ATTACHMENT 2: NPDES STORM WATER PERMIT COMPLIANCE INFORMATION

Butler University
Indiana University-Purdue University Indianapolis (IUPUI)
Marian University
University of Indianapolis
CERTIFICATION OF COMPLIANCE

WITH NPDES PERMIT NUMBER INS040001

Butler University is designated as an entity covered by the municipal separate storm sewer system permit that has been issued by the Indiana Department of Environmental Management and the City of Indianapolis under the National Pollutant Discharge Elimination System (NPDES). Under the terms of NPDES Permit No. INS040001, and through a Memorandum of Understanding with the City of Indianapolis, Butler University certifies that:

- Butler University has no existing storm water management controls to maintain.
- The University does not perform street sweeping.
- The University’s vehicle and equipment wash facility discharges to the sanitary sewer system.
- The University has provided training and information to appropriate staff on storm water pollution prevention.
- The University complies with the City of Indianapolis’ permitting procedures.

Certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the above statement is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Craig Barnhart
11/23/11
Name Date

Manager of Environmental Programs
Title
### II.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

#### Document maintenance of structural controls
- **Permit Action Item:** Document maintenance of structural controls
- **Completion Date:** Jan-06
- **Action Item Description:** Structural stormwater controls are engineered facilities intended to treat stormwater and/or mitigate the increase effects of stormwater runoff peak rate, volume, and velocity due to urbanization.
- **Certification:** Yes

#### Inventory structural runoff controls
- **Permit Action Item:** Inventory structural runoff controls
- **Completion Date:** N/A
- **Action Item Description:** A method to track the amount of trash/debris material removed must be developed and implemented.

#### Inventory document maintenance of structural controls
- **Permit Action Item:** Inventory document maintenance of structural controls
- **Completion Date:** N/A
- **Action Item Description:** A method to track the repair of the eroded areas must be developed and implemented.

#### Drain marking program
- **Permit Action Item:** Drain marking program
- **Completion Date:** Oct-05
- **Action Item Description:** The storm drain marking program is designed to inform citizens about the ecological hazards of dumping household chemicals into storm drains. This requirement involves painting a stencil near storm drains to remind people that everything that goes into a storm drain flows directly, untreated, into a nearby stream, and distributing a brochure to citizens who attend school, work or live in the area where drains have been marked. The brochure explains how to properly dispose of materials that pose a hazard to fish and water quality.
- **Certification:** Yes

#### Identify university-owned streets
- **Permit Action Item:** Identify university-owned streets
- **Completion Date:** Nov-2005
- **Action Item Description:** A method to track the amount of litter collected and disposed of must be developed and implemented.
- **Certification:** Yes

#### Obtain DPW drain marking plan
- **Permit Action Item:** Obtain DPW drain marking plan
- **Completion Date:** Nov-2005 (A, DPW)
- **Action Item Description:** The storm drain marking plan can be obtained through the Indianapolis, DPW Project Manager at 1-317-327-5267.
- **Certification:** Yes

#### Develop university drain marking plan
- **Permit Action Item:** Develop university drain marking plan
- **Completion Date:** Nov-2005
- **Action Item Description:** Using the Indianapolis Storm Drain Marking Plan as a template, create a Drain Marking Plan suitable for use at the university to mark all university-owned streets.
- **Certification:** Yes

#### Implement drain marking program
- **Permit Action Item:** Implement drain marking program
- **Completion Date:** As per plan
- **Action Item Description:** Establish a date to begin marking inlets and keep appropriate records.
- **Certification:** Yes

#### Winter weather salt use
- **Permit Action Item:** Winter weather salt use
- **Completion Date:** Annual
- **Action Item Description:** Brine can impact plant life and have adverse effects on other environmentally sensitive organisms. This program limits this impact to the maximum extent practicable.
- **Certification:** Yes

#### Describe salt application programs
- **Permit Action Item:** Describe salt application programs
- **Completion Date:** Annual
- **Action Item Description:** The university is responsible for retaining all records and making the information available to DPW on an annual basis.
- **Certification:** Yes

#### Document amount of salt used each winter season
- **Permit Action Item:** Document amount of salt used each winter season
- **Completion Date:** Annual
- **Action Item Description:** The university is responsible for retaining all records and making the information available to DPW on an annual basis.
- **Certification:** Yes

#### Roadside erosion and litter control
- **Permit Action Item:** Roadside erosion and litter control
- **Completion Date:** Annual
- **Action Item Description:** The single targeted pollution of stormwater in the United States. Being aware of and reporting erosion along roadways and on properties substantially helps reduce siltation in waterways. Litter contains many materials which can be difficult to remove from storm water systems as they tend to travel along the waterway easily.
- **Certification:** Yes

#### Develop education program and detailed instructions for staff and contractors
- **Permit Action Item:** Develop education program and detailed instructions for staff and contractors
- **Completion Date:** Annual
- **Action Item Description:** A method to track the amount of trash/litter removed must be developed and implemented.
- **Certification:** Yes

#### Document the amount of litter collected and disposed of
- **Permit Action Item:** Document the amount of litter collected and disposed of
- **Completion Date:** As per plan
- **Action Item Description:** A method to track the repair of the eroded areas must be developed and implemented.
- **Certification:** N/A

#### Document erosion areas and generate work order for repair
- **Permit Action Item:** Document erosion areas and generate work order for repair
- **Completion Date:** As per plan
- **Action Item Description:** A method to track the repair of the erosion areas must be developed and implemented.
- **Certification:** N/A

#### Vehicle and equipment waste area study/modifications
- **Permit Action Item:** Vehicle and equipment waste area study/modifications
- **Completion Date:** Annual
- **Action Item Description:** The management measure is intended to eliminate non-point source pollutant loads generated by the washing of vehicles and equipment, such as lawn mowers and generators, in areas that drain to storm drainage systems, ponds, or streams. These discharges would be considered illicit discharges.
- **Certification:** Yes

#### Confirm no illicit connections
- **Permit Action Item:** Confirm no illicit connections
- **Completion Date:** Annual
- **Action Item Description:** The university waste facility discharges to the sanitary sewer system.
- **Certification:** Yes

### II.C POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

#### SDP inspection and cleaning of University-Owned Parking Lots
- **Permit Action Item:** SDP inspection and cleaning of University-Owned Parking Lots
- **Completion Date:** Oct-06
- **Action Item Description:** University-owned parking lots exposed to storm water shall be inspected and kept clear of debris and excessive of buildup on an as-needed basis. The parking lot SDP created by DPW should be used to determine a schedule for implementation and the procedures to follow for implementation. In each annual report after the second year of permit coverage, a summary of the parking lot inspections will be provided, which indicates the number of inspections, and an estimate of the trash and debris material removed.
- **Certification:** Yes

#### Obtain completed parking lot SDP from DPW
- **Permit Action Item:** Obtain completed parking lot SDP from DPW
- **Completion Date:** Oct-06
- **Action Item Description:** DPW to provide universities with SDP
- **Certification:** Yes

#### Develop implementation schedule for parking lot SDP
- **Permit Action Item:** Develop implementation schedule for parking lot SDP
- **Completion Date:** Oct-06
- **Action Item Description:** Develop implementation schedule consistent with the SDP
- **Certification:** Yes

#### Document inspections and clearances of parking lots through the schedule and checklist provided in the parking lot SDP
- **Permit Action Item:** Document inspections and clearances of parking lots through the schedule and checklist provided in the parking lot SDP
- **Completion Date:** Annual
- **Action Item Description:** Document through checklist provided in the SDP
- **Certification:** Yes

#### Provide documentation of reporting of the parking lot SDP in the Annual Report and submit to DPW
- **Permit Action Item:** Provide documentation of reporting of the parking lot SDP in the Annual Report and submit to DPW
- **Completion Date:** Annual
- **Action Item Description:** Provide a write up in the Annual Report of compliance with SDP
- **Certification:** Yes

---

Please initial and insert date completed in appropriate space

A = Action / N/A = No Action / C = Certification / D = Document / R = Report

A = Action / N/A = No Action / C = Certification / D = Document / R = Report
### BUTLER UNIVERSITY COMPLIANCE SCHEDULE

**Butler University Compliance Schedule For Indianapolis’ NPDES Municipal Separate Storm Sewer System Permit (October 2010 - September 2011)**

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOP inspection and cleaning of University owned vehicle maintenance garages</td>
<td>university owned maintenance facilities and vehicle yard areas exposed to storm water shall be inspected and kept clear of debris and excessive oil buildup on an as needed basis. The maintenance facility SOP created by DPW should be used to determine a schedule for implementation and the procedures to follow for implementation. In each annual report after the second year of permit coverage, a summary of the parking lot inspections will be provided, which indicates the number of inspection, and an estimate of the trash and debris material removed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain completed Vehicle Maintenance SOP from DPW</td>
<td>A = Action / N/A = No Action / C = Certification / D = Document / R = Report</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Develop implementation schedule for Vehicle Maintenance SOP</td>
<td>Oct-06 A = Action to provide universities with SOP</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>
| Document inspections and cleanings of vehicle maintenance facilities through schedule and checklist provided in the SOP | comply with schedule provided in SOP | yes | For 10/11, 41 cubic yards of trash collected in maintenance facility lot.

| Provide documentation of reporting of SOP in the Annual Report and submit to DPW | Annual D, A | Document through checklist provided in the SOP | yes | same as parking lot cleaning - employees have implemented as written. |

| **4.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE** | | | |
| Flood Control Projects | | | |
| Evaluate all stormwater treatment control structures in University property for improvements, maintenance or retrofitting | Oct-06 A = Evaluate all known existing storm water treatment control structures in the MS4 area owned or operated by the University for the benefits and technical and economical feasibility of making improvements, modifying maintenance or rate-filing for pluotent removal. Result of the evaluation, along with an implementation schedule, shall be submitted to the Department for approval with the annual report for the third year of the permitting term. | yes | WAfi conducted inflow/outflow testing on detention during rain event of 10/24/08. |
| Submit results and implementation schedule in Annual Report | Sep-07 A = Provide a write up in the Annual Report of compliance if applicable to University | yes | |

| **4.B PUBLIC PARTICIPATION AND EDUCATION** | | | |
| Encourage public reporting of problems | 24 III.G.1 Oct-06 The university must publicize the appropriate phone numbers and other means of contact when stormwater runoff pollution problems are identified. | yes | |
| Develop flyers/signs with number to report problems | A = The university will develop flyers and/or posters that explain how to identify and report illegal dumping or pollution if observed. | yes | submits annually to campus as campus-wide email. |
| Educate students/staff about NPS pollution | 24-25 III.G.4 & 6 throughout | Provide information on stormwater pollution prevention, including proper disposal of items such as used fluids, paper, and other materials to students, staff, and contract employees. Use Indianapolis items where possible. | yes | periodically distributes Clean Stream Team literature. |
| Develop distribute materials/eng. | A, D = Develop and distribute information on proper disposal and pollution prevention. | yes | periodically distributes Clean Stream Team literature. |

| **4.B REPORTING REQUIREMENTS** | | | |
| Provide information to DPW for annual reports | 36 III.B.3 Annual | The City is required to submit an annual report to IDEM that details progress made on permit compliance during the previous year. The university must pull together data/information regarding each individual item above and submitting this data/information into an organized readable format. The data/information and completed checklist information must then be submitted to DPW by October 31. | |
| Begin assembly of information for annual report | A = Action / N/A = No Action / C = Certification / D = Document / R = Report | yes | BE: Construction site runoff-refer to attachments pertaining to current Clowes Hall addition. |
| Complete checklist and submit to DPW by October 31 | A = The data / information and completed checklist information must be submitted to DPW by October 31. | yes | |

Please initial and insert date completed in appropriate space
SECTION 31 25 00 – EROSION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. All erosion and sediment control measures shown on the plans and referenced in this specification shall meet the design criteria, standards and specifications outlined in the “Indiana Handbook for Erosion Control in Developing Areas” from the IDNR, Division of Conservation or similar Guidance Documents.

1.02 RELATED SECTIONS

A. Section 329200 Lawn and Grasses

1.03 GUIDELINES

A. The Contractor shall include in his bid costs for the installation of all necessary erosion control items. It is the Contractor’s responsibility that all design criteria, standards and specifications are met and that all land disturbing activities are in accordance with the erosion/sediment control plan.

B. The Contractor shall retain existing vegetation on the construction site wherever possible. If existing vegetation must be cleared, retain and protect it until the area must be disturbed.

C. The Contractor shall maintain a buffer strip of existing vegetation around the perimeter of the site to reduce off-site erosion and sedimentation.

D. The Contractor shall minimize the extent and duration that bare soil is exposed to erosion by wind and water. Use staged clearing and grading to reduce the amount of disturbed area to the absolute minimum needed for immediate construction activities.

E. The Contractor shall keep sediment on the construction site as much as possible. Retain sediment from unavoidable erosion on-site by trapping it with sediment basins or filtering it out of runoff with vegetative or man-made barriers. The Contractor shall install any needed sediment traps and basin before construction activity begins.

F. The Contractor shall divert off-site runoff away from disturbed areas, if possible. The installation of these measures shall take place prior to clearing and grading to reduce the potential for erosion.

G. The Contractor shall stabilize disturbed areas as soon as possible. Stabilizing measures, such as seeding temporary or permanent vegetation, sodding, mulching, sediment basins, erosion control blankets, or other protective practices shall be installed within seven days after the land has been disturbed.

H. The Contractor shall keep velocity of runoff leaving the site low.

I. The Contractor shall install drain inlet protection as soon as the storm sewer system is functional.
J. The Contractor shall assign someone the responsibility for routine, end-of-day inspection/maintenance checks of all erosion and sediment control measures. All measures shall be inspected for damage after each storm event. Damaged measures shall be repaired immediately.

K. The Contractor shall remove the interim measure when all areas protected are stabilized. The Contractor shall then establish permanent stabilization protection before the entire site may be considered permanently stabilized.

L. The Contractor shall be responsible for the maintenance, repair, and/or replacement of all required control measures with all disturbed areas being stabilized to the satisfaction of the local SWCD, County Surveyor, Owner, or Engineer.

PART 2 - MEASURES

2.01 Refer to the erosion control plan for type and location of measures to be installed.

2.02 Temporary Seeding.

A. Requirements

1. Site and Seedbed Preparation

2. Plant Species

<table>
<thead>
<tr>
<th>Seed Species</th>
<th>Rate / Acre</th>
<th>Planting Depth</th>
<th>Optimum Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat or Rye</td>
<td>150 pounds</td>
<td>1 to 1.5 inches</td>
<td>9/15 to 10/30</td>
</tr>
<tr>
<td>Spring Oats</td>
<td>100 pounds</td>
<td>1 inch</td>
<td>3/1 to 4/15</td>
</tr>
<tr>
<td>Annual Ryegrass</td>
<td>40 pounds</td>
<td>¼ inch</td>
<td>3/1 to 5/1, 8/1 to 9/1</td>
</tr>
<tr>
<td>German Millet</td>
<td>40 pounds</td>
<td>1 to 2 inches</td>
<td>5/1 to 6/1</td>
</tr>
<tr>
<td>Sudangrass</td>
<td>35 pounds</td>
<td>1 to 2 inches</td>
<td>5/1 to 7/30</td>
</tr>
</tbody>
</table>

3. Mulch

a. Clean grain straw, hay, wood fiber, etc., to protect seedbed and encourage plant growth.

b. From November 1 to March 1, mulching alone shall be used to stabilize disturbed areas.

4. Seeding Frequency. Seed as often as possible following construction activity. Daily seeding of rough graded areas when the soil is loose and moist is usually most effective.

2.03 Dust Control

A. Road Surfaces: Apply calcium chloride, as needed, at a rate that will keep surface moist.

B. Street Cleaning: Brush, sweep or scoop street. Do not flush unless flow can be directed into an inlet, sediment trap or basin.
PART 3 - INSTALLATION

3.01 Refer to the “Indiana Handbook for Erosion Control in Developing Areas” for installation instructions for the measures shown on the erosion control plan.

3.02 Temporary Seeding

A. Site Preparation
   1. Install practices needed to control erosion, sedimentation, and water runoff, such as temporary and permanent diversions, sediment traps or basins, silt fences, and straw bale dams.
   2. Grade the site as specified in the construction plans.

B. Seedbed Preparation
   1. Fertilize by applying 18 pounds / 1000 square feet of 12-12-12 analysis, or equivalent, fertilizer.
   2. Work the fertilizer into the soil 2-4 inches deep with a disk or rake operated across the slope.

C. Seeding
   1. Select a seeding mixture and rate from Section 2.2 and plant at depth and on dates shown.
   2. Apply seed uniformly with a drill or cultipacker-seeder or by broadcasting and cover to the depth shown in Section 2.2.
   3. If drilling or broadcasting, firm the seedbed with a roller or cultipacker.
   4. Mulch seeded areas to increase seeding success. Anchor all mulch by crimping or tackifying. Use of netting or erosion control blankets is possible, but may not be cost effective for temporary seeding.

3.03 Dust Control

A. Apply as needed to prevent wind-borne dust, which could create a health and/or visibility hazard downwind, from leaving the construction area.

END OF SECTION
SECTION 33 40 00 - STORM DRAINAGE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes storm drainage outside the building.

B. Related Sections include the following:

1. Division 2 Section "Foundation Drainage Systems" for foundation drains connecting to storm drainage.
2. Division 3 Section "Cast-in-Place Concrete" for concrete structures.

1.03 PERFORMANCE REQUIREMENTS

A. Best Management Practices (BMP): Provide storm water quality management system indicated on drawings in accordance with BMP of governing authorities.

B. Force-Main Pressure Ratings: At least equal to system operating pressure, but not less than 150 psig (1035 kPa).

1.04 SUBMITTALS

A. Product Data: For storm drainage system materials and products, including the following:

1. Polymer-concrete, channel drainage systems.
2. Cleanouts and drains.

B. Shop Drawings: Include plans, elevations, details, and attachments for the following:

1. Precast concrete manholes and other structures, including frames, covers, and grates.

C. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.05 QUALITY ASSURANCE:

A. Installer's Qualifications: Firm with at least 5 years of successful installation experience on projects with storm sewage work similar to that required for project.

B. Codes and Standards:

1. Utility Compliance: Comply with applicable portions of local utility regulations and standards pertaining to installation of storm sewage system.
2. Environmental Compliance: Comply with applicable portions of local Environ-
mental Agency regulations pertaining to storm sewage systems.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic structures, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle precast concrete manholes and other structures according to manufacturer’s written rigging instructions.

1.07 PROJECT CONDITIONS

A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.

B. Locate existing structures and piping to be closed and abandoned.

C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner’s Representative and Architect in writing not less than three days in advance of proposed utility interruptions.

PART 2 - PRODUCTS

2.01 PIPES AND FITTINGS

A. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76, Class III, Wall B, for gasketed joints.


B. Smooth Wall HDPE Pipe and Fittings: ASTM F714, maximum DR of 21 for pipes 3 to 24 inches in diameter and maximum DR of 26 for pipes 26 to 48 inches in diameter. Pipe shall be produced from high density polyethylene certified by resin producer as meeting requirements of ASTM D 3350, minimum cell class 335434C.

1. Siltight Couplings: AASHTO M 252, corrugated, matching tube and fittings to form siltight joints.
2. Siltight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings to form siltight joints.

C. Corrugated HDPE Pipe and Fittings: AASHTO M 294, Type S, with smooth waterway for coupling joints.

1. Siltight Couplings: AASHTO M 294, corrugated, matching pipe and fittings to form siltight joints.
2. Siltight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings to form siltight joints.

D. Corrugated HDPE Drainage Tubing and Fittings: AASHTO M 252, Type S, with smooth
waterway for coupling joints.

1. Soiltight Couplings: AASHTO M 252, corrugated, matching tube and fittings to form soiltight joints.
2. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings to form silttight joints.

E. Perforated, HDPE Pipe and Fittings: ASTM F 405, corrugated, for coupled joints.

1. Include couplings, bends, reducers, adapters, collars and joint materials for a complete installation.
   a. Couplings: Manufacturer's standard, band type.

F. PVC Sewer Pipe and Fittings: According to the following:

1. PVC Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D 3034, SDR 35, for solvent-cemented or gasketed joints.
   b. Application: Connection to downspouts.

G. Subdrains: Provide corrugated perforated polyethylene tubing system as indicated, complying with ASTM F405.

2.02 MANHOLES

A. Precast Concrete Manholes: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for rubber gasketed joints.

1. Diameter: As indicated on drawings, or, if not indicated 48 inches minimum.
2. Base Section: 6-inch minimum thickness for floor slab and 5-inch minimum thickness for walls and base riser section, and having separate base slab or base section with integral floor.
3. Riser Sections: 5-inch minimum thickness, and lengths to provide depth indicated.
4. Top Section: Eccentric-cone type, unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
5. Gaskets: ASTM C 443, rubber.
6. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch- diameter frame and cover.
7. Steps: Fiberglass, individual steps or ladder. Include width that allows worker to place both feet on one step and is designed to prevent lateral slippage off step. Cast or anchor into base, riser, and top section sidewalls with steps at 12- to 16-inch intervals. Omit steps for manholes less than 60 inches deep.
8. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section.

B. Manhole Frames and Covers: ASTM A 536 ductile-iron castings as indicated, designed for heavy-duty service. Include indented top design with lettering "STORM SEWER" cast into cover.

2.03 INLETS
A. Precast Concrete Inlets: ASTM C 890 for A-16 heavy traffic, structural loading design, precast, reinforced concrete, of depth, shape and dimensions indicated, with provision for rubber gasketed joints.

1. Base Section: 6-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section, and having separate base slab or base section with integral floor.
2. Riser Sections: 6-inch minimum thickness, square or rectangular, and lengths to provide depth indicated.
3. Top of cone of size that matches grade rings.
5. Steps: Fiberglass, individual steps or ladder. Include width that allows worker to place both feet on one step and is designed to prevent lateral slippage off step. Cast steps or anchor ladder into base, riser, and top section sidewalls at 12- to 16-inch intervals. Omit steps for catch basins less than 60 inches deep.
6. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section.

B. Frames and Grates: Material: ASTM A 536 ductile-iron castings as indicated.

2.04 PIPE OUTLETS (OUTFALLS)

A. Pipe End Section: Precast concrete end section per ASTM C 76 as indicated.
B. Riprap: As indicated, to prevent washout of outfall discharge.

2.05 POLYMER-CONCRETE, CHANNEL DRAINAGE INLETS

A. General: Modular system of precast, polymer-concrete with grates, and appurtenances; designed so grates fit into inlet recesses without rocking or rattling. Include number of units required to form total lengths indicated.
B. Polymer-Concrete Systems: Include the following components:

1. Grates with manufacturer's designation "Heavy Duty," with slots that fit recesses in channels.
   a. Material: Gray iron.
   b. Frame: Include gray-iron or steel frame for grate.
2. Locking Mechanism: Manufacturer's standard device for securing grates to channel sections.
C. Supports, Anchors, and Setting Devices: Manufacturer's standard, unless otherwise indicated.

2.06 TRENCH DRAINS

A. General: Pre-sloped trench system including 0.65% sloped trench drain with 6-1/4" wide by 48" long polyester concrete channels and integral traffic rated bolt-down grates.
B. Basis-of-Design Product: Pre-sloped trench drain system is based on product listed below. Another manufacturer's trench drain of a similar and equivalent nature will be ac-
ceptable when, in the Architect's sole judgment rendered during the bidding period, differences do not materially detract from the design concept or intended performance.

1. Polycast 600 Series, Hubbell Lenoir City, Inc.

C. Supports, Anchors, and Setting Devices: Manufacturer's standard, unless otherwise indicated.

2.07 GEOTEXTILE FABRIC:

A. General: Manufacturers standard non-woven 100% polyester or polypropylene fabric or combination fabric meeting the following minimum average roll properties.

1. Permeability: ASTM D4491, 0.4 cm/sec
2. Grab Tensile: ASTM D4632, 130 lbs.
3. Grab Longation: ASTM D4632, 50%
5. Mullen Burst Strength: ASTM D3786, 210 lbs.

2.08 SUBDRAIN BACKFILL MATERIALS:

A. Filtering Material: Washed evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing and 1" sieve and not more than 5% passing a No. 4 sieve and approved by Soils Engineer.

B. Drainage Fill: Sandy loam consisting of sand, 50-80%, silt, 0-50%; and clay, 0-20%.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line, and pull past each joint as it is completed.

C. Use manholes for changes in direction, unless fittings are indicated. Use fittings for branch connections, unless direct tap into existing sewer is indicated.

D. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. Install gravity-flow piping and connect to building's storm drains, of sizes and in locations indicated. Terminate piping as indicated.

1. Install piping pitched down in direction of flow, at minimum slope of 1 percent, unless otherwise indicated.
2. Install piping with 36-inch minimum cover.

F. Install force-main piping between and connect to building's sanitary-drainage force main and termination point indicated.

1. Install piping with restrained joints at horizontal and vertical changes in direction. Use cast-in-place concrete supports and anchors or corrosion-resistant rods and clamps.

2. Install piping with 36-inch (1000-mm) minimum cover.

G. Install ductile-iron, force-main piping according to AWWA C600.

H. Install PVC force-main piping according to AWWA M23.

I. Install force-main piping between and connect to building's force main and termination point indicated.

J. Install force-main piping between and connect to packaged sewage pump station outlet and termination point indicated.

K. Tunneling: Install pipe under streets or other obstructions that cannot be disturbed by tunneling, jacking, or a combination of both.

3.02 PIPE JOINT CONSTRUCTION AND INSTALLATION

A. General: Install pipe and fittings in accordance with governing authorities having jurisdiction, except where more stringent requirements are indicated.

B. PE Pipe and Fittings: Install according to ASTM D 2321 and manufacturer's written instructions.

C. PVC Sewer Pipe and Fittings: Make downspout connections according to ASTM D 2321.

D. Concrete Pipe and Fittings: Install according to ACPA's "Concrete Pipe Installation Manual."

E. System Piping Joints: Make joints using system manufacturer's couplings, unless otherwise indicated.

F. Join piping made of different materials or dimensions with couplings made for this application. Use couplings that are compatible with and that fit both systems' materials and dimensions.

3.03 MANHOLE INSTALLATION

A. General: Place precast concrete sections as indicated. Where manholes occur in pavements, set tops of frames and covers flush with finish surface. Elsewhere, set tops 3" above finish surface, unless otherwise indicated.

B. Install in accordance with ASTM C 891.

C. Apply bituminous mastic coating at joints of sections.
3.04 INLET INSTALLATION
   A. Construct inlets to sizes and shapes indicated.
   B. Set frames and grates to elevations indicated.

3.05 OUTLET INSTALLATION (OUTFALLS)
   A. Install outlets that spill onto grade, with flared end sections that match pipe, unless otherwise indicated.
   B. Construct riprap of broken stone, as indicated.

3.06 PAVEMENT SUBDRAIN SYSTEM:
   A. General: Install filter fabric, filtering material, and subdrain pipe as indicated.
      1. Cut trench to width indicated and to true grades, alignment, and continuous slope in direction of flow.
      2. Line trench with filter fabric to top of pavement subgrade.
      3. Place supporting layer of filtering material in trench to depth indicated.
      4. Lay subdrain pipe solidly bedded in filtering material.
      5. Test subdrain lines to assure free flow. Remove obstructions, replace damaged components, and retest system until satisfactory.
      6. Place filter material to prevent subgrade in layers not exceeding 6" in loose depth and carpet each layer placed.
      7. Wrap top of filter material at pavement subgrade with filter fabric lapped 4" minimum.

3.07 DITCH SUBDRAIN SYSTEM:
   A. General: Install drainage fill and subdrain pipe as indicated.
      1. Cut trench to width indicated and to true grades, alignment, and continuous slope in direction of flow.
      2. Place supporting layer of drainage fill in trench to depth indicated.
      3. Lay subdrain pipe solidly bedded in filtering material.
      4. Place drainage fill in finished grade in layers not exceeding 8" in loose depth and lightly compacted.

3.08 TAP CONNECTIONS
   A. Make connections to existing piping and underground structures so finished Work complies as nearly as practical with requirements specified for new Work.
   B. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
   C. Make branch connections from side into existing piping, NPS 21 or larger, or to underground structures by cutting opening into existing unit large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing
through pipe or structure wall to conform to shape of and be flush with inside wall, unless otherwise indicated. On outside of pipe or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

1. Use concrete that will attain minimum 28-day compressive strength of 3000 psi, unless otherwise indicated.
2. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

D. Protect existing piping and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.09 TRENCH DRAIN INSTALLATION

A. Install trench drain in accordance with manufacturer’s written recommendations.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

3.10 FIELD QUALITY CONTROL

A. Clear interior of piping and structures of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed.

B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

C. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours’ advance notice.
4. Submit separate reports for each test.
5. Leaks and loss in test pressure constitute defects that must be repaired.
6. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION
MEMORANDUM OF UNDERSTANDING
BETWEEN
INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS
AND
CITY OF INDIANAPOLIS - MARION COUNTY

This Memorandum of Understanding (MOU) will identify the responsibilities of the undersigned Trustees of Indiana University on behalf of its IUPUI campus (Entity), and the City of Indianapolis - Marion County (City) in regards to the Municipal Separate Storm Sewer System – National Pollution Discharge Elimination System Permit (MS4 - NPDES Permit) issued by the Indiana Department of Environmental Management (IDEM). This MOU and accompanying checklist represents the entire understanding of the parties and does hereby supercede any other writing addressing the Entity’s obligations with regard to compliance with the MS4-NPDES Permit.

WHEREAS, the IDEM has issued the City NPDES Permit No. INS040001 for the second term of its MS4 – NPDES permit which includes the following phrase, “The City shall enter into a legal contract or agreement with the entities listed in Part I.A. of this permit to control discharges to and from those portions of the MS4 area that are owned or operated by the entities” and,

WHEREAS, the MS4 – NPDES Permit requires some ‘legal authority’ which enables both parties meet the permit terms and conditions.

NOW THEREFORE BE IT RESOLVED, that the parties to this Memorandum agree to comply with Permit No. INS040001 and will hereby ‘control discharges to and from those portions of the MS4 area that are owned or operated by the Entity from the date of execution henceforth, as required by Part II.A.2 of the permit as identified in the attached checklist.

CITY OF INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS

[Signature]

James A. Garrard, Director

Date: 2/26/06

INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS

[Signature]

Mary Frances M. McCourt
Treasurer, The Trustees of Indiana University

Date: 2/6/06

APPROVED AS TO LEGALITY AND FORM

[Signature]

R. Matt Senseney, Assistant Corporation Counsel
CERTIFICATION OF COMPLIANCE

WITH NPDES PERMIT NUMBER INS040001

IUPUI is designated as an entity covered by the municipal separate storm sewer system permit that has been issued by the Indiana Department of Environmental Management to the City of Indianapolis under the National Pollutant Discharge Elimination System (NPDES). Under the terms of NPDES Permit No. INS040001, IUPUI certifies that:

- IUPUI has both staff and contract pesticide and fertilizer application. All applicators are required to be State Chemist-certified.
- IUPUI has provided training to appropriate staff on storm water pollution prevention.
- IUPUI will comply with the City of Indianapolis' permit requirements that relate to storm water. IUPUI will, in cooperation with the City of Indianapolis [or the Marion County Soil and Water Conservation District], operate a construction site self-inspection program for compliance with the terms of NPDES permit No. INS040001, Part II.A.1.e., and Section 602.8 of Chapter 600 of the City of Indianapolis, Department of Public Works (DPW) Stormwater Design and Construction Specifications Manual, using its own trained inspectors guided by the attached IUPUI Self-Inspection Checklist. The City of Indianapolis will continue to operate its existing program to implement Chapter 600. IUPUI agrees that DMD may conduct spot inspections of IUPUI construction sites. Any suspected violations will be reported to the IUPUI Department of Environmental Health & Safety Department to be addressed.

- Certification:

"I certify under penalty of law that that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the above statement is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

[Signature]

Mary Frances M. McCourt
Treasurer, The Trustees of Indiana University

Date 2-6-04
IUPUI COMPLIANCE SCHEDULE FOR INDIANAPOLIS NPDES MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

COMPLIANCE CHECKLIST NARRATIVE RESPONSES
October 1, 2010 – September 30, 2011

Permit Action Item

II.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

Document Maintenance of Structural Controls

- **Inventory Structural Runoff Controls**: Structural runoff controls are mapped as they are permitted and installed. The units are currently included as part of a campus-wide, comprehensive preventative maintenance (PM) program which utilizes an electronic calendar to schedule appropriate preventative maintenance activities. The IUPUI Office of Campus Facility Services Utilities Department (CFS) inspects each unit on a frequency consistent with that specified in each unit’s installation permit and as specified by the manufacturer. CFS utilizes contractual services to clean the units as specified by permit and in accordance with manufacturer’s recommendations.

  Document Maintenance: Inspections and servicing is documented as performed in a departmental spreadsheet.

Drain Marking Program

- **Identify University-Owned Streets**: University-owned streets are identified. Routine maintenance including paving and striping are provided to these streets.

- **Obtain DPW Drain Marking Plan**: A copy of sewer mapping for the IUPUI campus has been obtained and evaluated. University personnel continue to work on updating existing campus sewer plans – especially for those areas in the MS4 areas – documenting all storm sewer inlets on campus.

- **Develop University Drain Marking Plan**: The University, in conjunction with the Center of Earth and Environmental Science (CEES) of the IUPUI Department of Geology, committed to mark all storm sewer inlets on campus whether located within the MS4 areas or if located within an area on campus served by the combined sewer system.

- **Implement Drain Marking Program**: The drain marking program was initiated in the fall of 2005 and was completed by the CEES as student service projects. Currently, 100% of those storm sewer inlets on campus have been initially marked; including those outside the MS4 areas on campus. The campus has implemented a program to inspect and replace missing any previously-installed drain markers in the MS4 areas on campus as time and resources allow.
Street Sweeping Program

Identify Streets Being Swept: University-owned streets are identified. Baring any special construction project, all University-owned streets are included as part of the campus street sweeping program.

- Schedule for Sweeping: Campus streets were swept four times during the reporting period (during the months of October 2010, February 2011, April 2011 and August 2011). The University continued to use the services of a contractual street sweeping service during the reporting period which utilized equipment which is more efficient than that previously owned and operated by the University.

- Document amount of trash/grit collected: All collected grit and debris is disposed of as municipal solid waste. It is estimated that 40 cubic yards of grit and refuse were removed as part of the street sweeping program.

Winter Weather Salt Use

- Develop Written Salt Application Guidelines: Salt is applied to the guidelines of the manufacturer of campus salt application equipment and according to the guidelines of the Salt Institute. Salt application is monitored by departmental supervisors and adjusted as appropriate to ensure effective ice control while minimizing the volume of salt applied.

- Document Amount of Salt Used Each Winter Season: CFS and the Department of Parking Services retain salt purchase and use records for those products utilized to treat campus streets, parking lots and sidewalks. It is estimated that 600 tons of salt were applied to campus streets, sidewalks and parking lots located within the MS4 area of the campus during the reporting period. (The volume of salt utilized is higher than previously reported for the University due to the severity of the winter and the fact that the University continued treatment of parking lots for the third year in a row due to risk management concerns. An estimated 65 acres of parking lots were treated with salt during the reporting period.

The campus has committed to eliminate the use of sand in treating campus parking lots and streets whenever feasible. However, an estimated 50 tons of sand were applied to University streets and parking lots following a severe ice storm in February of this year. Otherwise, sand is only used on handicapped entrance inclines or other sensitive areas where additional control on snow/ice is required.

In an effort to reduce the volume of salt utilized on campus, the University continued the use of a pretreatment solution of salt brine and beet juice on University streets, sidewalks and parking lots. University thoroughfares, parking lots and sidewalks were pretreated with the pretreatment solution prior to an anticipated snow event utilizing a 16 member, second shift crew.
Roadside Erosion and Litter Control

- Develop Education Program and Detailed Instructions for Staff and Contractors: The Grounds Department of the IUPUI Department of Campus Facility Services is responsible for the ongoing maintenance of the grounds on the IUPUI campus. The campus is divided into service zones. Each service zone is continually policed for litter and erosion problems including prior to the mowing of campus lawns. Educational flyer and distributed to campus maintenance staff.

- Document Amount of Litter Collected and Disposed Of: An estimated 12-13 cubic yards of roadside refuse was removed during the reporting period.

- Document Erosion Areas and Generate Work Order for Repair: As an urban campus, campus streets are served by curbing and sidewalks. As such, the potential for erosion is significantly reduced. The Grounds Department of the IUPUI Department of Campus Facility continually monitors the campus for eroded areas including unpaved areas experiencing heavy pedestrian traffic. Work orders are established for the repairs of eroded areas and for the extension of pedestrian sidewalks. For areas where extension of sidewalks is not possible or practical, mulch is utilized to minimize the amount of run-off experienced. The current work order systems readily allows for the tracking of each repair/restoration project.

Vehicle and Equipment Wash Area Study/Modifications

- Identify Areas Where Vehicles Are Washed: The campus did not allow the washing of University-owned vehicles in areas that are exterior to University buildings during the reporting period. University vehicles are washed at off-site commercial car washes. A single wash bay currently exists within the Physical Plant Building where a limited number of vehicles and other campus equipment such as lawn mowers are washed. The wash bay is connected to the sanitary sewer.

- Determine Whether the Discharge from the Washing Area is “Illicit”: No illicit discharges are known to exist.

- Develop Plan for Corrective Actions: Not applicable at this time.

- Provide Information to Indianapolis for Inclusion in Report: Not applicable at this time.

- Implement Study Recommendations: Not applicable at this time.

- Document Implementation of Recommendations: Not applicable at this time.

Pesticide and Fertilizer Applications

- Develop a Pesticide and Fertilizer Training Program: All campus personnel involved with the application of pesticides, herbicides and fertilizers are licensed by the Indiana State Chemist Office. This includes two technicians responsible for application of pesticides, herbicides and fertilizers and two supervisory personnel. Pesticides, herbicides and fertilizers are handled and applied according to State Chemist and manufacturer’s label directions. All four personnel are compliant with the annual continuing education requirements of their licensure.
In an effort to further reduce the volume of pesticides/fertilizers applied on campus, the Grounds Department has fully implemented an integrated pest management approach. Under the integrated pest management system, the Grounds Department inspects an area prior to treating for any given pest to ensure that the pest is present and that treatment is required. In addition, treatments are timed based on the lifecycle of the pest for which control is desired.

Fertilizer applications were maintained at three (3) per year. Three (3) applications are scheduled for 2012. In addition, the Grounds Department enhanced efforts to control the over application of fertilizer granules to sidewalk and streets and made a concerted effort to remove any over application immediately following treatment.

The Grounds Department has eliminated the use of restricted-use pesticides on campus.

**Staff Education and Training Program**

- Develop Pollution Prevention Training Program: Educational brochure (attached) developed and circulated to University maintenance personnel as well students who reside on campus.

**SOP Inspection and Cleaning of University Owned Parking Lots**

- Obtain completed Parking Lot SOP from DPW. Completed. See attached.
- Develop implementation Schedule for Parking Lot SOP. See below.
- Document Inspections and Cleanings of Parking Lots Through the Schedule and Checklist Provided in the Parking Lot SOP. See below.
- Provide Documentation of Reporting of the Parking Lot SOP in the Annual Report and Submit to DPW. An estimated 200 cubic yards of refuse was removed from University parking lots during the reporting period.

**SOP Inspection and Cleaning of University Owned Vehicle Maintenance Garages.**

- Obtain completed Vehicle Maintenance SOP from DPW. The University has no external vehicle maintenance areas, material storage facilities or vehicle yards. The University contracts all vehicle maintenance operations to independent garages. A single repair shop for grounds equipment exists at the Physical Plant Building. Equipment maintenance occurs within an interior repair shop. The repair shop and the adjacent wash bay are connected to the sanitary sewer.
- Develop Implementation Schedule for Vehicle Maintenance SOP. Not Applicable.
- Document Inspections and Cleanings of Vehicle Maintenance Facilities Through Schedule and Checklist Provided in the SOP. Not Applicable.
- Provide Documentation of Reporting of SOP in the Annual Report and Submit to DPW. Not Applicable.
Flood Control Projects

- Evaluate All Stormwater Treatment Control Structures in University Property for Improvements, Maintenance and Retrofitting. Ongoing effort. See narrative below.
- Submit Results and Implementation Schedule in Annual Report. As specified previously, the IUPUI campus is comprised of both MS4 and combined sewer conveyances; with the largest percentage of the campus being served by combined sewers. Previously, five areas of the campus are designated as being part of a MS4 area: these being, the Union Building, surrounding buildings and parking lots, the Wishard Boulevard corridor (including the cancer research corridor), the Campus Apartments on the Riverwalk complex, the Natatorium/Herron Art School corridor and the Biotechnology Research and Training Center complex.

Of the five MS4 areas located on campus, the Campus Apartments on the Riverwalk and the Biotechnology Research and Training Center complexes are recent developments. Treatment control structures installed at these locations met the treatment efficiencies specified in the Stormwater Design and Construction Specifications Manual at the time of their installation. The units are maintained as described previously in this report.

The largest MS4 area found on campus, the Union Building and surrounding buildings, was deeded to Wishard Memorial Hospital in the fall of 2009 as part of 25-acre campus land exchange. Wishard demolished four existing structures (the former Indiana State Department of Health, the LaRue Carter Hospital and garage facilities and the existing IUPUI Environmental Management facility) in preparation for the construction of a new hospital and associated facilities. It is anticipated that Wishard Memorial Hospital will install new stormwater infrastructure as part of the redevelopment of the site. (See attached map).

Beginning in 2014, the University will begin the occupation/redevelopment of the current Wishard campus. The stormwater infrastructure of the Wishard campus will be evaluated at that point in time.

Of the remaining two areas, construction of Phase III of the cancer research corridor was completed in April of 2010. Treatment control structures installed as part of recent construction within this corridor meet current treatment efficiencies specified in the Stormwater Design and Construction Specifications Manual. In addition, the corridor is served by two public thoroughfares currently under the responsibility of the City of Indianapolis. The Natatorium/Herron School or Art corridor has a limited number of treatment control structures all of which appear to be contemporary and capable of meeting the 80% total suspended solids removal efficiency specified within the Indianapolis/Marion County Stormwater Design and Construction Specifications Manual.
II.C POST CONSTRUCTION STORM WATER RUN-OFF CONTROL IN NEW DEVELOPMENT AND REDEVELOPMENT

- Certify University Will Comply With City Permit Requirements: Certification statement provided previously.

II.D ILLICIT DISCHARGES AND IMPROPER DISPOSAL

Inventory Outfalls and MS4 (Municipal Separate Storm water System)

- Provide Mapping of University-Owned Drainage System: Conveyances located within the MS4 areas greater than 12 inches are currently mapped. The University estimates that remapping of the entire mapping is complete. Work on campus sewer conveyances is ongoing. In addition to new conveyances mapped, previously mapped areas has undergone quality control check for precision and accuracy.

Summarize Used Oil and Toxics Programs

- Summarize Used Oil and Toxics Programs: The University maintains a comprehensive chemical waste disposal program which is inspected on a regular basis by the Indiana Department of Environmental Management and the United States Environmental Protection Agency. Chemical wastes are removed directly from the point of generation by personnel of the IUPUI Department of Environmental Health and Safety (EHS). The materials are transported to a dedicated facility designed for the management of hazardous wastes where they are consolidated, treated if appropriate or packaged for the off-site treatment at one or more permitted hazardous waste disposal facilities currently under contract with the University. The facility is manned daily and is formally inspected by EHS personnel on a weekly basis. An estimated 268,000 pounds of chemical wastes were collected and managed during the reporting period.

Waste oils and glycols are collected in a similar fashion, transported to a dedicated storage facility. Waste oils and glycols are regularly collected by a national disposal contractor for recycling. The storage area is inspected on a weekly basis by EHS staff and on a regular basis by the Indiana Department of Environmental Management. Most of the collected waste oils originated from campus compressor units and from the routine maintenance grounds equipment. Most of the waste glycol originated from campus heat exchange systems.

II.F CONSTRUCTION SITE RUN-OFF CONTROL

Compliance with Rule 5

- Certify Compliance with Rule 5 Requirements: Certification provided previously.
- Certify Compliance with Chapter 600: Certification provided previously.
Submit NOI’s to DMD: NOI’s submitted to the Indianapolis Department of Metropolitan Development as appropriate.

Construction Site Inspection Program

- Develop a Self-Inspection Program for Construction Sites: Not applicable
- Provide a Self-Inspection Monitoring Program: Not applicable.
- Certify As to Implementation of Construction Site Inspection Program: Not applicable.

In an effort to ensure as high a level of protection as possible, all IUPUI construction project managers were provided with a construction site stormwater protection training program administered by the Stormwater Coordinator from the Indiana University Bloomington campus. The training was consistent with that administered to construction site personnel at the various Indiana University campuses currently covered by the University’s Part C NPDES Phase II permit Stormwater Quality Management Plan.

Training Program for Construction Site Inspectors

- Certify as to Completion of Inspector Training: Not Applicable.

The inspection of weekly and rain event inspection of construction sites is delegated by contract to the primary contractor responsible for the construction project. Contractors are requested to complete the attached forms on a regular basis over the course of the construction project. Contractors are provided with the attached checklist.

II.G PUBLIC PARTICIPATION AND EDUCATION

Encourage Public Reporting of Problems

- Develop Fliers/Signs with Number to Report/Call: Attached flyer developed and circulated to campus maintenance staff and residential students. Additional educational materials developed by the Bloomington campus as part of that campus’ MS4 permit are to be implemented on campus.

Educate Students/Staff about NPS Pollution

- Develop Distribute Materials/Signs Develop Fliers/Signs with Number to Report/Call: Attached flyer developed and circulated to campus maintenance staff and residential students. Additional educational materials developed by the Bloomington campus as part of that campus’ MS4 permit are to be implemented on campus.

Stormwater management and education on campus has been added as an initiative for the IUPUI Sustainability Committee.
III.B REPORTING REQUIREMENTS

Provide Information to DPW for Annual Reports

- **Begin Assembly of Information for Annual Report**: Information collected and provided.
- **Complete Checklist and Submit to DPW by October 31st**: Checklist and narrative completed on November 4, 2011.
### IUPUI Compliance Schedule For Indianapolis' NPDES Municipal Separate Storm Sewer System Permit

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document maintenance of structural controls</td>
<td>9</td>
<td>II.B.1.a</td>
<td>Oct-05</td>
<td>Structural storm water controls (SSC) are engineered facilities intended to treat storm water and/or mitigate the increased effects of storm water runoff peak rates, volume, and velocity due to urbanization. Your site may or may not contain structural storm water controls. If your site does contain SSCs you are required to map their location.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory structural runoff controls</td>
<td>A</td>
<td></td>
<td></td>
<td>If your campus contains SSCs you should map their locations.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Document maintenance of applicable</td>
<td>D</td>
<td></td>
<td></td>
<td>If your campus contains SSCs you must document your maintenance program(s).</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Drain marking program</td>
<td>10</td>
<td>II.B.2.a</td>
<td>Oct-05</td>
<td>The storm drain marking program is designed to inform universities about the ecological hazards of dumping household chemicals into storm drains. This requirement involves painting a stencil near storm drains to remind people that everything that goes into a storm drain flows directly, untreated, into a nearby stream, and distributing a brochure to citizens who attend school, work or live in the area where drains have been marked. The brochure explains how to properly dispose of materials that pose a hazard to fish and water quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify university-owned streets</td>
<td>A</td>
<td></td>
<td></td>
<td>Determine and map the location of university-owned streets and drainage inlets.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Obtain DPW drain marking plan</td>
<td>A</td>
<td>DPW</td>
<td></td>
<td>The storm drain marking plan can be obtained through the Indianapolis, DPW Senior Project Manager at 1-317-327-8441.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Develop university drain marking plan</td>
<td>A</td>
<td></td>
<td></td>
<td>Using the Indianapolis Storm Drain Marking Plan as a template, create a Drain Marking Plan suitable for use at the university to mark all university-owned inlets.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Implement drain marking program</td>
<td>10</td>
<td>II.B.2.a</td>
<td>As per plan</td>
<td>Establish a date to begin marking inlets and keep appropriate records.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Direct Sweeping Program</td>
<td>11</td>
<td>II.B.2.c</td>
<td>Oct-05</td>
<td>This program keeps floatables and other solid material from accumulating on the street pavement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify streets being swept</td>
<td>A</td>
<td></td>
<td></td>
<td>Identify the streets that have the greatest potential for trash collection by evaluating traffic counts and the use of adjacent areas.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Schedule for sweeping</td>
<td>A</td>
<td></td>
<td></td>
<td>Document reason for adoption of your individual sweeping schedule.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Document amount of trash grit collected</td>
<td>D</td>
<td>A</td>
<td></td>
<td>Establish dates and times sweeping will occur and require that those who sweep the streets document the amount of material collected and how it was disposed of. This is VERY IMPORTANT!</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Winter weather salt use</td>
<td>11</td>
<td>II.B.2.d</td>
<td>Annual</td>
<td>Some can impact plant life and have adverse effects on other environmentally sensitive organisms. This program limits the impact to the maximum extent practicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop written salt application guidelines</td>
<td>A</td>
<td></td>
<td></td>
<td>Establish an appropriate application rate for deicing salt on driveways and parking lots. This application chart must utilize surface type and air temperature in the calculation to help avoid over application.</td>
<td>No</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Document amount of salt used each winter season</td>
<td></td>
<td></td>
<td></td>
<td>The university is responsible for retaining all records and making the information available to DPW on an annual basis.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Roadside erosion and litter control</td>
<td>11</td>
<td>II.B.2.e &amp; f</td>
<td>Annual</td>
<td>Erosion is the single largest polluter of storm water in the United States. Being aware of and repairing erosion Along roadsides and on properties substantially helps reduce pollution in waterways. Litter contains many floatables which can be difficult to remove from storm water as they tend to travel along the waterway easily.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop education program and detailed instructions for staff &amp; contractors</td>
<td>A</td>
<td></td>
<td></td>
<td>Develop handouts and short training sessions that discuss the importance of keeping roadsides and &quot;erosion&quot; areas. University staff and contractors need to be included in the training.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Document amount of litter collected and disposed of</td>
<td>D</td>
<td></td>
<td></td>
<td>A method to track the amount of trash/litter removed must be developed and implemented.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Document erosion areas and generate work order for repair</td>
<td>D</td>
<td></td>
<td></td>
<td>A method to track the repair of the eroded areas must be developed and implemented.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
</tbody>
</table>

Please initial and insert date completed in appropriate space

NPDES MS4 Requirements
for Universities / Colleges
Permit No: IN10040001

A = Action / N/A = No Action / C = Certification / D = Document / R = Report

Prepared by: AMEC
01/15/08
1 of 4
### II.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

#### Vehicle and equipment wash area study / modifications

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.B.3.c 12</td>
<td>Oct-05</td>
<td></td>
<td></td>
<td>This management measure is intended to eliminate non-point source pollutant loads generated by the washing of vehicles and equipment, such as lawn mowers and generators, in areas that drain to storm drainage systems ponds, or streams. These discharges would be considered illicit discharges.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Identify areas where vehicles are washed</td>
<td>A</td>
<td>The first step is to identify those areas where university-owned vehicles and equipment are washed.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine whether the discharge from the washing area is &quot;illicit&quot;</td>
<td>A</td>
<td>Using utility maps for the wash area and adjacent storm and sanitary sewer maps, determine whether the discharge from the vehicle and equipment washing areas goes to a storm or to a sanitary sewer system.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop plan for corrective actions</td>
<td>A</td>
<td>For those vehicle and equipment washing areas that discharge to a storm drainage system, pond, or stream, develop a corrective action plan. The types of acceptable corrective actions include removing of wash area drains to sanitary sewer lines and relocation of washing activities to locations where the wash waters discharge properly to a sanitary system. In the case where the drain to an outdoor wash area is routed to sanitary sewers, the design must include considerations for keeping storm water at the wash area out of the sanitary sewer system. The corrective action plan should include a schedule for the corrections to be made.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide information to Indianapolis for inclusion in report</td>
<td>A</td>
<td>Provide a copy of the plan to DPW by October 1, 2005.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement study recommendations</td>
<td>A</td>
<td>Implement the corrective actions according to the plan developed by the university.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Document implementation of recommendations</td>
<td>D</td>
<td>Submit documentation to DPW annually.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### II.B.5.13 Pesticide and fertilizer applications

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.B.5 Oct-06</td>
<td></td>
<td></td>
<td></td>
<td>Due to the fact that most PH &amp; FS are applied directly to areas that generate runoff there is a potential for substantial impact to the receiving waters. The university must develop a plan that will minimize application rates or certify that the chemicals are not in use.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Develop a pesticide and fertilizer application program plan</td>
<td>A, C</td>
<td>Prepare a chemical application program plan that requires that pesticides, herbicides and fertilizers be used according to 11 State Chemist recommendations; and 2) label directions.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Staff education and training program

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.B.5.I Oct-06</td>
<td></td>
<td></td>
<td></td>
<td>Staff that perform job functions that can potentially result in pollution of stormwater runoff must be provided with general and targeted education and awareness training on stormwater pollution and stormwater pollution prevention.</td>
<td>On-going</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Develop pollution prevention training program</td>
<td>A</td>
<td>Develop or acquire a pollution prevention training program</td>
<td>On-going</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule training times and locations</td>
<td>A</td>
<td>Schedule and provide the training to staff</td>
<td>On-going</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certify completion of training program</td>
<td>C</td>
<td>Prepare and sign certification</td>
<td>On-going</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### II.B POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

#### SOP Inspection and Cleaning of University-Owned Parking Lots

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.B.1.d Oct-06</td>
<td></td>
<td></td>
<td></td>
<td>University-owned parking lots exposed to storm water shall be inspected and kept clear of debris and excessive oil buildup on an as-needed basis. The parking lot SOP created by DPW should be used to determine a schedule for implementation and the procedures to follow for implementation. In each annual report after the second year of permit coverage, a summary of the parking lot inspections will be provided, which indicates the number of inspection, and an estimate of the trash and debris material removed.</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
</tr>
<tr>
<td>Obtain completed Parking Lot SOP from DPW</td>
<td>Oct-06</td>
<td>A</td>
<td>DPW to provide universities with SOP</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
<td></td>
</tr>
<tr>
<td>Develop Implementation Schedule for Parking Lot SOP</td>
<td>Oct-06</td>
<td>A</td>
<td>Develop implementation schedule consistent with the SOP</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
<td></td>
</tr>
<tr>
<td>Document inspections and cleanings of Parking Lots through the schedule and checklist provided in the Parking Lot SOP</td>
<td>Annual</td>
<td>Document through checklist provided in the SOP</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide documentation of reporting of the Parking Lot SOP in the Annual Report and submit to DPW</td>
<td>Annual</td>
<td>D, A</td>
<td>Provide a write up in the Annual Report of compliance with SOP</td>
<td>Yes</td>
<td>See Attached Narrative Comments</td>
<td></td>
</tr>
</tbody>
</table>

#### SOP inspection and cleaning of University-owned vehicle maintenance garages

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II.B.3.b Oct-06</td>
<td></td>
<td></td>
<td></td>
<td>University-owned maintenance facilities and vehicle yard areas exposed to storm water that are inspected and kept clear of debris and excessive oil buildup on an as-needed basis. The maintenance facility SOP created by DPW should be used to determine a schedule for implementation and the procedures to follow for implementation. In each annual report after the second year of permit coverage, a summary of the parking lot inspections will be provided, which indicates the number of inspection, and an estimate of the trash and debris material removed.</td>
<td>Not Applicable</td>
<td>See Attached Narrative Comments</td>
</tr>
</tbody>
</table>
II.D POLLUTION PREVENTION, OPERATIONS AND MAINTENANCE

II.D.4. c 13 Oct-06
Evaluate all stormwater treatment control structures in University property for improvements, maintenance or retrofitting.

II.D.6 18 Oct-05
Summarize used oil and toxics programs

II.F CONSTRUCTION SITE RUN-OFF CONTROL IN NEW DEVELOPMENT AND REDEVELOPMENT

II.F.1 23
Certify compliance with Rule 5 requirements

II.F.5 n/a
Construction site inspection program

II.G ILLEGAL DISCHARGES AND IMPROPER DISPOSAL

II.G.2. b 17 Oct-06
Provide mapping of University-owned drainage system

II.G.6 18 Oct-05
Summarize used oil and toxics programs

NPDES MS4 Requirements for Universities / Colleges

IUPUI Compliance Schedule For Indianapolis’ NPDES Municipal Separate Storm Sewer System Permit

<table>
<thead>
<tr>
<th>Permit Action Item</th>
<th>Page</th>
<th>Section</th>
<th>Completion Date</th>
<th>Action Item Description</th>
<th>Action Item Completed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain completed Vehicle Maintenance SOP from DPW</td>
<td></td>
<td></td>
<td>Oct-06</td>
<td>A</td>
<td>OWP to provide universities with SOP</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Develop implementation schedule for Vehicle Maintenance SOP</td>
<td></td>
<td></td>
<td>Oct-06</td>
<td>A</td>
<td>Develop implementation schedule consistent with the SOP</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Document inspections and cleanings of vehicle maintenance facilities through schedule and checklist provided in the SOP</td>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td>Document through checklist provided in the SOP</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Provide documentation of reporting of SOP in the Annual Report and submit to DPW</td>
<td></td>
<td></td>
<td>Annual</td>
<td>D, A</td>
<td>Provide a write up in the Annual Report of compliance with SOP</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

The Indiana Department of Environmental Management has adopted Rule 5 which affects construction sites one acre in size and larger. An NOI requirement is included in Rule 5. The City of Indianapolis has adopted Chapter 600 entitled “Erosion Control” which adopts Rule 5 by reference. The university and its contractors must comply with both Rule 5 and Chapter 600.

The University or its contractor must submit NOI’s to IDEM for all projects that disturb at least one acre of land.

Proper vehicle and equipment maintenance generates used fluids, such as oil, that must be disposed of properly. University maintained records must show if these maintenance procedures are performed on-site or at off-site facilities.

The City of Indianapolis offers inspection classes. Utilize the Indianapolis CND inspectors where possible.
## IUPUI Compliance Schedule For Indianapolis' NPDES Municipal Separate Storm Sewer System Permit

<table>
<thead>
<tr>
<th>Permit Action Item Description</th>
<th>Action Item Completed (Yes/No)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Develop a self-inspection program for construction sites</strong></td>
<td>A</td>
<td><strong>Not Applicable</strong> See Attached Narrative Comments</td>
</tr>
<tr>
<td><strong>Provide a self-inspection monitoring program</strong></td>
<td>A</td>
<td><strong>Yes</strong> See Attached Narrative Comments</td>
</tr>
<tr>
<td><strong>Certify as to implementation of the construction site inspection program</strong></td>
<td>C</td>
<td><strong>Not Applicable</strong> See Attached Narrative Comments</td>
</tr>
<tr>
<td><strong>Training program for construction site inspectors</strong></td>
<td>23 II.F.5 n/a</td>
<td>Construction site inspector training is required.</td>
</tr>
<tr>
<td><strong>Certify as to completion of inspector training</strong></td>
<td>C</td>
<td><strong>Not Applicable</strong> See Attached Narrative Comments</td>
</tr>
</tbody>
</table>

**II.G PUBLIC PARTICIPATION AND EDUCATION**

| Encourage public reporting of problems | 24 II.G.1 Oct-05 | The university must publicize the appropriate phone numbers and other means of contact when stormwater runoff pollution problems are identified. |
| Develop flyers/signs with number to report problems | A | The university will develop flyers and/or posters that explain how to identify and report illegal dumping or pollution if observed. **Yes** See Attached Narrative Comments |
| Educate students/staff about NPS pollution | 24-25 II.G.4 & 6 Throughout | Provide information on stormwater pollution prevention, including proper disposal of items such as used fluids, paper, and other materials to students, staff, and contract employees. Use Indianapolis fliers where possible. **Yes** See Attached Narrative Comments |
| Develop distribute materials/signs | A, D | Develop and distribute information on proper disposal and pollution prevention. **Yes** See Attached Narrative Comments |

**III.B REPORTING REQUIREMENTS**

| Provide information to DPW for annual reports | 36 III.B.3 Annual | The City as required to submit an annual report to IDEM that details progress made on permit compliance during the previous year. The university must pull together data/information regarding each individual item above and catalog this data/information into an organized readable format. The data/information and completed checklist information then be submitted to DPW by October 31. **Yes** |
| Begin assembly of information for annual report | A, D | Begin pulling information together before October 1 for delivery to DPW by October 31. **Yes** |
| Complete checklist and submit to DPW by October 31 | A | The data/information and completed checklist information then be submitted to DPW by October 31. **Yes** |
Indiana University – Purdue University Indianapolis
(IUPUI)

Standard Operating Procedures
Parking Lot Inspection and Maintenance

IUPUI-owned and/or operated parking lots are to be kept free of debris and excessive oil build up to the extent practical. Debris, oil, and other contaminants that enter the storm water drainage system can pollute Indianapolis waters. In an effort to control this source of stormwater runoff pollution, parking lots will be spot-checked on a daily basis to identify potential problems. Thorough inspections will be conducted once each quarter and a checklist of each inspection will be completed. If excessive litter or oil build-up is noted during spot checks or inspections the parking lot will be cleaned as soon as possible. The inspection results that require cleaning are described in this SOP. A thorough cleaning of each parking area will be performed as needed at a frequency of no less than once per year, during which both vehicle parking areas and traveling lanes within parking lots will be cleaned.

For the purposes of this SOP, a significant spill or leak is:
- Any gasoline from an actively-leaking vehicle or portable gasoline fuel tank.
- Any antifreeze or oil leak in excess of 12” (inches) in diameter or where recoverable (not fully absorbed into pavement) antifreeze or oil is evident.
- Any spill or release which does not meet the above criteria and appears to be chemical in nature regardless of the location or circumstances.

Permit Requirement
The City of Indianapolis is required by the Indiana Department of Environmental Management (IDEM) to comply with the EPA’s National Pollutant Discharge Elimination System (NPDES) Stormwater Phase I rule. IDEM issued NPDES Stormwater Discharge Permit Number INS040001 to the City of Indianapolis effective October 1, 2004. This permit is the City’s second 5-year-term permit. The City has been complying with a NPDES permit since 1998.

This Standard Operating Procedures (SOP) for IUPUI-owned Parking Lots Inspection and Maintenance have been developed in order to meet the University’s agreement as a participant in the City’s stormwater discharge permit.

Responsibilities
The Grounds Department of the IUPUI Office of Campus Facility Services is responsible for ensuring that inspection and cleaning of University-owned parking lots are performed in accordance with this SOP, and thereby in compliance with the University’s agreement. Grounds Department operations managers responsible for parking lots will ensure that the SOP is followed and that appropriate information from the activity is recorded and transferred to the IUPUI Office of Environmental Health and Safety as described herein.

This SOP is intended for all University-owned lots located within MS4 areas on campus and will be used a guideline for maintaining all campus parking lots. The Grounds Department is
responsible for inspection and cleaning of all campus parking lots and garages. Grounds managers will be responsible for:

- Conducting initial parking lot inspection and documentation of existing stains,
- Ensuring daily spot-checks and quarterly inspections are conducted,
- Completing the quarterly inspection checklist and ensuring that the information is transmitted to the IUPUI Office of Environmental Health and Safety, and
- Overseeing the inspection-generated and annual cleanings.

Cleaning activities will be completed by resources provided by IUPUI.

**Inspection and Cleaning Schedule**

The parking lot inspection and maintenance program is comprised of three on-going inspection protocols; daily spot checking, quarterly inspections (with as-needed cleaning), and annual cleaning. The inspection and cleaning programs and their scheduled frequencies are described in the following paragraphs.

**Spot-checks**

Following the initial inspection and cleaning, Grounds Department personnel will conduct daily spot-checks of their lots. During the inspections they will be looking for debris and new leaks, stains, and oil build-up. Grounds Department management staff will address problems such as leaking stored vehicles and will arrange for clean-up of spills and leaks as required under this SOP (see Conditions for Parking Lot Cleaning, page 4). Grounds staff can concentrate their weekly inspections on known problem-prone areas such as places where vehicles stand with motors running or where litter commonly accumulates.

**Quarterly Inspections and As-needed Cleaning**

Beginning in the second quarter after the approval of this SOP, Grounds Department management staff will begin quarterly inspections. For this more thorough, quarterly inspection, Grounds staff will complete a copy of the parking lot inspection checklist (attached to this SOP). Checklists for each quarter from each parking lot will be collected for the purposes of documenting IUPUI’s compliance with its permit. Grounds Department managers (other departments) will arrange for the clean-up of spills and leaks that require cleaning under this SOP.

**Annual Cleaning**

IUPUI-owned parking lots will be thoroughly cleaned once each year. This cleaning will include both parking areas and travel lanes in the parking lots. The cleaning will be conducted at a time where parked vehicles will be at a minimum.

Materials swept, cleaned up, and collected from the annual cleaning will be properly disposed of. A record of the approximate amount of material disposed of will be recorded on the quarterly inspection checklist for the quarter in which the cleaning occurs.

**Conditions for Parking Lot Cleaning**

New spills and leaks will be cleaned as they are identified during daily spot-checks or quarterly inspections. Unless a special circumstance warrants it, annual cleaning and spot-cleaning of debris, spills, and leaks identified through inspections should ensure that contaminated runoff is
greatly reduced from IUPUI-owned and operated parking lots. Special circumstances may require that a parking lot be thoroughly cleaned more frequently than once a year. These circumstances include the following:

- If a parking lot has an unusually high volume of vehicles (such as special events) and the amount of debris, spills, and leaks that are identified in daily and/or quarterly inspections seem to demand cleaning on a regular basis, it may be necessary to clean the entire lot more than once a year. The day-to-day practices at such a facility will be examined to ensure that stormwater pollution prevention practices are being followed.
- If an unusual event such as a flood or a large spill deposits a large amount of debris or other material onto the parking lot, it will be cleaned up as soon as possible.

**Inspection Processes and Record Keeping**

A key component of the parking lot inspection and maintenance program is record-keeping and annual reporting to the City of Indianapolis. The parking lot inspection and maintenance program record-keeping process is described in the following paragraphs.

**Daily Spot-checks**

Parking lots will be spot-checked on a daily basis. The parking area will be scanned for litter and debris. Litter and debris might have collected on the top of drains or grates. In the event there is a significant accumulation of litter and debris it should be removed and properly disposed of immediately. A brief look at areas where vehicles stand with engines running, and where litter receptacles are located should be performed. If litter, oil, antifreeze, or other vehicle fluid is observed by a parked vehicle, it indicates a leak from the vehicle. Leaks and spills must be reported to the immediate supervisor and cleaned so that spilled materials do not enter the storm drain. Identified spills or leaks must be cleaned prior to the next expected precipitation event if at all possible. Dry cleaning methods (e.g. oil dry or an equivalent product) are to be used whenever possible to remove leaked or spilled fluids. All applied dry cleaning media is to be removed and properly disposed of following the clean-up. The IUPUI Chemical Spill Policy (available at: [http://ehs.iupui.edu/ehs/environment_chemSpillPolicy.asp](http://ehs.iupui.edu/ehs/environment_chemSpillPolicy.asp)) is to be followed for any significant spill or leak. Particular attention should be given to areas where problems have been identified in past inspections.

**Quarterly Inspections**

Once each quarter the parking lot must be thoroughly inspected and the inspection must be documented on a copy of the attached checklist. A quarterly inspection takes the place of a spot-check for that week. Inspect the parking lot once in the following periods:

- January through March,
- April through June,
- July through September, and
- October through December.

The entire lot is to be checked for litter, debris, spills, and leaks, as required by the inspections checklist. Move vehicles so that parking and storage areas can be examined. Remove litter and debris, and clean up spills and leaks with the same process as spills and leaks that are identified in daily spot-checks. The IUPUI Chemical Spill Policy (available at: [http://ehs.iupui.edu/ehs/environment_chemSpillPolicy.asp](http://ehs.iupui.edu/ehs/environment_chemSpillPolicy.asp)) is to be followed for any significant
spill or leak. Inspections checklists are to be kept for each quarter copies of which are to be transferred to the IUPUI Office of Environmental Health and Safety. This information will be used to document the City’s compliance with its permit each year.

**Parking Lot Cleaning**
The proper methods and procedures to clean parking lots should be taken to prevent stormwater pollution. At a minimum, litter, debris, spills, and leaks should be properly addressed during the inspections. Below are descriptions of the correct methods of cleaning the parking lots.

*Litter and Debris*
Litter and debris, such as paper, cups, food, leaves, grass clippings, twigs, branches, or other trash or debris should be removed from the parking lot. Litter and debris might collect in low spots or on drain grates. Most litter and debris should not be hazardous and can be disposed of in ordinary solid waste containers. At least once a year, the entire parking lot should be cleaned and swept if necessary. A record should be kept indicating how much material is removed from the parking lot during this cleaning on the quarterly inspection checklist for the quarter in which the cleaning occurred.

*Spills and Leaks*
If spills or leaks are found, contain the spill or leak, if necessary, to prevent it from entering the storm drain. Report spills according to the IUPUI Chemical Spill Policy (available at: http://ehs.iupui.edu/ehs/environment_chemSpillPolicy.asp). Small or incidents leaks do not have to be reported. Address leaks immediately to prevent further pollution. For instance, if a vehicle is leaking, have the vehicle repaired. Do not wash the spilled or leaked material with water.

*Oil Spots and Stains*
If spots or stains from leaking automotive fluids are found steps should be taken to prevent residual oil, antifreeze, or gasoline from entering the storm drainage system. In some cases it may be possible to remove the spots using dry cleaning methods. In other situations it may be necessary to use steam cleaning methods to remove the residue from the spot. Do not wash the spilled or leaked material with water.

**Parking Lot Best Management Practices**
Parking lot best management practices (BMPs) should be utilized on a daily basis by all employees. These practices are important to incorporate into a daily routine and can prevent many incidents of stormwater pollution from occurring. The following BMPs: staff training, good housekeeping practices, materials management, and spill prevention, are described below.

*Staff Training*
Staff training on stormwater pollution prevention is an effective method of controlling pollution that can originate from city parking lots. Awareness of this SOP’s requirements should be the minimal level of training provided to staff that work in or utilize the city-owned parking lots. Specific instruction on cleaning and responding to spills should be provided to staff as appropriate.
Good Housekeeping Practices
Keeping the workplace clean and free of debris and litter is a universally applicable best management practice for stormwater pollution prevention. Loose debris and litter that is not otherwise removed from the parking lot could be washed into the drainage system.

Materials Management
Materials management goes hand in hand with good housekeeping as a management practice. Materials should be stored so as not to create a spill potential or pedestrian or vehicular traffic hazard. All materials should be identified and labeled properly to avoid unnecessary confusion of the material.

Spill Prevention
Spill prevention includes making certain that spillable materials are properly managed, including: providing secondary containment for aboveground storage tanks and drums; providing drip pans for vehicles that are awaiting service that have leaking oils, antifreeze, or fuel; providing spill response materials to cleanup leaks and spills; training; and signage. Spill prevention may also include structural measures, such as providing concrete-filled steel bollards in areas where vehicles or other mobile equipment will approach generators, fuel dispensers, or storage tanks to prevent accidental damage to the facilities.
Subject: Chemical/Spill Reporting
Effective Date: February 1, 1997
Approved: Robert Martin, Vice Chancellor
Policy: 1

PURPOSE AND BACKGROUND:

The prompt reporting of chemical spills to proper University authorities is an essential element in the protection of the health and safety of campus personnel, students, visitors, and patients. Prompt reporting is also essential in providing for the protection of the community environment.

In addition, the University must comply with local, state and federal spill reporting requirements.

Spill residues often are classified as hazardous waste requiring proper management and disposal.

Spills that have gone unreported for extended periods of time have resulted in the unnecessary exposure of individuals outside the immediate spill area and have resulted in significant environmental contamination.

SCOPE:

This policy applies to all staff, faculty, students and guests of the University community that purchase, transport, store, utilize or otherwise handle chemical products. The policy applies to virgin products, intermediates and waste products. The policy applies to all chemicals whether they are liquid, solid or gaseous at room temperature.

The policy applies to stock chemicals normally associated with laboratory environments and to products related to the maintenance of University buildings, grounds, property, equipment and supplies.
These include but are not limited to

- Bacteriocidal or sanitizing solutions
- Concrete & asphalt sealants
- Degreasers
- Floor maintenance products
- Fuel
- Heating & air-conditioning treatment products
- Lubrication oils
- Paints and related paint products (solvents, thinners and strippers)
- Pesticide or herbicide products
- Water treatment products

PROCEDURES:

The most senior staff member present at the time of the spill is responsible for ensuring that appropriate procedures listed in the "IUPUI Staff and Faculty Emergency Procedures Handbook" are implemented and that the spill is reported to the IUPUI Public Safety Dispatch Center at 274-7911. The caller is to provide the Dispatch Center with the building, floor, room number and, if possible, the name and approximate quantity of material involved.

Representatives from Fire Protection Services or Environmental Health and Safety will respond to evaluate the release and determine the best course-of-action for the containment and cleanup of the spill.

The Department of Environmental Health and Safety may, at its discretion, refer costs incurred as a result of an improperly reported spill back to the department directly causing the spill.

In the event the University is cited and fined by federal, state or local regulatory agencies for actions related to an improperly reported spill, the department(s) involved in the citation may be accountable for payment of the issued fine.

Any person affected by any such cost or fine assessment may appeal the assessment provided that a written request for such a review is submitted to the current Chairperson of the IUPUI Environmental Safety Committee within thirty (30) days of issuance of the assessment.

The Department of Environmental Health & Safety will provide a written, itemized assessment of the incurred costs to the responsible department or party(ies) and a copy of the Environmental Safety Committee Appeals Procedures.

All appeals will be acted upon and reviewed in accordance with the established IUPUI Environmental Safety Committee appeals review procedures.

All University departments are responsible for ensuring their staff are adequately trained to comply with provisions of the policy.
PROCEDURES FOR SMALL QUANTITY SPILLS EXEMPTIONS:

The following spills are exempted from the reporting requirements provided that all the following conditions are met:

1. Personnel directly involved in the spill have immediate access to the Hazardous Materials Information System (HMIS) rating for the chemical and the chemical has a rating of 0 or 1 for health, fire and reactivity.

2. The amount spilled is less than one (1) pint (500 milliliters), if liquid, or one (1) pound (500 grams) if solid unless it is lubricating oil or latex paint, then the amount spilled may not exceed 1 gallon (4 liters).

   It is the responsibility of the spiller to ensure that spills involving small quantities of chemicals are cleaned up immediately, stored and disposed of properly. Regularly occurring leaks or spills are not exempted from the reporting requirements.

3. The material does not possess a noxious, nauseating or otherwise irritating odor or property.

4. The released material is contained on an impervious surface and has not and is not immediately threatening to contaminate soil, groundwater or surface water.
Protecting Our Water Resources on Campus

**Stormwater** is the flow of water that results from precipitation and which occurs immediately following rainfall or as a result of snowmelt. When a rainfall event occurs, several things can happen to the moisture. Some of the water infiltrates into the soil surface, some is taken up by plants, and some is evaporated into the atmosphere. Stormwater is the rest of the moisture that runs off land and impervious areas surfaces.

**Stormwater** runoff can accumulate pollutants such as oil and grease, chemicals, nutrients, metals, and bacteria as it travels and has the potential to carry contamination associated with construction activities, facilities maintenance, accidental spills and illegal dumping to nearby streams and rivers. Heavy precipitation or snowmelt can also cause sewer overflows that may contaminate water sources with untreated human and industrial waste, toxic materials, and other debris.

*Never dump trash or chemical products, including waste engine oil, into storm drains!* Many of the drains on campus lead directly to Fall Creek or White River.

Report any signs of improper chemical disposal or stormwater discharges by calling (27)4-7911. Campus safety officials will respond and investigate your concerns.
<table>
<thead>
<tr>
<th>DATE</th>
<th>RAIN AMOUNT</th>
<th>INSPECTED BY</th>
<th>MARK IF NO DEFICIENCIES</th>
<th>DEFICIENCIES NOTED</th>
<th>CORRECTION (Date and Action)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IUPUI STORMWATER COMPLIANCE CHECKLIST:
WEEKLY CONSTRUCTION SITE INSPECTIONS

<table>
<thead>
<tr>
<th>FOR THE WEEK OF:</th>
<th>INSPECTED BY:</th>
<th>MARK IF NO DEFICIENCIES:</th>
<th>DEFICIENCIES NOTED:</th>
<th>CORRECTION (Date and Action):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page ____ of ____
November 9, 2011

Andrea Stutsman
Outreach Coordinator / Department of Public Works
Office of Mayor Greg Ballard – City of Indianapolis

Re: Storm Water Compliance Report

Dear Ms. Stutsman,

Attached please find the report you sent to me with some updates on Marian University. Also, provide the following information. Please let me know if you anything else from me.

1. We perform weekly inspections of our parking lots, which includes inspecting and removing any trash on the parking lots.
2. University vehicle garage follows the SOP.

Neil A. Langferman
Director of Facilities
Marian University
<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data 1</td>
<td>Data 2</td>
<td>Data 3</td>
</tr>
<tr>
<td>Data 4</td>
<td>Data 5</td>
<td>Data 6</td>
</tr>
<tr>
<td>Data 7</td>
<td>Data 8</td>
<td>Data 9</td>
</tr>
</tbody>
</table>

**Table Legend:**
- Column 1: Description of the first column.
- Column 2: Description of the second column.
- Column 3: Description of the third column.

**Notes:**
- Additional notes or explanations related to the table content.

**Footnotes:**
- Footnote 1: Explanation or clarification of a specific item.
- Footnote 2: Additional information that complements the table data.

**References:**
- Reference 1: Source or additional reading material related to the table.
- Reference 2: Further resources or related studies for deeper understanding.
Certification of Compliance with NPDES Permit Number INS040001

The University of Indianapolis is designated as an entity covered by the municipal separate storm sewer system permit that has been issued Discharge Elimination System (NPDES). Under the terms of the NPDES Permit Number INS040001 and through a Memorandum of Understanding with the City of Indianapolis, by the Indiana Department of Environmental Management to the City of Indianapolis under the National Pollutant University of Indianapolis certifies:

The University of Indianapolis does not perform street sweeping but does pick up trash on a daily basis and spot cleans as needed.

The university wash facility is inside the Physical Plant Building and discharges into the sanitary sewer after going through oil and sediment separators.

The university outsources its pesticide and fertilizer application to certified vendors and oversees those vendors with a certified applicator of the university.

The university provides training and information to employees and patrons of the campus.

The university complies with the City of Indianapolis’ permitting procedures.

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the above statement is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

___________________________
Jay Sibley
Director of Environmental Compliance
University of Indianapolis
2010-2011 Winter Salt Usage

The university used 186,400 pounds of rock salt on the roads and parking lots.

We used Knox Ice Melter (potassium chloride and sodium chloride blend) on the 10 miles of sidewalks on steps. We used a total of 147,000 pounds.

We also used Heatwave Ice Melter in colder temperatures (sodium chloride, magnesium chloride, and potassium chloride blend). The total for that was 5600 pounds.

We salt usually after removing the snow to prevent fall and accidents.

Jay Sibley

Director of Environmental Compliance

University of Indianapolis