1 Post-Construction Storm Water Runoff</td>
<td><em>The University continues to review options for regional storm water management systems at locations where current or future construction is anticipated. This regional detention would include storage for construction or renovation projects that have limited space for on-site systems. The goal of the University is to protect receiving water quality and limit the rate at which surface water runoff discharges from any specific site during and following development or redevelopment to not exceed the pre-development hydrologic regime.</em></td>
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On previous projects where detention on site is not feasible the University has required a minimum of structural BMPs to improve the water quality leaving the site (sedimentation traps, etc.) and proposed regional containment within the runoff basin as the quantity control.

By August 1, 2009, the Post-Construction Storm Water Requirements guideline which details the minimum treatment volume standard and the channel protection criteria was issued by U-M. The guideline is available on the U-M-OSEH website and in Appendix G of the SWMPP.

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<thead>
<tr>
<th>PCSW Activity</th>
<th>Measurable Goals</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>PCSW-2 Non-structural &amp; Structural Best Management Practices</td>
<td><em>To meet the objectives, UM may implement various non-structural and structural BMPs where appropriate. Non-structural BMPs are preventative actions that involve management and source controls. Examples of issues that are covered in non-structural BMPs used on campus include but are not limited to the following:</em></td>
<td></td>
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</table>

- Buffers along sensitive water bodies
- Education programs for developers and the public about project designs that minimize water quality and quantity impacts
- Minimum disturbance of soils and vegetation;
- Restrictions on directly connected impervious areas;
• Preservation of the natural environment;
• Minimization of impervious surfaces; and
• Use of vegetated swales and natural storage.

Structural BMPs are physical controls, including storage practices, which improve water quality. Examples of issues covered in structural BMPs used on campus include but are not limited to the following:

• Wet ponds and extended detention outlet structures;
• Filtration practices such as grassed swales, sand filters, and filter strips; and
• Infiltration practices such as infiltration basins and infiltration trenches.

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<tr>
<th>PCSW Activity</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in:</th>
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<td>In Compliance</td>
</tr>
<tr>
<td>OSEH/EHS/EHSEM and/or the University Planner’s Office will review all construction and renovation plans for use of structural and non-structural BMPs to prevent receiving water quality from the impacts of development and limit the rate at which surface water runoff discharges from any specific site to not exceed the pre-development hydrologic regime. The number of sites implementing various non-structural and structural BMPs will be tracked annually for subsequent reporting.</td>
<td>FY 2008-2009 (annual)</td>
<td>✓</td>
<td>✓</td>
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• The U-M utilizes a variety of structural BMPs. Some were installed to comply with post-construction standards and others were installed as acts of good environmental stewardship. Storm water controls installed during this reporting period include infiltration gardens and underground retention at Eda U. Gerstacker Grove, infiltration chambers and hydrodynamic separators at Ross School of Business, detention basin and level spreader at the Mobility Transformation Center, and storm water detention/retention basins and hydrodynamic separators at the Ross Athletic Campus. There are over 100 structural storm water BMPs installed throughout the UMAA, UMF, and UMD campuses.

**PCSW-3 Operation & Maintenance of Best Management Practices**

Any non-structural BMPs that are implemented at a facility are incorporated into day to day activities for the operation of the facility or into maintenance schedules. Structural BMPs related to storm water detention and retention basins are subject to scheduled maintenance inspections. Non-scheduled activities are completed as they arise.

Storm water management basins on campus will be inspected annually, at a minimum. The number and frequency of inspections of storm water basins will be tracked for subsequent reporting. Maintenance issues identified during these inspections will be tracked until corrected.

| Storm water management basins on campus will be inspected annually, at a minimum. The number and frequency of inspections of storm water basins will be tracked for subsequent reporting. Maintenance issues identified during these inspections will be tracked until corrected. | FY 2008-2009 (annual) | ✓ | ✓ | ✓ |
U-M Ann Arbor
- Annual inspections were completed on the 49 surface storm water management basins on campus by U-M personnel during this reporting period during summer 2016. Storm water management basins were also maintained through mowing, invasive plant removal, and controlled burns.

U-M Dearborn
- UMD did not have storm water management basins.

U-M Flint
- UMF has initiated inspections of the catch basins as part of the dry weather screening activities. Additionally, during normal grounds area inspections, drains and areas around drains are also inspected, and if problems are observed they are reported appropriately.

PCSW-4 Site Plan Review

The U-M has established programs to control the quality of storm water runoff from development or redevelopment activities through the review of site plans. This program is the same as that used for controlling storm water runoff on construction sites.

<table>
<thead>
<tr>
<th>PCSW Activity Measurable Goals</th>
<th>Initial Action Reported in</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In Compliance</td>
</tr>
<tr>
<td>OSEH/EHSEM/EHS and/or the University Planner’s Office review all plans to ensure projects have adequate post-construction storm water management controls. The number of plan reviews will be tracked for subsequent reporting.</td>
<td>FY 2008-2009 (annual)</td>
<td>✓</td>
</tr>
</tbody>
</table>

U-M Ann Arbor
- Approximately 176 plan reviews were performed during this reporting period with five (5) requiring a separate SESC Plan review and approval and one (1) of the five (5) requiring an MDEQ Notice of Coverage. Sites with greater than one acre of earth disturbance are evaluated as required to meet the PCSW control requirement.

U-M Dearborn
- UMD had two (2) SESC projects that EHSEM reviewed for appropriate soil erosion and sedimentation control best management practices such as silt fence and inlet filters.

U-M Flint
- UMF reviewed many project scopes/drawings to determine if SESC measures were necessary. Of those project scopes and related documents reviewed, no projects required general monitoring/inspections throughout the duration of the projects. However, outdoor work activities are monitored to ensure soil and debris do not enter storm drains during the course of work activities.
vi. Construction Storm Water Runoff Control

In 1982, the U-M received approval from the Michigan Department of Natural Resources to operate as an Authorized Public Agency (APA) under the authority of Part 91, Soil Erosion and Sedimentation Control (SESC) of the Natural Resource & Environmental Protection Act, 1994 PA 451, as amended (Part 91). Reauthorization of U-M’s APA status was received in 2004 from the Michigan Department of Environmental Quality. APA status allows the U-M to establish and manage the Soil Erosion and Sedimentation Control procedures on its properties. Construction activity at U-M may involve contractor or in-house construction activities performed by Plant Operations.

The overall CSW program accomplishes the following goal:

- Provide and implement controls to minimize or prevent impacts on water quality from construction activity.

Table 9 presents the status of each Construction Storm Water Runoff Control activity, associated measureable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 10 includes activities that go beyond the expectations of the original measurable goals.

Table 8 Additional Post-Construction Storm water Control Activities

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
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<tbody>
<tr>
<td>All Campuses</td>
</tr>
<tr>
<td>• Construction sites are stabilized with the addition of permanent controls and vegetation to reduce the amount of sedimentation that could impact receiving waters.</td>
</tr>
<tr>
<td>• OSEH works with Construction Management to implement standard protocols to dye test the internal piping in new building construction and building renovation projects to confirm proper connection to the sanitary sewer system. A program for confirmation of taps to exterior pipes is already in place.</td>
</tr>
</tbody>
</table>

Table 9 Construction Storm Water Runoff Control Activities

<table>
<thead>
<tr>
<th>CSW-1 Site Plan Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>The U-M has established programs to control the quality of storm water runoff from development or redevelopment activities. Plans for new development are subjected to a U-M internal review process to ensure that storm water quality is adequately controlled during construction and after completion of the new development. Efforts are underway to insert storm water management controls into the front end of all projects. Examples of efforts on projects include control of sedimentation using silt screens or other measures, controlling sediment tracking from construction areas through increased street sweeping, and using hydroseeding to control runoff once construction efforts are completed. Reviews of all projects are performed by the Plant Extension or The University of Michigan Hospitals and Health Centers (UMHHC) architect or engineering staff.</td>
</tr>
<tr>
<td>CSW Activity Measurable Goals</td>
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<tr>
<td>Formal SESC plans are required for sites with earth disturbance (greater than 24 hours) of 1 acre or greater and projects (of any size) within 500 feet of “Waters of the State.” The number of SESC site plan reviews will be tracked annually for subsequent reporting. This review process allows OSEH/EHS/EHSEM to require projects to insert storm water management controls into the front end of all projects.</td>
</tr>
</tbody>
</table>

**U-M Ann Arbor**
- During this reporting period five (5) projects required a separate SESC Plan review and approval and one (1) of the five (5) required an MDEQ Notice of Coverage.

**U-M Dearborn**
- UMD had two (2) projects that triggered formal SESC plan review.

**U-M Flint**
- UMF did not have any projects triggering formal SESC plan review.

**CSW-2 Best Management Practices (for SESC on construction sites)**

*Best Management Practices are used for construction projects to prevent soil erosion and sedimentation from leaving the property. The following list represents examples of erosion and sedimentation controls for which specific BMPs have been developed. Copies of the BMPs can be found in the Manual and are used, as appropriate, based on the specific needs for a construction site. Note that not all sites will need to use all of these practices.*

- Access Roads
- Construction Barriers
- Tree Protection
- Buffer and Filter Strips
- Filter Fencing
- Storm Drain Inlet Filter Fabric
- Street Sweeping
<table>
<thead>
<tr>
<th>CSW Activity Measurable Goals</th>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>The use of BMPs is required on all projects under the approved SESC Procedures for the University. The number of projects using the BMPs identified above for SESC will be tracked annually for subsequent reporting. BMPs will be selected as appropriate for site conditions.</td>
<td>FY 2008-2009 (annual)</td>
<td>✓ ✓ ✓</td>
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</table>

**U-M Ann Arbor**
- Approximately 103 UMAA projects during this reporting period used a variety of SESC BMPs on their sites. Examples of BMPs included, but are not limited to, the use of vegetation, silt fences, catch basin inlet filters, check dams, temporary roof conductors, street sweeping, dewatering bags, erosion eels, anti-trackout pads (aggregate), metal anti-trackout grates, water - for suppressing dust, wheel wash station (MobyDick Wheel Wash 400c), sediment retention barrier (Double Silt Fence w/Mulch in between), sediment forebays, temporary seeding, soil pile tarps, and rip-rap.

**U-M Dearborn**
- UMD had two (2) SESC projects and utilized appropriate soil erosion and sedimentation control BMPs i.e., silt fence, inlet filters, etc.

**U-M Flint**
- UMF had several small minor projects with limited earth disturbance and not requiring a SESC permit i.e. sidewalk repairs, etc., requiring short term SESC measures during the reporting period.

---

**CSW-3 SESC Inspections**

*Inspections of work sites are essential to controlling erosion and sedimentation concerns. Personnel from several departments have received SESC training from the MDEQ. This provides a strong base of personnel to draw upon to regularly review maintenance, renovation, and construction sites. The inspections focus on requirements of site-specific erosion and sedimentation control plans for the project. Conditions can change at maintenance, renovation, and construction sites and the inspectors should make adjustments to the erosion and sedimentation control measures, as needed.*

OSEH/CSS/EHS or their designee, who have received a MDEQ SESC certificate of training, will inspect sites weekly during maintenance, renovation, and construction activities and following significant rain events to ensure compliance with the UM SESC procedures and Part 91. Sites 1 acre and above will be inspected within 24 hours of the rain event to comply with National Pollution Discharge Elimination System (NPDES) inspection requirements.

Issues and concerns will be referred to the project/construction manager or designee for correction. The contractor will make any necessary repairs or corrections to the control measures within 24 hours, if waters of the state are being impacted. Other corrections, not impacting waters of the state will be made within 5 days. The project/construction manager will report any issues that cannot be corrected within 5 days to OSEH. Additional detail as to why the correction cannot be made in that time frame will be required.
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<th>CSW Activity</th>
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Sites will be inspected weekly and after significant rain events until final stabilization of the project site. The number of SESC inspections performed annually on U-M sites will be tracked for subsequent reporting.

U-M Ann Arbor
- Approximately 1,329 weekly and after storm SESC inspections were performed during this reporting period.

U-M Dearborn
- UMD conducted approximately 182 weekly and after storm SESC inspections in four sites.

U-M Flint
- There were no projects on UMF campus that required a SESC permit or weekly monitoring/inspections; however EHS wanted to ensure best management practices were in place nonetheless and performed periodic inspections regardless of SESC requirements related to very small projects i.e. sidewalk repairs, etc.

Select staff from OSEH, EHSEM, EHS and the University Planner’s Office will be SESC trained by MDEQ. The number of U-M staff who have received MDEQ SESC training will be tracked annually for subsequent reporting.

- Six (6) total U-M staff have received comprehensive SESC training from MDEQ and are current with the associated Certificate of Training.

Select U-M staff from OSEH University Planner’s Office and Construction Management/AEC will be certified in Storm Water Management for Construction Sites. The number of U-M staff who have received MDEQ certification will be tracked annually for subsequent reporting.

- Eleven (12) U-M staff are Certified Storm Water Operators in the State of Michigan for Construction sites at the time of this report.
- Four (4) U-M staff have received Industrial storm water training from MDEQ and are current with the associated Certificate in Training.
CSW-4 Sedimentation Control During Maintenance Activities

Some maintenance activities do not typically have a formal design or specification prepared. They are performed on a work order or emergency basis by Plant Operations or other UM departments such as UMHHC or Athletics. The supervisor overseeing the maintenance activity will be responsible for ensuring appropriate sedimentation control measures are implemented during field work. These procedures will be used for routine operations; however, in emergency situations human life and the safety and operation of the facilities and infrastructure are of overall importance. In those cases, work will be performed to minimize any immediate danger and stabilize the situation, and sedimentation control actions will follow. This chain of actions may require the use of an outside contractor to clean the storm water drainage system following the maintenance activities to prevent or minimize sediment transport to the Huron River. In addition to the BMPs listed above, the following BMPs will be used by the maintenance supervisor during activities that disturb soil to the degree where sediment transport could occur.

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<th>CSW Activity Measurable Goals</th>
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<td>In Compliance</td>
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<tr>
<td>The use of SESC controls is required for all maintenance projects involving earthwork. The number of SESC inspections performed annually on U-M sites will be tracked for subsequent reporting.</td>
</tr>
</tbody>
</table>

- During this reporting period, U-M staff performed SESC inspections, as described above in CSW-3.

**Table 10 Additional Construction Storm Water Runoff Control Activities**

**Activities**

- **All Campuses**
  - Contractors at U-M are required to clean/sweep construction areas and adjacent areas to prevent track-out from a work site.
  - A street sweeper is recommended by U-M for contractor usage at construction sites to reduce the amount of sediment that could potentially reach receiving waters.
  - The storm water drainage system is vacuumed periodically to remove sediment buildup within the system and to lessen potential sediment impacts to receiving waters.
  - The post-construction storm water guidelines and soil erosion and sedimentation control requirements for construction projects are incorporated into the project specifications and bid documents.
  - The U-M “no smoking” policy has nearly eliminated cigarette debris from campus grounds.
  - OSEH/EHS personnel from all campuses are circulating around campus daily to address reported issues as well as checking on various project areas (e.g. covering a dumpster, debris/litter, inappropriate outdoor storage by contractors, etc.).
  - Street sweeping of roads and parking lots/structures is implemented regularly on all campuses at least twice...
vii. Pollution Prevention/Good Housekeeping for Municipal Operations

The University’s storm water pollution prevention and good housekeeping initiatives include, but are not limited to the following six areas:

- Structural Controls
- Roadways
- Fleet Maintenance
- Storm Sewer Labeling
- Flood Control Projects
- Pesticides and Fertilizers

Each area has operation and maintenance Best Management Practices with the ultimate goal of reducing and in some cases preventing pollutant runoff from University operations to the maximum extent practicable. The overall P2/GH program accomplishes the following goal:

- Develop and implement a program of operational and maintenance Best Management Practices to prevent or reduce pollutant runoff from University operations.

Table 11 presents the status of the activities supporting Pollution Prevention/Good Housekeeping for Municipal Operations, associated measurable goals as written in the SWMPP, and current or past activities supporting the measurable goals. Table 12 includes activities that go beyond the expectations of the original measurable goals.

Table 11 Pollution Prevention/Good Housekeeping for Municipal Operations

<table>
<thead>
<tr>
<th>P2/GH-1 Structural Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural controls are permanent physical features that control and prevent storm water pollution. Each structural control has routine scheduled maintenance and long-term inspection procedures to ensure that they remove storm water pollutants to the maximum extent practicable.</td>
</tr>
<tr>
<td>Several retention and detention basins have been identified as part of the UM storm water system. These structures receive direct run-off from the UM storm water system and are defined in Appendix F [of the SWMPP]. The U-M has provided a spreadsheet identifying additional structural controls with inspection and maintenance schedules in Appendix K [of the SWMPP].</td>
</tr>
</tbody>
</table>
Storm water management basins will be inspected annually during the permit term. The number and frequency of inspections on the U-M retention basins and detention basins will be tracked for subsequent reporting.

- Annual inspections were completed on the 49 surface storm water management basins on campus by U-M personnel during this reporting period during summer 2016. These storm water management basins were also maintained through mowing, invasive plant removal, and controlled burns.

Maintenance cleaning of the catch basins and storm sewer system piping will be performed periodically, with higher traffic areas and those identified via service requests receiving more attention. The goal will be to clean all catch basins in the system at least once per 5-year cycle. The number of catch basins maintained will be tracked for subsequent reporting.

U-M Ann Arbor
- Catch basins across the UMAA campus are cleaned and the sewer lines water jetted. Liquid waste is decanted and drained to approved sanitary locations and the remaining non-hazardous sediment and debris is transported for disposal off-site. To more effectively handle the storm and sanitary cleaning solids, UMAA constructed a covered storage pad for drying the solids. The solids are then loaded onto a dump truck or a roll-off container and transported to a sanitary landfill for proper disposal as non-hazardous, non-regulated waste.
- The UMAA has moved to a GIS-based system for catch basin cleanout which has improved tracking for reporting. During the reporting period, 1,467 catch basins were cleaned and approximately 320 cubic yards of debris was removed from the storm lines, catch basins and manholes.

U-M Dearborn
- UMD continued implementing their 5-year cycle catch basin cleaning strategy and cleaned a total of 37 at the main campus.

U-M Flint
- At UMF catch basins are inspected and cleaned out as needed by F&O staff. This activity tends to occur more frequently in the fall when leaves and debris are more likely to accumulate near grate openings. F&O staff logged approximately 13 hours of cleaning catch basins during the report period. The total volume of catch basin cleanout activities was not individually recorded, but is included in the total of 850 cubic yards of all sweeping and litter waste collected over the reporting period. Ventilation pits are cleaned on an as needed basis, and required 15 hours of labor for this reporting period. During the last reporting period, there were a modest amount of catch basin repairs that were required around campus, however, during this reporting period, there has not been such repairs reported.
P2/GH Activity
Measurable Goals

<table>
<thead>
<tr>
<th>Initial Action Reported in:</th>
<th>Current Status</th>
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<td>In Compliance</td>
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</table>

By October 1, 2011, a list of municipal properties and structural storm water controls owned or operated by U-M will be created, which includes the type and number of properties and structural controls. This list will be kept on file.

P2/GH-2 Roadways and Parking Structures

The University maintains numerous parking structures and surface parking lots throughout its campuses. Maintenance of the UM roadways and parking structures incorporates sediment control activities. Street sweeping removes potential storm water pollutants before they are carried into receiving waters in runoff from a storm event. Street sweeping and leaf and litter collection is performed by the University in an effort to prevent large debris from entering the storm water system. Litter is disposed as normal municipal waste and leaves are composted in two locations that are well away from system catch basins or inlet structures. Maintenance activities on these structures and surfaces include street sweeping, leaf pick-up, litter and pollution controls, snow and ice removal, and roadside vegetative maintenance. These activities are discussed in greater detail below.

Street sweeping, leaf and litter collection will be performed periodically throughout the permit term. The cost for disposal and estimated quantity of debris, trash, dirt, etc. disposed from the maintenance and cleaning/sweeping of numerous parking structures, surface lots and roadways throughout the University will be tracked for subsequent reporting.

| FY 2008-2009 (annual) | ✓ | ✓ | ✓ |

- Approximately 1,748 cubic yards of waste was sent for disposal from the cleaning and maintenance of parking lots and structures throughout the UMAA campus. The combined estimated cost for disposal and labor is approximately $1,301,343.

- UMD personnel spent approximately 3,500 hours collecting litter, removing about 1,200 yards of debris. Fairlane Center personnel collect litter weekly from April through November and monthly from December to March, a total of 36 hours were completed.

- At UMF, 21 hours of labor at a cost of $665 was spent for street sweeping, 9 hours of labor at the cost of $252 for sweeping/cleaning parking lots and structures. Total labor associated with street, parking sweeping and cleaning of ramps is logged at approximately 30 hours. Daily litter pickup involved more than 2,806 hours over the reporting period. The total of all labor costs associated with cleaning, sweeping and litter pick up for the reporting period is approximately $75,000. The total of all sweeping and litter waste yielded an estimated 850 cubic yards for disposal. Disposal costs are estimated at $2865.

- A strategy to reduce the runoff of TSS from paved surfaces to the maximum extent practicable, with a goal of reducing the annual TSS loading by 25% as compared to annual loading with no suspended solids controls will be developed (2010-2012) and implemented (2013) at the University. An estimate of the TSS loading reduction achieved through this strategy will be documented.

<p>| FY 2012-2013 (annual) | ✓ | ✓ |</p>
<table>
<thead>
<tr>
<th>P2/GH Activity</th>
<th>Measurable Goals</th>
<th>Initial Action Reported in</th>
<th>Current Status</th>
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<td>In Compliance</td>
<td>Completed as Previously Reported</td>
</tr>
<tr>
<td></td>
<td>Develop BMPs to control dust and suspended solids in runoff from unpaved roads and parking lots. A list of unpaved roads and parking lots will be created (2010-2011).</td>
<td>FY 2011-2012 (mid-year)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>The use of coal tar emulsions to seal asphalt surfaces will be prohibited, as required in the permit. Plan reviews for construction and renovation projects involving asphalt will include comments from OSEH/EHSEM/EHS prohibiting the use of coal tar emulsions for U-M projects. Comments on construction and renovation projects are kept on file at the OSEH/EHSEM/EHS offices.</td>
<td>FY 2009-2010 (annual)</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Incremental annual reduction in the use of salt for de-icing to reach 50% reduction based on an average annual use of 2600 tons per year at UMAA from 1989 to 1999. The quantity of salt used for deicing will be tracked on an annual basis.</td>
<td>FY 2008-2009 (annual)</td>
<td>✓</td>
</tr>
</tbody>
</table>

**U-M Ann Arbor**
- UMAA used approximately 1,800 tons of treated and untreated rock salt during this reporting period which is a decrease of approximately 31% from the average annual use amount of 2,600 tons per year from 1989 to 1999. The decrease can be attributed to typical snowfall in Ann Arbor, the use of BMPs, and the use of rock salt alternatives.

**U-M Dearborn**
- UMD used 400 tons of sodium chloride.

**U-M Flint**
- UMF used approximately 74 tons of salt during this reporting period, which is a decrease of 126 tons from the previous year. This was attributed to less snowfall compared to the previous reporting period. The University continues to try to decrease usage and increase replacement with other effective alternatives.

Increase the use of alternative de-icers annually to replace/supplement salt use. The quantity of alternative de-icers will be tracked on an annual basis.

<table>
<thead>
<tr>
<th></th>
<th>FY 2008-2009 (annual)</th>
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<th>✓</th>
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</thead>
</table>

In the 2015-16 season, the following alternative de-icers were used at **UMAA**:
- Safer than Salt: 5 tons
- Dragonmelt: 84 tons
- Near Zero: 13 tons
- Caliber M-1000: 4,400 gallons

In the 2015-16 season, the following de-icers were used at **UMD**:
- Ice Trax: 20 tons
- Caliber M 1000: 800 gallons

In the 2015-16 season, the following de-icers were used at **UMF**:
- Caliber M-1000: 6,500 gallons
- Bagged Ice Melter: 1.5 tons
## P2/GH Activity

### Measurable Goals

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<tr>
<th>Initial Action Reported in:</th>
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</table>

All applicators (technicians) will be trained in pesticide and fertilizer use. The number of pesticide and fertilizer technicians will be tracked on an annual basis.

FY 2008-2009 (annual)

| Indicated | Indicated | Indicated |

### U-M Ann Arbor

- The UMAA currently employs 94 certified herbicide/pesticide applicators.

### U-M Dearborn

- UMD has six (6) certified pesticide technicians.
- UMD has a contract with TruGreen to conduct large treatments/spraying. TruGreen has a non-phosphorus policy.

### U-M Flint

- UMF employs seven (7) certified technicians.

Eliminate the need for vegetative replacement due to salt damage to the maximum extent practicable. The need for replacement vegetation will be tracked for subsequent reporting.

FY 2008-2009 (annual)

| Indicated | Indicated | Indicated |

### U-M Ann Arbor

- At UMAA, only de minimis amounts of vegetative replacement were required during the 2015-2016 fiscal year. Replacement costs were not tracked due to the limited nature.

### U-M Dearborn

- At UMD, approximately 150 pounds of grass seed, 50 pounds of starter fertilizer, 16 bales of straw, 60 yards of topsoil, 20 yards of compost, and 145 square yards of sod were required for vegetative replacement due to salt damage.

### U-M Flint

- Limited vegetation replacement was needed at UMF during the reporting period. Involving 50 pounds of grass seed to address <1,000 square feet of damaged turf. Approximately 400 yards of mulch was also applied.

## P2/GH-3 Fleet Maintenance

*The UM owns and operates a large fleet of vehicles, including buses and cars, that is maintained by the Transportation Department. The UM also owns and operates a fleet of equipment, including lawn mowers and rototillers that is maintained by G&WM and Facilities Management. All vehicles and equipment are regularly maintained to ensure proper and effective operation as well as prevent impacts on storm water quality.*

<table>
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<tr>
<th>Action</th>
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<tbody>
<tr>
<td>In 2010-2012, Develop SWPPPs for all fleet maintenance and storage yards/facilities at U-M.</td>
<td>FY 2012-2013 (mid-year)</td>
</tr>
<tr>
<td>In 2013, implement all SWPPP for fleet maintenance &amp; storage yards at U-M.</td>
<td>FY 2013-2014 (mid-year)</td>
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</table>
P2/GH-4 Storm Sewer Labeling

As of March 10, 2004, any outfall structure that the UM constructs or installs that discharges storm water directly to waters of the State will provide permanent identification (e.g. label, color coding, or other identifying characteristic).

The storm drains placed on campus come with the message "Dump No Waste - Drains to Waterways" engraved on it. Storm drain grates already in place will be marked with a curb marker with the message "Keep our Michigan Waters Blue: Dump No Waste - Flows to River" or similar.

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<th>P2/GH Activity</th>
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<td>Initial Action Reported in:</td>
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<td>All U-M storm drains will be marked with the message &quot;Dump No Waste - Drains to Waterways&quot;, &quot;Keep our Michigan Waters Blue: Dump No Waste - Flows to River&quot; (or similar message) during the permit cycle. The number of storm drains marked will be tracked annually for subsequent reporting.</td>
<td>In Compliance</td>
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UM-Ann Arbor
- Eighteen (18) storm drain markers were installed/replaced at UMAA during the reporting period on catch basins, storm drain inlets, and trench drains draining to the storm water network throughout campus. Special attention is given to areas near the Football Stadium and associated parking, as well as higher use walkways on Central Campus (the Diag, North University Avenue, South University Avenue, and CC Little). Existing storm drain markers are replaced, as needed, due to general wear and fading or loss.

UM-Dearborn
UMD did not install/replace labels this past fiscal year.

UM-Flint
- UMF utilizes EHS interns and students to label the catch basins and drain inlets on the Flint Campus. More than 75% have been labeled in previous reporting years; however, some labels become damaged or unreadable due to fading over the course of the winter, so replacement labels/stencils are necessary. Drain marker replacements were made during the fall of 2015, and will occur once again during fall 2016. Stenciling events will again utilize student volunteers and EHS staff to assess the labels in place and install new labels or a stencil adjacent to the drain if one is missing or damaged. Approximately 70 storm drains were stenciled in FY 2015-2016.

P2/GH-5 Pesticides and Fertilizers

The application of pesticides and fertilizers is controlled by several departments including G&WM, Facilities Management, Athletics, Matthaei Botanical Gardens, Radrick Farms and Nichols Arboretum, depending on the location. The University employs Integrated Pest Management (IPM) methodology, an ecological approach to pest management, in University buildings. All available techniques are used to reduce pest populations to acceptable levels while minimizing the potential impact of pesticides upon humans and the environment.
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<th>P2/GH Activity</th>
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**Table 12 Additional Activities for Pollution Prevention/Good Housekeeping for Municipal Operations**

**Activities**

**U-M Ann Arbor**

- U-M partnered with the Ann Arbor’s Clean Energy Coalition, the City of Ann Arbor, Ann Arbor Transportation Authority, and the Downtown Development Authority to launch a new bike share program called, ArborBike. ArborBike launched thirteen of fourteen bike share locations in the fall of 2014 and spring of 2015. One additional bike share location will be added this year. Each share location includes several rental bikes that are available for any bike share member.

- The Radrick Farms and U-M Golf courses have extensive green certifications for their responsible land management practices, including the Washtenaw County Community Partners for Clean Streams, which specifically targets water quality. They also utilize expertise from the Michigan Turfgrass Environmental Stewardship Program (MTESP), the Michigan Clean Corporate Citizens Program, the ePar environmental management system and the Audubon Cooperative Sanctuary Program. To receive MTESP certification, grounds management crews must demonstrate practices that prevent pollution, reduce energy and waste, and protect water resources. The university plans to work with the State of Michigan to expand the MTESP certification to include the broader campus areas, making the Ann Arbor campus one of the first to earn the certification beyond golf course borders. In 2015, the U-M Wilpon Baseball and Softball Complex was awarded the MTESP certification.

- The U-M Radrick Farms Golf Course has also been awarded the Clean Corporate Citizen (C3) designation from the MDEQ in 2014. According to Jim Sygo of the DEQ, “Michigan’s C3 program is one of the most rigorous and long-standing environmental stewardship programs in the nation, requiring facilities to have an active Environmental Management System; a strong environmental compliance history; and pollution prevention goals and measures in place.” While the Radrick Farms Golf Course is outside of the urban area boundary, U-M still considered this prestigious award worth mentioning.

- UMAA updated the snow storage guidance document in November 2015. In an effort to reduce negative impacts associated with snow storage on UMAA campus, OSEH developed improved general requirements for all approved snow storage sites on campus and also developed new site specific requirements. In addition, OSEH met with appropriate parties (e.g., Athletics, Parking & Transportation) to review inspections of snow storage locations and discuss findings, if any.

- In September of 2011, former U-M President Mary Sue Coleman revealed several sustainability goals for
Activities

the entire University. One such goal is to reduce synthetic land management chemicals by 40% by the year 2025, as compared to a 2006 baseline measurement. These sustainability metrics are tracked on a calendar-year basis. For the 2015 calendar year, the use of synthetic land management chemicals has already been reduced by 54%, as compared to the 2006 values.

- In October 2015, current U-M President Mark Schlissel reiterated the importance of the sustainability goals and especially the need for education and community awareness programs. A committee to identify additional methods to reach our constituency was put in place.

U-M Dearborn

- The two rain gardens on the UMD campus are located at the Environmental Interpretive Center and they demonstrate methods of keeping storm water on site. A collaboration of various organizations including Wayne County Master Gardeners, the Student Environmental Association, and individuals from the surrounding communities has helped this garden grow. They are maintained by 2 student interns and many volunteers who have put in more than 200 hours of maintaining the rain gardens and the Community Organic Garden.

U-M Flint

- EHS has had three student interns working during this report period that played a key role in annual storm water and spill prevention training, storm water awareness and education, as well as SWPPP compliance inspections. One intern is from UMF Earth and Resource Science Department and devoted their time to performing annual F&O employee training sessions, updating training and website materials, assisting F&O with quarterly inspections and coordinating storm water stenciling and Flint River clean-up activities. Another intern assisted on several projects involving the update of the campus’ Integrated Pest Management Plan, as well as storm water education and other related health/safety initiatives. The third intern focused much of their work effort on improving storm water and other environmental related communications to the campus community presented on the UMF EHS website.

2) Environmental Impacts –

Provide an assessment of the pollution reduction and probable receiving water quality impacts associated with program implementation. Include any negative water quality impacts that may have occurred as a result of any illicit discharges or accidental spills during the past year.

Storm water management is recognized as a significant challenge for the campus and control options are given careful consideration. A major goal of the many BMPs identified and implemented at the University is to reduce the discharge of sediment and associated pollutants to the receiving waters. The control program begins in the project design phase, by providing guidelines for storm water management and soil erosion and sedimentation control on campus and continues through the construction phase of the many projects on campus. The BMPs below have been implemented at the University. Probable impacts to water quality from these BMPs are taken from the MDEQ’s Index of Best Management Practices/Individual Best Management Practices.

- **Catch Basins/Cleanout Procedures**: These procedures are reasonably effective in protecting sewers from receiving loads of coarse solids.

- **Oil/Water Separators and Hydrodynamic Separators**: These devices remove coarse sediment and oils from storm water prior to delivery to a storm drain network, the ground, or other treatment.
Storm Water Management Basins: Although the primary function of these basins is to provide first-flush holding capacity for storm water, the design also provides for sediment deposition within the basin structure which can significantly reduce fine sediment and the pollutants (e.g., phosphorus) associated with them. Detention basins can be effective at removing sediment, non-soluble metals, organic matter and nutrients through settling. Up to 90% of particulates may be removed if the storm water is held for 24 hours or more. Sediment basins can be very effective in preventing sedimentation of downstream areas. Coarse and medium size particles and associated pollutants will settle out in the basin. Suspended solids, attached nutrients, and absorbed non-persistent pesticides may break down before proceeding downstream. Because sediment basins also retain water, they may increase recharge to ground water.

Street Sweeping: This practice removes 50-90% of street pollutants that potentially can enter surface water through storm sewers. Street sweepers will also make road surfaces less slippery in light rains, improve aesthetics by removing litter, and control pollutants which can be captured by the equipment.

Illicit Connections – One illicit connection was identified during the 2015-16 reporting period at the Medical Science I building. Minimal adverse impacts to water quality are anticipated as the cross connection is inside a mechanical room with only condensate discharging to it. Signs are posted indicating “No Dumping – Drains to River.”

Illicit Discharges: Minimal adverse impacts to water quality occurred, as the U-M’s 24-hour emergency response teams were able to prevent a majority of outdoor spills (36 of 38) from reaching the storm water system and surface waters of the State. Two (2) events occurred during this reporting period that reached surface waters of the state. Discharges included hydraulic oil from a damaged hose on a street sweeper reaching Millers Creek and an oily sheen seen in Fair Lane Lake adjacent to a 55-gallon garbage bin. MDEQ was immediately notified on both occasions and the discharges were contained and removed from the waterway.

3) Water Quality Assessment –

Provide an assessment of the water quality conditions within the jurisdiction.

Huron River - The following information was compiled from the HRWC. Note that this discusses issues with the watershed as a whole and is not exclusive to UMAA.

Permittees within the Middle Huron River Watershed agreed to work with the HRWC to develop and conduct a water quality monitoring program to collect data and assess the water quality within the river and tributaries. There are five storm water-related TMDLs in the middle Huron River watershed. While the current permit does not specifically require reporting on TMDLs, permittees and watershed partners have funded monitoring to determine progress toward meeting each TMDL. This monitoring program is also used to determine status and trends of water quality within the Middle Huron River Watershed affected by storm water discharges. HRWC submitted a plan for this monitoring as an appendix to SWPPPs and SWMPs, and subsequent permit applications, submitted by permittees within the watershed. That plan was titled “Middle Huron Storm water Plan for Addressing Total Maximum Daily Loads (TMDLs).”

Subsequently, HRWC had conducted water quality monitoring each year between April and September. They will report the results of this monitoring following the inclusion of results through September. Reports are available for 2001 through 2014 via the SAG website at [http://www.hrwc.org/middle-huron-sag/](http://www.hrwc.org/middle-huron-sag/).

Much of this data analysis was also included in the evaluation of four water quality impairments within the watershed. Based on this analysis and discussion with the SAG, implementation plans were developed and submitted to MDEQ for each of the following four TMDLs:

- Ford Lake and Belleville Lake – impaired for excessive phosphorus
- The Huron River between Argo and Geddes Dams – impaired for pathogens
- Malletts Creek – impaired for aquatic life and habitat
- Swift Run -- impaired for aquatic life and habitat

All plans are posted on the SAG website at [http://www.hrwc.org/middle-huron-sag/](http://www.hrwc.org/middle-huron-sag/).

In addition to those four impairments, a TMDL was also developed for Honey Creek (pathogens) in 2009. HRWC received funding, with support from the Middle Huron SAG to monitor and develop an implementation plan for that impairment in 2011-13. A report on the monitoring results was completed at the end of 2013 and a WMP was submitted and approved by MDEQ and the U.S. Environmental Protection Agency in 2014. Details and products on that project can be found at [http://www.hrwc.org/honey-creek/](http://www.hrwc.org/honey-creek/). No additional watershed stressors beyond those listed above and others originally listed in the WMP have been identified.

**Rouge River**

The Rouge River does not meet state and federal water quality standards due to excess nutrient concentrations and *E. coli* pathogen levels. A fish consumption advisory was issued for polychlorinated biphenyls that exceed state levels. The following benthic monitoring information was compiled from the FOTR for the watershed, not exclusive to UMD.

The FOTR Spring 2015 Report covers benthic macro-invertebrate monitoring at 60 sites on the Rouge River, tributaries and branches. The majority of sites, 58%, had a fair stream quality index (SQI); three sites had an excellent SQI; 16 sites had a good SQI, and six sites had poor SQI scores. A trend analysis was conducted by sub-watershed and on a site-by-site basis, when there was enough data. In comparison with past data, three of the sub-watersheds had significant positive trends indicating improved benthic communities. No other watersheds had significant trends.

**Flint River**

The Flint River does not meet state and federal water quality standards due to fish consumption advisory for polychlorinated biphenyls and/or mercury that exceed state levels. The FRWC publication, “Flint River GREEN Report 2015” provides information on water quality for the entire watershed, not exclusive to UMF, through the use of water quality index ratings. The FRWC also recently published an article with updated information regarding the water quality of the Flint River by testing for lead, water conductivity testing and benthic testing. This article was entitled; *Flint River testing in light of Flint’s Drinking Water Crisis*. Some of the findings from both of these documents are highlighted below.

The Flint River GREEN annual report for 2015 provided water quality index (WQI) ratings for eighteen testing locations within the Flint River watershed. The WQI ratings (0-100) were based on the following field tests/parameters: dissolved oxygen, fecal coliform, BOD, pH, nitrates, turbidity, total solids, temperature, and total phosphate. Of the eighteen sampling locations, twelve (12) sites received “good” WQI ratings (89-70), five (5) received “average” WQI ratings (69-50), and one received a ‘Marginal’ WQI rating, at 49.44. Furthermore, this report indicates that the closest upstream location relative to the UMF campus, Stepping Stone Falls, received an average WQI, at 55.39, and the closest downstream location, at Mott Park Golf Course has a good WQI, at 71.69.

The article; *Flint River testing in light of Flint’s Drinking Water Crisis* provided water quality results from the Flushing Township Nature Park, which is downstream of the Flint Water Treatment Plant and the UM-Flint campus. Testing included benthic tests, tests for conductivity, and lead testing. Benthic macro-invertebrate monitoring was conducted for these tests, indicated that 20 of the 35 monitoring sites consistently had around 2-5 ‘pollution intolerant’ species of macro invertebrates. The article indicates that this is an indicator of good to excellent water quality conditions. Conductivity tests were also conducted as an indicator of corrosiveness. This article showed the conductivity results of 12 locations upstream of the Flint Water Treatment Plant. The average
value for the twelve locations was approx. 640 micro Siemens per centimeter (µS/cm). The FRWC sampling results for lead were reported to be non-detectable at the sample locations in the river. Testing occurred in three locations, two of which were upstream of the UMF campus and the Flint Water Treatment Plant, and one downstream of Flint’s Wastewater Treatment Plant outfall.

4) Data & Results –

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

UMAA partners with the HRWC for monitoring data collection and analysis. Updated monitoring data is described in the Water Quality Assessment Section, above.

5) Upcoming Activities –

Provide a summary of the storm water activities to be implemented during the next annual reporting cycle. Include schedules for elimination of any illicit connections identified but not disconnected prior to annual report submittal.

The U-M will continue its on-going programs including:

Public Education and Outreach:

- Continue to develop/add additional brochures and guidelines (print or electronic) to fill any gaps in the topics needed to meet the permit requirements.
- Distribute storm water educational materials (brochures and bookmarks) to members of the campus community and new employees.
- Continue to update the UMAA, UMD, and UMF storm water websites.
- Continue to review website information dissemination and coordination strategy (all campuses) so that it can reach the target audiences.
- Install additional storm water curb markers, with the dump no waste, flows to river slogan.
- Continue to provide information on household hazardous waste disposal options in the area via the U-M website.
- Continue OSEH sanitarian work with kitchen and food vendors on campus to ensure proper waste management and disposal methods are used.
- Continue work with U-M staff to improve waste handling procedures.
- Work with Athletics to request continued storm water educational announcements at the U-M home football games and to request use of the stadium display boards.
- Continue to evaluate opportunities to contribute articles to newsletters including the OSEH Update Newsletter.
- UMD includes storm water education as a topic in monthly new hire training, and will be implementing a new notification program that provides all new hires with information on the required storm water training and a link to the UMD storm water website.
- UMF storm water bookmarks are distributed to individuals at the UMF bookstore, library, and information desks. Additionally, UMF has distributed storm water educational mouse pads to computer labs on UMF campus.
UMF coordinates with the other local colleges and hosts the 2016 Recycle Challenge as well as the annual Earth Day Celebration for the campus and surrounding communities that occurs each April. EHS also led a zero waste effort to recycle and compost the leftover food and materials from the annual Lula M. Hurse Food Giveaway.

UMF EHS conducts Storm water and Spill Prevention training for key employees annually. Training sessions are currently in progress and will be completed by the end of summer 2016. Previous training sessions occurred between August and October 2015.

UMF EHS inspects drain labels/stickers annually and will install/replace label or stencil storm drains with “Dump No Waste” stickers, as needed. The last storm drain stenciling event was during the fall of 2015.

Public Involvement/Participation:

- Continue to work with the Millers Creek Action Team, Mallets Creek Coordinating Committee, Middle Huron Initiative/Partners and other local watershed/creek groups to identify opportunities for joint activities and outcomes in support of permit requirements.
- Continue to participate in the E.coli TMDL implementation plan.
- Continue to offer opportunities for environmental stewardship on campus.
- Continue to update the OSEH website which contains the U-M Storm Water Management Program Plan as well as information for use by students, faculty, staff and the surrounding community.
- Continue to post the U-M NPDES reports on the U-M OSEH website to heighten community awareness of storm water management activities on campus.
- UMD will continue to be active partners with FOTR and the ARC.
- UMD will continue to update the EHSEM website which contains the U-M Storm Water Management Program Plan as well as information for use by students, faculty, staff and the surrounding community.
- UMAA will continue to post the U-M NPDES reports on the U-M OSEH website to heighten community awareness of storm water management activities on campus.

Illicit Discharge Elimination Program:

- Perform/continue dry weather field screening of outfalls per the MDEQ-approved, modified IDEP Dry Weather Screening Procedure and per the SWMPP as needed. Initial dry weather screening of the U-M outfalls which discharge to surface Waters of the State or that have a direct discharge to retention/detention basins was conducted within the required timeline.
- Follow-up on potential illicit discharges to the storm water system and make repairs as required.
- Identified illicit discharges will be prioritized for correction according to their potential impacts to water quality. Cross connections will take priority; cooling tower discharges will be prioritized based on the frequency of discharge and will be redirected to the sanitary sewer as building improvements and renovations are undertaken.
- Continue to encourage the campus community to report illicit discharges and spills to OSEH/EHSEM/EHM and the UMPD so appropriate measures can be taken by the 24-hour Emergency Response Team to correct issues that may impact storm water quality.

Post Construction Storm Water Management:

- Review storm water management plans for new construction and large renovation projects to ensure compliance with applicable post-construction storm water management requirements.
- Continue to work with the DEQ for approval of project post-construction storm water management plans that seek to utilize detention in lieu, when infiltration is not possible.
• Work on implementation of storm water management basin improvement and maintenance projects to improve detention capacity, retention/infiltration, and additional Best Management Practice usage.

Construction Storm Water Runoff Control:
• Continue construction site storm water protection BMPs.
• Training of key personnel to maintain certification as construction site storm water operators.
• Training of key personnel to maintain certification as soil erosion and sedimentation control operators.
• Continue OSEH review of site plans. Continue to make recommendations to improve storm water runoff quality in and around construction projects.
• Notify the Department/Agency, as required, for sediment discharges to surface waters.

Pollution Prevention/Good Housekeeping for University Operations:
• Continue to implement BMPs to control dust and suspended solids in runoff from paved roads and parking lots.
• Continue cleaning of storm water inlets, lines, and detention basins, as required.
• Continue tracking the TSS reduction for paved surfaces with a goal of reducing TSS loading by 25% as compared to annual loading with no suspended solids controls. Update TSS reduction strategy if needed.
• Continue salt use reduction and alternative product usage to improve storm water runoff quality.
• Continue to implement BMPs to improve storm water discharge quality.
• Continue to update Plant Employee training to reinforce good housekeeping procedures and proper waste management.
• Continue to have pesticide and fertilizer applicators on campus trained and certified in appropriate application amounts and techniques.
• Develop annual SWPPP training for all fleet maintenance and storage yards/facilities at U-M and provide training to applicable storm water management teams at the facilities either in person or electronically.
• Continue the education program and dissemination strategy for U-M staff involved in fertilization of turfgrass at U-M. Continue providing turfgrass fertilization education for appropriate U-M staff and contractors.
• Develop/add additional topics, web links, brochures, guidelines, posters, etc. to fill any gaps in the topics needed to meet the permit requirements and continue the training plan.

6) Best Management Practice Changes –

Describe any planned changes in identified Best Management Practices or Measurable Goals for any of the minimum measures.

No revisions are proposed at this time.

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

Describe any changes in the need to rely on other permitted drainage system operators to satisfy the terms and conditions of this permit, as defined in Part I.C.1.d.

No revisions are proposed at this time.
8) **Drainage System Changes** –

*Provide an update on areas added to the drainage system due to annexation or other statutory processes (if applicable).*

While acquired by U-M in the Spring of 2014, construction continues for a new athletic complex at the Edwards Brothers Malloy property at 2500 and 2550 S. State St. Following construction, the drainage system maps will be updated.

On March 31, 2016, UMF acquired the following properties:
- North Tower; 328 S. Saginaw Street, Flint, MI
- Riverfront Center; One West Riverfront, Flint, MI

UMF is in the process of updating drainage maps.

9) **Revised Fiscal Analysis** –

*Provide a summary of revisions, if necessary, to the fiscal analysis reported during the previous permit, pursuant to permit application requirements at 40 CFR 122.26(d)(2)(vi).*

No revisions are proposed at this time.
10) Annual Budget –

Provide the previous fiscal year’s annual expenditures and proposed budget for the fiscal year following the report.

The expenditures and budget are shown in Table 13.

Table 13 Annual Expenditures and Proposed Budget

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<th>ACTIVITY</th>
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Footnotes: 1 - Many construction and renovation projects do not have separate tracking of SESC costs as they are built in to the contract as a whole. Therefore, the expenditures for these line items are higher than shown. Post-construction BMP installation costs are included. 2 - These departments and divisions have moderate storm water costs and are not tracked separately by the University budget system.