



Indiana University
(Bloomington, East, Kokomo, Northwest, South Bend, and Southeast)
**Storm Water Quality Management
Plan**

Part C (Amended)
Permit term: 2014 - 2018

October 2015

4.1 RULE REQUIREMENTS

Rule 13 requires that residents, visitors, public service employees, commercial and industrial facilities, and construction site personnel, within the MS4 area, be informed about the impacts that polluted storm water runoff can have on water quality and ways they can minimize their impact on storm water quality. A reasonable attempt must be made to reach all constituents with the MS4 area. IU will target faculty, staff, students, and visitors with education and outreach efforts. As appropriate, the public education and outreach program must address disposal practices, cast storm drain cover installations, school curricula or website implementation, outreach to every population sector, and education material distribution.

4.2 PART B CONCLUSIONS

Public education and outreach efforts can positively affect sediment, E. coli, pesticide, fertilizer, and dissolved oxygen rates. Each campus's education and outreach program will target activities that contribute to these concerns and then expand to include additional concerns as identified. Additional elements of the program will address a broader range of pollutants since the target audience likely lives outside the MS4 area (faculty and staff) or will only live within the MS4 area for a short while (students). Activities that could lead to immediate but not long term water quality problems, such as hazardous material handling, storage, and disposal, will also be targeted. Indiana University feels that an inclusive program that targets as many potential pollutants as possible has merit as a proactive program, targeting pollutants before they become a long term problem.

4.3 MCM 1 PROGRAM DESCRIPTION

Unlike cities, towns, and counties, Indiana University's education and outreach efforts will have much overlap with the training and education requirements in MCM 3, 4, 5, and 6. This is due to the fact that much of its audience for education and outreach is composed of employees. Other than students, the only other audience is faculty and staff who will be receiving training through MCM 6. Therefore, additional "education" efforts are also listed in MCM 3 through 6.

The following education and outreach BMPs will be developed and implemented by Indiana University in order to comply with the requirements of this MCM. New BMPs necessary for compliance with Rule 13, and needed enhancements to existing BMPs identified in Part B, are described in this section.

4.3.1 Education via Written Media

Description: The University will use written media each year to educate Facilities Services/Physical Plant staff on specific issues. Faculty and students will be targeted through ads in the student newspaper (where applicable), during the school year. Brochures will be available to students in all IU operated dorms and apartment buildings during the permit term which has the potential to reach over 30% of students enrolled at IUB, 6% at IU South Bend, and 5% at IU Southeast.

IU will develop targeted brochures, posters and other materials for distribution. These written materials will be available for distribution on campus and at student events. In an effort to improve

sustainability practices at IU, a shift away from paper and toward digital media has been occurring and is expected to continue throughout the remainder of the permit term.

Timeline: Brochures, posters, and other education materials will be distributed during the permit term.

Measurable Goal and Environmental Benefit: Distribution of educational materials will assure that each member of the campus population has the opportunity to receive information regarding common activities that result in storm water pollution. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: Copies of educational material and e-mail print-outs, along with the number of people estimated to have received each item, will be included in the IU annual SWQMP report file.

4.3.2 Website

Description: IU developed and launched a water quality web page to raise awareness of water quality and storm water issues during the first permit term. The webpage is located on the system-wide environmental health and safety section of the overall IU website. The site also contains useful storm water-related links and can be viewed at the following web address: <http://ehs.iu.edu/topics/water-quality/storm-water/index.shtml>. IUB has also has a facebook page for posting timely water quality issues. During the permit term, the website will be updated with new information as it's developed.

Timeline: The website and social media pages are available online and updated as new content is developed. Information targeting specific BMPs will be featured during the permit term.

Measurable Goal and Environmental Benefit: Continue to maintain and improve the website and social media pages to deliver water quality education. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment. It is also a place to organize reference and guidance materials for faculty and staff members who must implement this plan.

Record Keeping and Reporting: A print-out or brief written description of new content added to the website, and the date it was added, will be included in the IU annual SWQMP report file.

4.3.3 Storm Inlet Marking

Description: Highly visible storm drain inlets, in high foot traffic areas and areas with the highest probability of abuse will be re-marked as buttons are destroyed with a message to alert potential polluters that the inlet leads to a water body. "*Only Rain Down The Storm Drain*" or a similar logo on plastic buttons will be placed on storm inlets. New construction or re-construction of storm drains will specify installation of inlets with a pre-cast water quality message.

Timeline: Most of the critical areas at the IU campuses have been marked. As inlet markings become damaged or illegible, they will be re-marked. Beginning in 2006, new construction or re-construction of storm drains included specifications for use of inlets with a pre-cast water quality message.

Measurable Goal and Environmental Benefit: Continue to mark all candidate inlets during the

permit term. Use of inlets with a pre-cast water quality message will continue for inlets replaced due to construction or re-construction. The purpose of storm inlet marking is to alert passers-by, or potential dischargers, that storm drains lead to streams and rivers, not to a wastewater treatment plant.

Record Keeping and Reporting: The number of inlets re-marked will be documented in the IU annual SWQMP report file.

4.4 PROGRAMMATIC INDICATORS

In addition to the measurable goals listed above, programmatic indicators will also be used to chart the progress of each MCM. Data for each of the following indicators will be recorded and included in each annual SWQMP report for this MCM. Programmatic indicators listed below that are followed by an Indiana Administrative Code (IAC) reference, are required under Rule 13. If no IAC reference is made, the indicator is a data reporting requirement contained elsewhere in Rule 13 or was added by Indiana University.

- The number or percentage of residents, visitors, public service employees, businesses, and construction site personnel that have an awareness of storm water quality issues will be tracked and recorded. (327 IAC 15-13-8(b)(1)). There are no commercial and industrial facilities contained on any Indiana University campus. Students, faculty, and staff will substitute for “residents.” There are no public service employees, businesses or homes on a university campus, and therefore, there will be no data to report.
- The type and location of nonstructural BMPs, in the form of educational and outreach programs, utilized will be recorded and reported (327 IAC 15-13-8(b)(20)).

5.1 RULE REQUIREMENTS

Compliance with this MCM requires MS4s to demonstrate that citizens and community members were provided with ample opportunities to participate in the development and implementation of the SWQMP. IU will target faculty, staff, and students with these participation and involvement efforts, rather than the traditional public as thought of in a municipal setting. As applicable, the program should include community participation in citizen panels, community clean-ups, citizen watch groups and drain marking projects, and public meeting notification.

5.2 PART B CONCLUSIONS

Public participation and involvement efforts can positively affect levels of all pollutants. Most BMPs for this MCM will, by nature, target all pollutants. Elements of the program will target a broader range of pollutants since the target audience likely lives outside the MS4 area (faculty and staff) or will only live within the MS4 area for a short while (students). Other activities that could lead to immediate but not long-term water quality problems, such as hazardous material handling, storage, and disposal, will also be targeted.

5.3 MCM 2 PROGRAM DESCRIPTION

Unlike cities, towns, and counties, Indiana University has no “regulated public” since they own and operate all properties and facilities within their MS4 boundary. The implementation plan was developed through involvement of regional campus officials and system wide University departments. Student organizations substitute for citizen watch groups. The requirement for public meetings or hearings for adoption of this plan is not applicable to a campus setting.

The following participation and involvement BMPs will be developed and implemented by Indiana University in order to comply with the requirements of this MCM. New BMPs necessary for compliance with Rule 13, and needed enhancements to existing BMPs identified in Part B, are described in this section.

5.3.1 Community Collaboration

Description: IUB has established ties with its local MS4 representatives including Monroe County, City of Bloomington, Ivy Tech, Town of Ellettsville, Monroe County Solid Waste District and Monroe County Soil and Water Conservation District and community volunteers, in an effort to organize large-scale storm water awareness projects. IUB representatives have met with these organizations since 2002. A group known as SWEET (Storm Water Environmental Education Team) was formed as a result of this collaboration and periodic meetings have been attended. Additional collaboration will occur with the Environmental Quality and Land Use Working Group, in association with the IU Office of Sustainability. This group facilitates projects to improve water quality and address other environmental issues at IUB. The group is comprised of students, faculty, and staff.

Regional campuses have established ties with their local MS4 representatives and will collaborate with these partners on MS4 projects as they are able.

Timeline: These collaborations will be ongoing, during the permit term, in an informal manner.

Measurable Goal and Environmental Benefit: Collaborate with local partners on MS4 projects, as able. These collaborative efforts will maximize use of cross-jurisdictional resources, thereby maximizing the program any one jurisdiction can fund.

Record Keeping and Reporting: Participation in collaborative opportunities each year will be documented in the IU annual SWQMP report file.

5.3.2 Student Group/Volunteer Opportunities

Description: IU will work with established student groups. If no interested student groups are active, IU will distribute information to students about storm water related opportunities on campus and in the local area. Student groups could include specific dorms, schools, or other student organizations.

Activities will be organized as interest warrants. Activities could include, but are not limited to, stream clean-up events, volunteer water quality monitoring, riparian forest or wetland plantings, invasive wetland or riparian zone vegetation control, educational outings, or seminars. Some of these activities may take place beyond the MS4 boundary. Volunteer events will be coordinated with adjacent cities or counties when appropriate.

When information is available, student internships related to water quality will be reported.

Timeline: During each school year, a specific school, dorm or student group will be contacted for interest in storm water related activities during the permit term.

Measurable Goal and Environmental Benefit: Student groups will be contacted and informed of volunteer opportunities on the campus or in the local community. The benefits of these types of BMPs are twofold. First, they result in “on-the-ground” projects that result in improvements to water quality. Second, these activities could lead to reduced pollutant loadings due to an increased sense of ownership and stewardship.

Record Keeping and Reporting: The type of activity, the time period, and the number of participants will be documented and included in the IU annual SWQMP report file. When available, student involvement in water quality related projects in the local community will also be reported.

5.4 PROGRAMMATIC INDICATORS

In addition to the measurable goals listed above, programmatic indicators will also be used to chart the progress of each MCM. Data for each of the following indicators will be recorded and included in each annual report for this MCM. Programmatic indicators followed by an Indiana Administrative Code reference are required under Rule 13. If no reference is made, the indicator is a data reporting requirement contained elsewhere in Rule 13 or was added by Indiana University.

- The number or percentage of residents, visitors, public service employees, businesses, and construction site personnel that have an awareness of storm water quality issues will be tracked and recorded (327 IAC 15-13-8(b)(1)). There are no commercial and industrial facilities contained on any Indiana University campus. Students, faculty, and staff will substitute for “residents.” There are no public service employees, businesses or homes on a university campus, and therefore, there will be no data to report.

- Number and description of meetings, training sessions, and events conducted to involve citizen constituents in the storm water program (327 IAC 15-13-8(b)(2)).
- Number or percentage of citizen constituents that participate in storm water quality improvement programs (327 IAC 15-13-8(b)(3)).
- Type and location of nonstructural BMPs, in the form of volunteer programs, utilized (327 IAC 15-13-8(b)(20)).

6.1 RULE REQUIREMENTS

Rule 13 requires the development and implementation of a strategy to detect and eliminate illicit discharges to the MS4 conveyance. A storm sewer system map showing the location of all outfalls and MS4 conveyances under the MS4 operator's control and the names and locations of all waters that receive discharges from those outfalls must be developed. Through an ordinance or other regulatory mechanism, illicit discharges must be prohibited from entering the MS4 conveyances and appropriate enforcement procedures and actions are required.

A plan must be developed to detect, address, and eliminate illicit discharges, including illegal dumping into the MS4 conveyance. This plan must locate problem areas via dry weather screening or other means, determine the source, remove or otherwise correct illicit connections, and document actions taken. The plan must also identify all active industrial facilities within the MS4 area that discharge into the MS4 conveyance.

All public employees, businesses, and the general public must be educated about the hazards associated with illicit discharges and the improper disposal of waste. The educational effort must include informational brochures and guidance for specific audiences and school curricula and the public reporting of illicit discharges and spills. In order to give the public alternatives to improper disposal of wastes, the MS4 entities must initiate or help coordinate existing recycling programs in the MS4 area for commonly dumped wastes, such as motor oil, antifreeze, and pesticides.

6.2 PART B CONCLUSIONS

Illicit discharge detection and elimination (IDDE) efforts can positively affect levels of pollutants associated with common point source discharges and dumping. This MCM can positively affect E. coli, temperature, trace elements, and dissolved oxygen. IUSB is the only campus with temperature and trace elements listed as concerns, and IUK is the only campus with dissolved oxygen listed as a concern. Since there are no industrial sources on any of the campuses, IU's IDDE Program will target dumping, spills, and illicit connections of any kind. BMPs that address other pollutants are included for their preventative values and because many of the pollutants associated with this MCM have acute effects on water quality but do not necessarily have chronic effects.

6.3 MCM 3 PROGRAM DESCRIPTION

Unlike cities, towns, and counties, Indiana University campuses have no properties served by septic systems or private industry. There is also no need to develop enforcement procedures for illicit connections since most outfalls will be from their own facilities. These will be dealt with internally. Outfalls located on any of the IU campuses that originate from a private source beyond the campus boundary, will have to be referred to city or county officials since a University has no authority to regulate private properties. Regulatory authority will be restricted to dumping of illicit substances into the storm drain system. The education component of this MCM is partially covered by education efforts for MCM 1 and by employee training.

The following BMPs will be developed and implemented by Indiana University in order to comply with the requirements of this MCM. New BMPs necessary for compliance with Rule 13, and needed enhancements to existing BMPs identified in Part B, are described in this section.

6.3.1 Regulatory Mechanism

Description: As stated above, there is no need for a regulatory mechanism for illicit connections, as most outfalls are from IU facilities and will be dealt with internally. Further, regulatory authority to enforce this MCM at all subject Indiana University campuses is already in place for students, faculty, staff, vendors and contractors, implicitly, as with all campus policies. Mechanisms for conveying this authority include the *Indiana University Code of Student Rights, Responsibilities, and Conduct (Student Code)*, faculty and staff handbooks, and contract language for vendors and construction contractors.

Student Conduct: IU's Storm Water Permit is considered a policy of the University. Part II, item 25 of the current Student Code would include any illicit discharge into IU's storm water system:

"25. Violation of other disseminated university regulations, policies, or rules. Examples of such regulations include but are not limited to university computing policies, residence hall policies, and recreational sports facility policies."

Violations by students will be addressed in accordance with the Code of Student Rights, Responsibilities and Conduct, Section IV-Student Disciplinary Procedures: D. Disciplinary Procedures for Personal Misconduct and F. Misconduct for Student Organizations. The Dean of Students is given the authority to impose a disciplinary action that ranges from a warning to expulsion from the school for misconduct.

Faculty and Staff Conduct: Academic personnel accept and adopt the provisions of the *Indiana University Code of Student Rights, Responsibilities, and Conduct* pertaining to personal misconduct on University property. Possible sanctions for misconduct include reprimand, consideration in establishing annual salary, consideration in promotion decisions, consideration in tenure decisions, retention of salary, termination of employment, and immediate dismissal. Violations by faculty will be addressed in accordance with the Academic Handbook, under the "serious personal or professional misconduct" provision. Violations for staff will be addressed in accordance with the appropriate corrective action policies governing the classification of staff involved, as follows:

- Service Maintenance Staff: Section 6.4 Corrective Action
- Support Staff: Section 6.3 Corrective Action
- Professional Non-union and Confidential Support Staff: Section 4.2 Corrective Action
- Hourly Staff: Section 3.10 Corrective Action

Contractor Conduct: Private companies conducting business on the Indiana University campuses, such as food vendors, construction companies, or custodial companies, will be regulated by contract language and monetary penalties. The following language will be included in all future contracts with outside companies:

ARTICLE [XX] STORMWATER, WASTE DISPOSAL AND CLEAN FILL

The Contractor is obligated under Paragraph [xxx] of the Agreement to perform all work in compliance with applicable federal and state laws and regulations. This obligation expressly includes but is not limited to the following:

- A. *“The Contractor shall be responsible for the management of storm water run-off from the worksite in accordance with Indiana Administrative Code Rule 5, “Storm Water Run-Off Associated with Construction Activity,” 327 IAC 15-5 et seq. The Contractor shall use the Indiana Storm Water Quality Manual published by the Indiana Department of Environmental Management, www.in.gov/IDEM/4988.htm, as a guidance document when choosing best management practices for sediment and erosion control at the site.”*
- G. *“Contractor shall pay Owner for any costs Owner incurs based on Contractor’s non-compliance with this Article, including but not limited to repair or remediation costs, fines or penalties imposed on Owner by any regulating authority, and any fees or costs paid to attorneys or consultants arising out of a prohibited storm water discharge or improper disposal of solid or hazardous waste.”*

Timeline: The regulatory and enforcement mechanisms are already in place for each campus.

Measurable Goal and Environmental Benefit: The regulatory mechanisms will be maintained during the permit term. This BMP will reduce pollutant loading by providing a deterrent to dumping of illicit substances.

Record Keeping and Reporting: The number of incidents, types and quantities of materials released, and the resulting enforcement action will be documented and included in the IU annual SWQMP report file.

6.3.2 Mapping and Screening

Description: The IU storm water conveyance system has been mapped. These features include conveyance systems, catch basins, and holding sumps. Detailed information including run distances, basin diameters and invert elevations are compiled into a GIS system.

Outfall screening which includes a photo library with inspection forms has been completed on the IUB campus.

Timeline: IU campus utility maps will be updated as needed. Sources of all non-storm water flows will be investigated for all outfalls, regardless of size, when detected.

Measurable Goal and Environmental Benefit: Update conveyance maps as needed. Screen at least 20 storm water outfalls at IUB and all outfalls at the regional campuses annually. This will reduce pollutant loading in receiving waters by identifying and eliminating non-exempt, non-storm water flows.

Record Keeping and Reporting: Mapping of outfalls and the conveyance systems will be documented using GIS. The results of dry weather screening and the number of illicit discharges found will be documented and included in the IU annual SWQMP report file.

6.3.3 Employee Training

Description: E-training will be the tool used for online annual training of targeted populations. The tool will focus on BMPs most applicable to the Facilities Services/Physical Plant operations.

Timeline: E-training will be the training tool used during the permit term.

Measurable Goal and Environmental Benefit: Numbers of people trained will be available from E-Train database. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: Training numbers will on documented and included in the IU annual SWQMP report file.

6.3.4 Spill Prevention

Description: Indiana University will continue to comply with the [Hazard Communication Program](#), [Laboratory Safety and Chemical Hygiene Plan](#), [Waste Management Plan](#), and [Spill Prevention, Control and Countermeasure Plan](#). If a spill results in a fish kill, IDEM will be contacted. In addition, the regional campuses will contact University Environmental Health and Safety-Bloomington.

IUB: IUB maintains an emergency response team on site. This team responds to any release of hazardous materials that has the potential to cause harm to surface waters, the surrounding environment, and human health. The team has the capability to collect samples and test receiving waters in the case of an extreme event such as a fish kill. The response team has also established a contingency plan and provides cleanup training to various departments on the campus. This service will continue on an as needed basis during the permit term, but is restricted to the Bloomington campus.

Regional Campuses: EHS specialist, if available, will respond to small spill clean ups. If a large spill, beyond the capacity of the campus resources, or the EHS specialist is not immediately available, the local Fire Department/HazMat team will respond and assist.

Additional information regarding spill prevention and containment can be found in Sections 8.3.8 and 8.3.9. Timelines, goals, and reporting requirements are also contained in those sections.

6.3.5 "Citizen" Reporting

Description: Students, faculty, and staff are currently able to report suspected illicit discharges to Indiana University authorities using a reporting form included on the main IUEHS website. There also remains the option of calling complaints in to campus police or the respective campus environmental health and safety representative. Reports of questionable actions will be investigated by Environmental Health and Safety or other IU personnel. Depending on the type of activity and the individuals involved, verified violations will be turned over to either the campus police, Dean of Students, or the faculty or staff members' supervisor.

Timeline: The complaint report form is posted on the website and phone numbers are readily available.

Measurable Goal and Environmental Benefit: Indiana University will respond to 100% of credible reports filed by students, faculty, and staff. This BMP will potentially serve as a deterrent to would-be polluters. It will also reduce pollutant loading by allowing proper response and clean-up of releases that might otherwise have gone unnoticed.

Record Keeping and Reporting: All reports received, and follow-up action taken, will be documented and included in the IU annual SWQMP report file.

6.3.6 Household Hazardous Waste (HHW) Disposal Program

Description: IU campuses will publicize HHW collection sites near each campus to students, faculty, and staff by distributing informational material each school year. The material will include a list of items that can be accepted at the site, the location of the site, and operating times. All campuses will also continue the collection of hazardous material resulting from campus administrative activities.

HHW collection agencies:

IUB – Monroe County SWMD

IUE – City of Richmond

IUK – Howard County SWMD

IUN – Lake Michigan Districts Household Hazardous Waste Collection Program

IUS – Floyd County SWMD

IUSB – St Joseph County SWMD

Timeline: Each campus will promote the HHW program in their area during the permit term.

Measurable Goal and Environmental Benefit: Promote HHW collection program at each campus during the permit term. The promotion of this program will divert hazardous materials, which previously might have been dumped into the storm drain system to a facility that can properly dispose them.

Record Keeping and Reporting: Since the HHW collection programs are available to all residents, IU will not attempt to document use by students. However, IU will document the advertisement (promotion) and include this in the IU annual SWQMP report file.

6.4 PROGRAMMATIC INDICATORS

In addition to the measurable goals listed above, programmatic indicators will also be used to chart the progress of each MCM. Data for each of the following indicators will be recorded and included in each annual report for this MCM:

- Number and location of storm drains marked or cast, segregated by marking method (327 IAC 15-13-8(b)(4)).
- Linear feet or percentage of MS4 mapped and indicated on a MS4 area map (327 IAC 15-13-8(b)(5)).
- Number and location of MS4 area outfalls mapped (327 IAC 15-13-8(b)(6)).
- Number and location of MS4 area outfalls screened for illicit discharges (327 IAC 15-13-8(b)(7)).
- Number and location of illicit discharges detected (327 IAC 15-13-8(b)(8)).
- Number and location of illicit discharges eliminated (327 IAC 15-13-8(b)(9)).
- Number and location of citizen constituent drop-off centers for automotive fluid recycling (327 IAC 15-13-8(b)(11)).

Additionally, the following Programmatic Indicators would normally be associated with this MCM, but do not apply to any of the Indiana University campuses, since they do not have industrial land

use within their MS4 boundaries and since the HHW collection programs are operated by other agencies. Data from the HHW collection programs will be included in each agency's annual report. Therefore, no data will be reported for the following Programmatic Indicators for any of the Indiana University campuses:

- Inventory of industrial facilities discharging into the storm sewer including facility name, address, telephone number, and Standard Industrial Classification code.
- Number of and amount of material, segregated by type, collected from HHW collections in the MS4 area (327 IAC 15-13-8(b)(10)).
- Number or percentage of citizen constituents that participate in the HHW collections (327 IAC 15-13-8(b)(12)).

7.1 RULE REQUIREMENTS

Rule 13 requires the development of an ordinance or other regulatory mechanism and establishment of a construction program that controls polluted runoff from construction activities that disturb one or more acres of land in the MS4 area. This construction program must include a permitting process, erosion control plan review process, site inspections, and enforcement. The permitting process must include a requirement for the construction project site owner to submit a copy of the permit application directly to IDEM. MS4 entities must provide an opportunity to the local SWCD to provide comments and recommendations to the MS4 operator on individual projects.

The construction program must include requirements for the implementation of appropriate BMPs on construction sites to control sediment, erosion, and other waste. MS4 entities must review and approve construction plans submitted by the construction site operator before construction activity commences. Procedures must be developed for site inspection and enforcement to ensure that BMPs are properly installed. These procedures must include a means to identify priority sites for inspection and enforcement, as well as, a means to receive and consider public inquiries, concerns, and information submitted regarding local construction activities. A tracking process must be implemented in which submitted public information is documented and then given to appropriate staff for follow up.

Compliance with the post-construction runoff control requires MS4s to develop a program for managing post-construction best management practices (BMPs) that will ensure adequate, long-term storm water quality benefits in new development and redevelopment activities that disturb one or more acres of land within the MS4 area. Once construction is complete, post-construction practices specified by the MS4 must be implemented to ensure adequate storm water quality is maintained from the developed site via an enforceable ordinance or other regulatory mechanism.

MS4 area personnel responsible for plan review, inspection, and enforcement of construction activities shall receive annual training.

7.2 PART B CONCLUSIONS

Construction site runoff control can positively affect sediment loading in receiving waters. Preparation and implementation of a proper Storm Water Pollution Prevention Plan (SWPPP) for construction sites will target erosion and sediment loading. A complete SWPPP will also address accidental release of pollutants common to construction sites. Post-construction runoff control can reduce loads of sediment, pesticides, fertilizer, E. coli, and trace elements in receiving water. Depending on the type of post-construction BMPs used, post-construction runoff control can have a positive or negative effect on water temperature and dissolved oxygen.

7.3 MCM 4 AND 5 PROGRAM DESCRIPTION

Unlike cities, towns, and counties, Indiana University campuses have no private development within their MS4 areas. Indiana University is always the site owner. Rule 13 does not allow an MS4 entity to review and approve plans for their own projects. Therefore, construction projects, initiated by Indiana University, within their MS4 areas, will remain subject to Rule 5, regulation by IDEM, and inspection by IDEM or the local SWCD.

The following Construction and Post-Construction BMPs will be developed and implemented by Indiana University in order to comply with the requirements of this MCM. New BMPs necessary for compliance with Rule 13, and needed enhancements to existing BMPs are described in this section.

7.3.1 Regulatory Mechanism

Description: Current contract language for IU projects:

C. Stormwater Management – The Contractor shall be responsible for the management of storm water run-off from the worksite in accordance with Indiana Administrative Code Rule 5, “Storm Water Run-Off Associated with Construction Activity,” 327 IAC 15-5 et seq. The Contractor shall use the Indiana Storm Water Quality Manual published by the Indiana Department of Environmental Management, www.in.gov/IDEM/4988.htm, as a guidance document when choosing best management practices for sediment and erosion control at the site.

Timeline: Above contract language will continue to be used in IU contracts during the permit term.

Measurable Goal and Environmental Benefit: All contracts requiring a SWPPP will have the above language. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: Number of construction projects requiring a SWPPP will be recorded and included in the IU annual SWQMP report file.

7.3.2 Contractor and Plan Reviewer Education

Description: Projects at IU that disturb an acre or more will require a SWPPP and NOI in accordance with State regulations. Storm water education will be provided by IU to contractors working at sites requiring a SWPPP.

Timeline: Training will be conducted for contractors on projects requiring a SWPPP. Training will be conducted during the permit term.

Measurable Goal and Environmental Benefit: The goal is to provide training on all projects requiring a SWPPP. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: A sign-in sheet will be the form of documentation used for recordkeeping. Numbers of training sessions will be recorded in the IU annual SWQMP report file.

7.3.3 Post-Construction BMP Selection

Description: Indiana University, and its contractors, will follow practices and recommendations included in the Indiana Storm Water Quality Manual when developing construction plans and SWPPPs. Allowed structural BMPs will be the same as those allowed by IDEM in their Manual. Selection of post-construction BMPs must include an evaluation of its capacity and its sediment removal rate. A single BMP, or a combination of BMPs called a treatment train, may be used to achieve an 80% total suspended solids (TSS) removal rate. BMPs must be sized to treat the first

inch of rainfall from a storm event. No infiltration practices will be allowed in wellhead protection areas. BMPs that qualify as Class V injection wells will be registered with the EPA and discharges from said BMPs will be treated to meet Indiana groundwater standards.

Installation of BMPs, as required under the pollution prevention and good housekeeping MCM, could result in effective treatment of runoff from the entire MS4 area, thereby negating the need for post-construction BMPs for individual construction jobs. Each construction project will be evaluated individually to determine if existing BMPs from previous construction jobs or existing BMPs installed as a requirement of pollution prevention and good housekeeping offer sufficient treatment.

Timeline: All development and redevelopment projects are already being evaluated to determine if post-construction BMPs are necessary. This practice will continue during the permit term. The University is required to apply for a Rule 5 permit for all land disturbing activities of one acre or more. In addition, all other applicable permits will be obtained.

Measurable Goal and Environmental Benefit: Evaluate appropriate post-construction BMPs for all projects that disturb an acre or more of land. Installation of post-construction BMPs will reduce pollutant loads in receiving waters by filtering runoff prior to release. The selection and sizing criteria were chosen because 90% of all storm events in Indiana result in an inch or less of rainfall. Therefore, a BMP sized to treat an inch of rainfall will treat all the runoff from 90% of the storms. For storm events that produce more than an inch of rainfall, treatment of the first inch is most critical since it contains the wash-off of pollutants that have built up since the last storm event.

Record Keeping and Reporting: IU will track all construction projects and have a mechanism in place to monitor each project as required by 327 IAC 15-5. Projects will be documented and included in the IU annual SWQMP report file.

7.3.4 Plan Review

The following document was developed in accordance with a requirement from the IDEM as a result of IU's Rule 5 Evaluation:

**Indiana University
Storm Water Protocol for Construction Projects
March 10, 2009**

Start of Project

- Project folder created including "New Construction and Renovation Projects EHS Checklist" form.
 - Response to questions on EHS (Environmental Health & Safety) form raises awareness of need for storm water considerations.
- Project routing and approval sign-off sheet requires signature for Storm Water Management.

Pre-Bid

- Include standard language referencing storm water requirements/responsibilities of contractor in standard agenda. During meeting, design consultant to review specific requirements of his or her job and address any questions.

Pre-Construction

- Standard language referencing storm water requirements/responsibilities of contractor are included in the standard agenda for these meetings.

Start of Construction

- EHS will provide Contractor with storm water training and form for inspections.
- Contractor is responsible for conducting weekly inspections (once every 7 days and after each ½" or greater rainfall event).
 - Contractor will be responsible to file inspections electronically into university's electronic construction management software program.

During Construction

- Status of compliance with weekly inspections and maintenance of storm water measures are reviewed at weekly progress meetings.
- EHS will make periodic inspections of construction project and submit reports to the Contractor and Construction Management.

Substantial Completion

- Contractor's responsibility for weekly inspections will terminate once all their equipment has been removed from the project site.
- IU personnel (Physical Plant, Campus Division, or EHS) will then be responsible for conducting the weekly inspections of the site until the NOT (Notice of Termination) has been granted.

IU has developed the [Indiana University Sediment and Erosion Control Standards](#) to guide contractors on BMP selection and requirements.

Timeline: The University Architects Office and Environmental Health & Safety staff will review construction plans that disturb an acre or more of land, for consistency with Rule 5 requirements. This practice will continue during the permit term. The University is required to apply for a Rule 5 permit for all land disturbing activities of one acre or more. In addition, all other applicable permits will be obtained.

Measurable Goal and Environmental Benefit: Review all construction plans for projects that disturb an acre or more of land for compliance with Rule 5 construction and post-construction requirements. Plan review will provide a quality control check on the selection, and planned maintenance of, both construction and post-construction BMPs, thereby maximizing the effectiveness of such measures in removing sediment and other construction and post-construction related pollutants.

Record Keeping and Reporting: IU will track all construction projects and have a mechanism in place to monitor each project as required by 327 IAC 15-5. Projects will be documented and included in the IU annual SWQMP report file.

7.3.5 Inspections

Description: Once construction commences, IU will provide oversight to ensure compliance with the SWPPP. There is no need to prioritize site inspections since IU, or their agent, will also be conducting inspections as the project site owner, and will inspect every site at least once a week and after measurable storm events. Once construction is complete, IU representatives will conduct maintenance inspections of post-construction BMPs installed. These inspections will

also be conducted for BMPs listed in Chapter 8.

Timeline: University representatives are already conducting construction site inspections of storm water pollution prevention measures to assure compliance with Rule 5. This practice will continue during the permit term. Active construction on University projects may also be inspected periodically by the local SWCD or IDEM. Maintenance inspections of post-construction BMPs will be conducted in accordance with the Operation and Maintenance manual or vendor specifications for each BMP.

Measurable Goal and Environmental Benefit: Inspect all active construction projects that disturb an acre or more of land by the end of the next business day following each measurable storm event, and at a minimum of one time per week. Inspections by University representatives will improve installation and maintenance practices of contractors for both construction and post-construction BMPs, thereby increasing the effectiveness of such measures in removing sediment and other construction and post-construction related pollutants.

Record Keeping and Reporting: The University will assure that their agents keep maintenance and inspection logs regarding storm water pollution prevention measures. These logs will be kept in an orderly fashion, preferably on-site, and made available to IDEM upon request.

7.3.6 Citizen Reporting

Students, faculty and staff can submit their concerns, regarding pollutants from construction sites, using the same mechanisms as discussed in Section 6.3.5 above.

7.4 PROGRAMMATIC INDICATORS

In addition to the measurable goals listed above, programmatic indicators will also be used to chart the progress of each MCM. Data for each of the following indicators will be recorded and included in each annual report for the Construction Site and Post-Construction Runoff Controls MCMs:

- Number of construction sites obtaining a storm water run-off permit in the MS4 area (327 IAC 15-13-8(b)(13)).
- Number of construction sites inspected (327 IAC 15-13-8(b)(14)).
- Number of, and associated construction site name and location for, public informational requests received (327 IAC 15-13-8(b)(16)).
- Number, type, and location of structural BMPs installed (327 IAC 15-13-8(b)(17)).
- Number, type, and location of structural BMPs inspected (327 IAC 15-13-8(b)(18)).
- Number, type, and location of structural BMPs maintained or improved to function properly (327 IAC 15-13-8(b)(19)).
- Acreage or square footage of open space preserved and mapped in the MS4 area (327 IAC 15-13-8(b)(21)).
- Acreage or square footage of pervious and impervious surfaces mapped in the MS4 area (327 IAC 15-13-8(b)(22)).

The following Programmatic Indicators would normally be associated with this MCM, but does not apply to any of the Indiana University campuses, since they are the site operator for any construction within the MS4 boundary, and since there are no retail refueling areas within the MS4

area. Therefore, no data will be reported for the following Programmatic indicator for any of the Indiana University campuses:

- Number and type of enforcement actions taken against construction site operators (327 IAC 15-13-8(b)(15)).
- Number and location of retail gasoline outlets or municipal, state, federal, or institutional refueling areas that have installed storm water BMPs (327 IAC 15-13-8(b)(23)).

8.1 RULE REQUIREMENTS

Compliance with this MCM requires Indiana University to develop a program to document maintenance activities, schedules, and long term inspection procedures for litter pick up, BMP structure cleaning, pavement sweeping, roadside shoulder and ditch stabilization, care of roadside vegetation, and remediation of outfall scouring conditions. Controls for discharge of pollutants from road, parking lots, maintenance and storage yards, and waste transfer stations must be included in the program; specifically, the program must address deicing salt and sand storage areas, snow disposal areas, hazardous material storage areas, refueling areas, vehicle maintenance areas, equipment or vehicle wash areas, hydro-demolition waste waters, pesticide and fertilizer application, and disposal of animal waste. Written procedures must be developed for disposal of waste materials removed from the separate storm sewer system and operational areas. New flood management projects must be assessed for water quality impacts and existing flood management projects must be examined for addition of BMPs. Employees must be trained on proper hazardous waste disposal, vegetative waste disposal, proper fertilizer and pesticide application, and structural BMP functionality. Finally, the program must address catch basin cleaning, street sweeping, recycling program implementation, reduction in use of pesticide, fertilizer, sand and salt, reduction of floatables, and maintenance schedules for BMPs.

8.2 PART B CONCLUSIONS

This MCM can positively affect each of the parameters listed in **Part B Table 2-2** as well as most of the pollutants commonly contributed by urban land use. The requirements in Rule 13 for this MCM are fairly comprehensive and specific, and therefore difficult to target toward problems identified in Part B. BMPs for this MCM will be targeted toward reduction of pollutants related to a specific practice, or type of operational area, rather than the parameters listed in **Part B Table 2.2**. Part B also found that each of the IU campuses is already complying with most of the required practices for this MCM, as can be seen below.

8.3 PROGRAM DESCRIPTION

Unlike cities, towns, and counties, Indiana University campuses have no private properties within their MS4 areas. Therefore, the entire MS4 area is subject to pollution prevention and good housekeeping. Most of the pollution prevention and good housekeeping BMPs involve training and policies and will be the same for all six campuses.

The following pollution prevention and good housekeeping BMPs will be developed and implemented by Indiana University in order to comply with the requirements of this MCM. Very few of the BMPs in this section are new. Most are an expansion or a reiteration of BMPs identified in Part B.

8.3.1 Litter Pick-up

Description: Grounds crews at all IU campuses remove litter from the grounds on a daily basis, thereby covering each campus in its entirety at least once every week. This practice will continue on its current schedule. Collected litter will be recycled when possible or disposed of in accordance with applicable solid waste disposal regulations.

Timeline: Ground crews will continue litter collection throughout the permit term. Segregation of

litter and record keeping will continue during the permit term.

Measurable Goal and Environmental Benefit: Canvas each campus at least once per week for litter pick-up. This exercise will intercept unsightly floatable pollution before entering receiving waters. It can also reduce pollutant loading by intercepting containers holding household hazardous wastes.

Record Keeping and Reporting: Litter pick-up schedules will be documented and included in the IU annual SWQMP report file. IU will also document activities associated with waste disposal including the types of waste generated, the amount of waste generated and the method by which the waste was disposed. This information will be included in the IU annual SWQMP report file.

8.3.2 Pavement Sweeping

Description: Pavement sweeping is performed at IU campuses at variable intervals.

IUB: IUB campus clears the campus streets of dirt and debris on a routine basis. A vacuum street sweeper is utilized on a weekly basis during the school year, a biweekly basis during the summer months and then on a daily basis during the spring season snow melt period. All material from the vacuum trucks is properly disposed.

Regional Campuses: Regional campuses will perform street sweeping on an as needed basis to maintain campus appearances and reduce pollutant loadings of stormwater run-off. Spot sweeping done regularly as part of campus maintenance.

Timeline: The IU campuses will continue their street sweeping program, as described, during the permit term. Documentation of activities will also continue throughout the permit term.

Measurable Goal and Environmental Benefit: IU will continue its street sweeping program, as described. Street sweeping/vacuuming collects large to very fine particulate matter before it is washed, by runoff, into receiving waters. Removal of this particulate matter reduces accumulation of solids and also intercepts oils, greases, and other pollutants that may adhere to those solids.

Record Keeping and Reporting: Throughout the permit, areas covered by sweeping and weight of material collected of will be documented and included in the IU annual SWQMP report file.

8.3.3 Roadside Maintenance

Description: Most roads within the IU campuses MS4 areas are not owned or maintained by Indiana University, but rather the State of Indiana or the city in which the campus is located. Internal streets, driveways, and parking lots owned and maintained by IU, with unpaved shoulders and/or open side ditches, will be visually inspected at least weekly. Inspections will be handled by grounds or maintenance crews who will make observations while performing other routine maintenance activities, such as litter removal or mowing. Maintenance will be conducted on an as needed basis. If sloughing, scouring, sliding, or other erosion problems are identified, they will be stabilized through the use of bank shaping, seeding and mulching, erosion control blankets, rip-rap stabilization, or a combination thereof.

Along with the roadside shoulder and ditch inspections, roadside/parking lot perimeter vegetation will also be visually inspected on a regular basis. Bare areas or damaged vegetation will be reseeded, and mulched or protected with erosion control blanket. Inspections and maintenance

activities will be documented and included in the IU annual SWQMP report file. Although most areas will be mowed regularly to accommodate pedestrian traffic, roadsides and parking lot perimeters will be evaluated for potential vegetated filter strips at all six campuses.

Timeline: Maintenance inspections will continue during the permit term, with all roadsides and parking lot perimeters inspected at least weekly.

Measurable Goal and Environmental Benefit: Inspect all roadsides and parking lot perimeters, at least weekly, for maintenance problems. Inspections will coincide with litter removal or mowing. Identification and correction of unstable areas, eroding areas, or in-channel scouring will reduce sediment loading in runoff and in receiving waters.

Record Keeping and Reporting: Roadside maintenance will be documented and included in the IU annual SWQMP report file. Maintenance problems identified and actions taken to correct the problem will also be documented and included in the IU annual SWQMP report file.

8.3.4 Outfall Scouring Repair

Description: Outfalls will be visually inspected for scouring annually. Outfalls found to have scouring problems will be repaired using bank shaping, rip-rap, grouted rip-rap, gabion baskets, or other energy dissipating means.

Timeline: Inspections will occur annually as identified in Section 6.3.2 during the permit term.

Measurable Goal and Environmental Benefit: Repair all identified scouring problems at outfalls within one year of identification. Identification and repair of scouring areas at outfalls will reduce sediment loading in receiving waters.

Record Keeping and Reporting: Outfall scouring repairs will be documented. Scouring problems identified and actions taken to correct the problem will also be documented. This information will be included in the IU annual SWQMP report file.

8.3.5 Road and Parking Lot Controls

Description: Several methods for capturing pollutants in runoff generated from paved surfaces are available. Indiana University will use a combination of catch basin traps, infiltration techniques, and proprietary hydrodynamic swirl chambers to intercept pollutants from these areas prior to discharge to receiving waters.

Catch Basins - As a general policy, all catch basins, at each of the campuses, are constructed with a 6 to 8 inch sump in the bottom to allow settling and accumulation of suspended solids. These sumps are periodically inspected and cleaned as needed.

IUB will continue to utilize catch basin filter systems in high-flow areas around the campus throughout the permit term. The maintenance of swirl-chamber units throughout the IUB campus will also be included in annual reports.

Detention Areas

IUSB & IUS: These campuses have detention areas adjacent to parking lots and student housing locations to collect run-off.

IUE: The East campus has 3 detention areas to collect run-off from parking lots.

Timeline: Periodic maintenance/inspections shall be conducted on these BMPs as per their respective Operation and Maintenance (O&M) manuals.

Measurable Goal and Environmental Benefit: Inspect and maintain structural BMPs as directed by their respective O&M manuals. Use of these BMPs, when properly maintained, will filter pollutants commonly found in road and parking lot runoff, and, as a result, will reduce loading of those pollutants in receiving waters.

Record Keeping and Reporting: Maintenance schedules and activities for each BMP will be documented and included in the IU annual SWQMP report file.

8.3.6 De-icing Salt Storage

IU stores and uses salt for ice/snow melting on sidewalks, walkways, roadways, and parking lots.

Timeline: The storage areas will continue to be inspected frequently to ensure that salt is not exposed to rainfall or run-off. Repairs will be conducted as needed during the permit term.

Measurable Goal and Environmental Benefit: Inspections of salt storage areas will be performed and documented. Proper maintenance of these areas will ensure that salt is not wasted and unnecessarily introduced to receiving waters (reduce pollutant loading).

Record Keeping and Reporting: The data and results of the storage area inspections will be documented and reported in the IU SWQMP annual report file. The amount of salt reduction and methods used will also be available.

8.3.7 Snow Disposal

During heavy snow events, snow may need to be stockpiled on property. A vegetated buffer strip is present to help filter snowmelt before it reaches a waterway.

IUB: Memorial Stadium

IUSB: Near Residence Halls

Timeline: During heavy snow events snow may need to be stockpiled at the Memorial Stadium (IUB) or Residence Halls (IUSB) during the permit term.

Measurable Goal and Environmental Benefit: During heavy snow events snow may need to be stockpiled. An estimated amount of stockpiled snow will be recorded. A vegetated buffer strip is present to help filter snowmelt before it reaches a water-way which will reduce potential impacts.

Record Keeping and Reporting: An estimated amount of stockpiled snow will be recorded in the IU annual SWQMP report file.

8.3.8 Spill Containment

Description: All campuses submit an annual report, if required, to state and local authorities on the types, quantities, locations, storage methods, safety procedures, and response procedures of chemicals that are stored on campus in compliance with the 42 U.S.C. 11002 - [Superfund Amendments and Reauthorization Act \(SARA\)](#). The inventory, storage, and safety portions of the

report meet the requirements of Rule 13 for the smaller quantities of chemicals that would typically be found on the regional campuses.

IUB has developed a Hazardous Chemical Waste Generator Facility Contingency Plan for buildings on campus known to store hazardous chemical waste. This plan was developed in compliance with State and Federal Emergency Response regulations, and spells out proper procedures, contacts, and protocols to be used in the event of a large, uncontrolled hazardous material release.

Applicable at all campuses is the [Biological, Chemical or Radiological Spill Reporting Requirements and Response Program](#).

Timeline: Compliance with existing state and federal regulations regarding spill containment will continue during the permit term.

Measurable Goal and Environmental Benefit: Continue compliance with State and Federal Emergency Response regulations. Knowing what chemicals could be released and being prepared to contain such a release will prevent uncontrolled loss of hazardous materials to receiving waters.

Record Keeping and Reporting: If a campus is regulated by SARA, a copy of the annual SARA report is submitted IDEM.

8.3.9 Fueling Operations

Description: Each campus has petroleum tanks and safety fuel cans on site for refueling mowers, sweepers, and other maintenance equipment, and for emergency generator supply. On the regional campuses, petroleum is stored in compliant above-ground tanks. Each above ground tank has secondary containment for drippings and spills. In addition, IU has developed a [Spill Prevention, Control and Countermeasures Plan \(SPCC\)](#), in compliance with 40 CFR 112, for managing petroleum storage in underground storage tanks, above ground storage tanks, emergency generators, drum storage, transformers, elevators, and grease dumpsters. The Plan includes an inventory of potential sources on campus, paths to receiving waters, containment measures, maintenance of containment areas, spill response and emergency procedures, inspection requirements, personnel training, internal auditing, and vendor requirements. Requirements in this Plan also ensure that above and below ground storage tanks are in good condition and have secondary containment to prevent accidental releases.

Timeline: Indiana University will continue to comply with its SPCC Plan throughout the permit term.

Measurable Goal and Environmental Benefit: Continue compliance with the SPCC Plan. Preparation and implementation of the SPCC Plan reduces the likelihood that a loss of containment would occur. In the event of a release, the Plan helps reduce the chance of fuel reaching a receiving water before being contained.

Record Keeping and Reporting: Documentation required by 40 CFR 112 will be included in the IU annual SWQMP report file.

8.3.10 Vehicle/Equipment Wash Areas

Description: IU will continue to wash all campus vehicles at commercial car washes or in areas designated for vehicle and equipment washing on campus. On-campus areas designated for washing vehicles and equipment will either be located on a flat, pervious, vegetated surface with a minimum overland flow path of 50 feet to the nearest storm sewer inlet, or open drain; in an area where drainage is directed to a vegetative surface for absorption/filtering; and/or dries up/evaporates before entering the local stormwater system.

Timeline: All vehicle and equipment washing will comply with the above during the permit term.

Measurable Goal and Environmental Benefit: Wash all campus vehicles as described above during the permit term. By directing wash water to sanitary sewers and or other filtration systems, the amount of suspended solids and dissolved chemicals (such as phosphorus) entering the stormwater conveyance can also be greatly reduced. Removal of this particulate matter reduces accumulation of solids and also intercepts oils, greases, and other pollutants that may adhere to those solids.

IUB: Build a wash facility for street sweeper, trash trucks, concrete equipment and other types of maintenance equipment. A designated wash area will result in a reduced potential for pollution run-off impact on receiving waters.

Record Keeping and Reporting: The **SWQMP Declaration of Compliance** will be completed annually by department directors verifying compliance. This documentation is included in the IU annual SWQMP report file.

SWQMP Declaration of Compliance
20__
Vehicle/Equipment Wash Areas

I certify that the department listed below complied with Indiana University's SWQMP best management practice for the washing of university vehicles/equipment by adhering to the following (check all that apply):

_____ washing campus vehicles at commercial car washes, and/or

_____ washing campus vehicles in areas designated for washing vehicles and equipment

_____ located on a flat, pervious, vegetated surface with a minimum overland flowpath of 50 feet to the nearest storm inlet or open drain.

_____ in an area where drainage is directed to sanitary sewers.

_____ located on a flat, impervious surface where wastewater is directed to a vegetative surface for absorption/filtering and/or dries up/evaporates before entering the local stormwater system.

Signature

Print Name

Date

Department

8.3.11 Vehicle/Equipment Maintenance Areas

Description: Other than minor preventative maintenance, vehicles and equipment on the IU campuses are serviced at local commercial garages. Therefore, other than spill preparedness, no storm sewer BMPs are necessary for vehicle maintenance areas at the regional campuses. Staff will continue to receive training on the proper handling, storage, and spill response for any hazardous materials kept on-campus for vehicle maintenance as part of the training identified in Section 8.3.15 below.

IUB has an on-campus service garage where University vehicles are serviced. Vehicle maintenance areas can be significant sources of storm water pollutants. To minimize the impacts vehicle maintenance areas have on storm water runoff, IUB utilizes an oil and grease separator within the service garage, which is connected to the sanitary sewer. The oil and grease separator is operated and maintained according to the manufacturer's specifications. A private contractor handles annual removal and disposal of collected material. Staff has been instructed not to place waste or spilled materials into this system. Used oil from oil changes is stored in the garage and occasionally removed and disposed of by a private contractor.

IUB's Campus Division performs grounds maintenance and has an oil and water separator at their facility for equipment maintenance. The separator is pumped out periodically.

Each IU campus/department that deals with vehicle/equipment maintenance will fill-out the following form on an annual basis.

Timeline: IUB will continue to utilize the separator throughout the permit term. Documentation will continue throughout the permit term. Regional campuses will continue to report on the location(s) where their vehicles/equipment is maintained.

Measurable Goal and Environmental Benefit: Regularly inspect and maintain the oil and water separator in accordance with its O&M manual, and remove contents annually. Use of this BMP, when properly maintained, will filter pollutants commonly lost during vehicle maintenance activities. This will reduce loading of those pollutants in receiving waters.

Record Keeping and Reporting: IUB will document maintenance activities and estimate the amount of waste collected via the separator. IUB will also have the contractor document disposal methods for all materials collected. All campuses will fill-out the **SWQMP Declaration of Compliance** on an annual basis. This information will be included in the IU annual SWQMP report file.

SWQMP Declaration of Compliance
20__
Vehicle/Equipment Wash Areas

I certify that the department listed below complied with Indiana University's SWQMP best management practice for the washing of university vehicles/equipment by adhering to the following (check all that apply):

_____ washing campus vehicles at commercial car washes, and/or

_____ washing campus vehicles in areas designated for washing vehicles and equipment

_____ located on a flat, pervious, vegetated surface with a minimum overland flowpath of 50 feet to the nearest storm inlet or open drain.

_____ in an area where drainage is directed to sanitary sewers.

_____ located on a flat, impervious surface where wastewater is directed to a vegetative surface for absorption/filtering and/or dries up/evaporates before entering the local stormwater system.

Signature

Print Name

Date

Department

8.3.12 Pesticide and Fertilizer Management

Description: IU has reduced pesticide and fertilizer applications to the fewest necessary per year and times that application when rain is not forecasted in the next 24 hours. IU also maintains a 100 foot buffer zone and is reducing or eliminating the use of fertilizers with phosphorus on its campuses.

Timeline: The above is implemented during the permit term.

Measurable Goal and Environmental Benefit: All pesticide and fertilizer applications will be timed when rain is not forecasted within the next 24 hour period. This will allow for filtration, uptake, and metabolic breakdown of fertilizers and pesticides prior to reaching receiving waters, thereby reducing pollutant loading. Well timed fertilizer applications will reduce the amount of fertilizer introduced to run-off.

Record Keeping and Reporting: Pesticide and fertilizer applications will be documented and reported in the IU annual SWQMP report file.

8.3.13 Storm Water Quality Management Plan Municipal Operations Pollution Prevention and Good Housekeeping

Description: SWPPPs have been developed to prevent or reduce pollutant run-off from campus operational areas. This included the development of specific SWPPPs for facilities with the greatest potential for pollutant run-off. Waste from these facilities will be disposed of properly in accordance with the SWPPP. Training on the SWPPPs was conducted at each facility.

Timeline: IU will maintain the SWPPP(s) during the permit term.

Measurable Goal and Environmental Benefit: IU will continue to maintain and update the SWPPP(s) as necessary. Preparation and implementation of the SWPPP(s) reduces the likelihood that a loss of containment would occur. In the event of a release, the Plan(s) helps reduce the chance of contaminants reaching a receiving water before being contained.

Record Keeping and Reporting: IU will document all activities associated with disposal of operational area and separate storm sewer system wastes including the types of waste generated, the amount of waste generated and the method by which the waste was disposed. This information will be included in the IU annual SWQMP report.

8.3.14 BMP Structure Cleaning

Description: Structural BMPs described in Sections 8.3.5, 8.3.6, 8.3.9, 8.3.10, and 8.3.11 will be maintained according to vendor specifications or in accordance with operation and maintenance procedures developed for specific BMPs. Waste resulting from the cleaning of BMPs will be disposed of as described in Section 8.3.13. Training will be conducted for employees responsible for maintenance of structural BMPs to ensure proper maintenance, disposal methods, and record keeping. Timelines, goals, benefits, and record keeping for this BMP are included in the above referenced sections.

8.3.15 Employee Training

Description: OSHA's 29CFR1910.1200 requires all employers to provide information to their

employees about the hazardous chemicals to which they are exposed, by means of a [Hazard Communication Program](#), labels and other forms of warning, Safety Data Sheets, and other information and training. This regulation requires initial and routine training for workers. IU conducts training upon initial assignment and anytime a new chemical hazard is introduced in the work area.

Training will be added, for relevant staff, which addresses proper BMP inspection and maintenance procedures, new requirements for record keeping, and new policies associated with this implementation plan. Topics include vehicle/equipment washing, salt storage and application, fertilizer and pesticide application, and good housekeeping.

E-training will be the tool used for online annual training of targeted populations. The tool will focus on BMPs most applicable to the Facilities Services/Physical Plant operations.

Timeline: E-training will be the training tool used during the permit term.

Measurable Goal and Environmental Benefit: E-training will be the training tool used during the permit term. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: Training numbers will be documented and included in the IU annual SWQMP report file.

8.3.16 Recycling Program

Description: All campuses have a recycling program. All recyclable material is stored on-site and periodically picked up by an outside vendor.

Timeline: Existing recycling programs will be continued at each campus during the permit term.

Measurable Goal and Environmental Benefit: Continue with recycling program at each campus. We encourage the three R's of sustainability (refuse, reduce and reuse) as well. Being more environmentally-friendly may become a new culture where people are more aware of their actions and impacts on the environment leading to reduced volume of floatables, suspended solids, and dissolved chemicals being introduced to the receiving waters.

Record Keeping and Reporting: Quantities of materials recycled will be documented and included in the IU annual SWQMP report file.

8.3.17 Other

Description: Indiana University is taking additional measures to protect storm water quality where specific sources have been identified.

Hydrant/Fire Pump Testing: Indiana University Insurance, Loss Control and Claims (INLOCC) routinely performs hydrant testing and fire pump testing. Discharges from these tests are neutralized with tablets, if the proximity to a water body could have adverse effects.

Timeline: Hydrant/Fire Pump discharge neutralization will continue during the permit term.

Measurable Goal and Environmental Benefit: Neutralize all hydrant/fire pump testing waters

before release to receiving waters or direct water onto vegetated areas. This BMP result in the direct reduction of pollutants from known sources prior to discharge to receiving waters.

Record Keeping and Reporting: Hydrant/Fire Pump testing and subsequent test water neutralization will be documented and included in the IU annual SWQMP report file.

8.4 PROGRAMMATIC INDICATORS

In addition to the measurable goals listed above, programmatic indicators will also be used to chart the progress of each MCM. Data for each of the following indicators will be recorded and included in each annual report for this MCM.

- Number, type, and location of structural BMPs installed (327 IAC 15-13-8(b)(17)).
- Number, type, and location of structural BMPs inspected (327 IAC 15-13-8(b)(18)).
- Number, type, and location of structural BMPs maintained or improved to function properly (327 IAC 15-13-8(b)(19)).
- Number and location of entity facilities that have containment for accidental releases of stored polluting materials (327 IAC 15-13-8(b)(24)).
- Acreage or square footage, amount, and location where pesticides and fertilizers are applied by a regulated MS4 entity to places where storm water can be exposed within the MS4 area (327 IAC 15-13-8(b)(25)).
- Linear feet or percentage and location of unvegetated swales and ditches that have an appropriately-sized vegetated filter strip (327 IAC 15-13-8(b)(26)).
- Linear feet or percentage and location of MS4 conveyances cleaned or repaired (327 IAC 15-13-8(b)(27)).
- Linear feet or percentage and location of roadside shoulders and ditches stabilized, if applicable (327 IAC 15-13-8(b)(28)).
- Number and location of storm water outfall areas remediated from scouring conditions, if applicable (327 IAC 15-13-8(b)(29)).
- Number and location of deicing salt and sand storage areas covered or otherwise improved to minimize storm water exposure (327 IAC 15-13-8(b)(30)).
- Amount, in tons, of salt and sand used for snow and ice control (327 IAC 15-13-8(b)(31)).
- Amount of material by weight collected from catch basin, trash rack, or other structural BMP cleaning, segregated by type of structure (327 IAC 15-13-8(b)(32)).
- Amount of material by weight collected from street sweeping, if utilized (327 IAC 15-13-8(b)(33)).

The following Programmatic Indicator would normally be associated with this MCM, but does not apply to any of the Indiana University campuses, since there are no dog parks and no need for dog parks within the MS4 area. Therefore, no data will be reported for the following Programmatic indicator for any of the Indiana University campuses:

- Number and location of canine parks sited at least one hundred fifty (150) feet away from a surface water body, if applicable (327 IAC 15-13-8(b)(34)).

9.0**ONGOING CHARACTERIZATION AND REPORTING****9.1 ONGOING CHARACTERIZATION METHODOLOGY (IUB ONLY)**

Description: An IUB Service Learning Class has been conducting stream monitoring using Hoosier Riverwatch methods on the Jordan River. The goal is to continue this effort during the permit term

Timeline: Stream monitoring will continue during the permit term.

Measurable Goal and Environmental Benefit: Stream monitoring will continue throughout the permit term. This could lead to reduced pollutant loadings due to an increased awareness of the causes of water quality impairment.

Record Keeping and Reporting: Monitoring events will be recorded in the IU annual SWQMP report file.