MUNICIPAL SEPARATE STORM SEWER SYSTEM
2011 ANNUAL REPORT

Permit Number 85-03-0-04

March 2012

Prepared by
Department of Environmental Health and Safety
and Facilities Planning and Management
2809 Daley Drive
Ames, Iowa 50011-3660
INTRODUCTION
The following 2011 Stormwater Annual Report for Iowa State University is prepared in accordance with Part III of the facility’s Municipal Separate Stormwater System (MS4) permit, number 85-03-0-04. This report summarizes stormwater compliance activities within the boundaries of Iowa State University and outlying farm properties, including: Central Campus, North Campus, South Campus, the Applied Science Complex, the Arboretum, the Southwest Athletic Complex, the Veterinary Medicine College, the Iowa State University Dairy Teaching Farm, and the Iowa State University, BioCentury Research Farm.

STATUS OF IMPLEMENTING THE COMPONENTS OF THE STORMWATER POLLUTION PREVENTION AND MANAGEMENT PROGRAM

Iowa State University (ISU) was issued a National Pollutant Discharge Elimination System (NPDES) permit on February 6, 2004. The permit was renewed for an additional 5 years on February 6, 2009.

ISU fulfilled all scheduled requirements for 2011 as stated in Part II of the MS4 permit.

STATUS OF COMPLIANCE WITH ANY COMPLIANCE SCHEDULE ESTABLISHED BY THIS PERMIT OR BY ANY MODIFICATIONS TO THIS PERMIT

During the 2011 calendar year, the following eight (8) construction sites operated under NPDES General Permit No. 2 authorizations. (Attachments A and B).

<table>
<thead>
<tr>
<th>Facility</th>
<th>Permit</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISU Cyclone Sports Complex</td>
<td>IA-20333-20162</td>
<td>Active 07/12/2011</td>
</tr>
<tr>
<td>ISU Football Training Facility</td>
<td>IA-20542-20311</td>
<td>Active 08/31/2011</td>
</tr>
<tr>
<td>ISU Rec. Field Improvements</td>
<td>IA-20634-20401</td>
<td>Active 09/01/2011</td>
</tr>
<tr>
<td>ISU Troxel Hall</td>
<td>IA-20765-20534</td>
<td>Active 09/29/2011</td>
</tr>
<tr>
<td>ISU West Recreation Expansion</td>
<td>IA-17879-17648</td>
<td>Discontinued 11/29/2011</td>
</tr>
<tr>
<td>ISU Vet Med Phase 2</td>
<td>IA-18226-18016</td>
<td>Active 04/01/2010</td>
</tr>
<tr>
<td>ISU Horticulture Greenhouse Replacement</td>
<td>IA- 18451-18222</td>
<td>Discontinued 09/29/2011</td>
</tr>
<tr>
<td>Ames Intermodal Facility</td>
<td>IA-199220-18994</td>
<td>Active 12/08/2010</td>
</tr>
</tbody>
</table>

On May 17, 2011 ISU received a permit modification approval from the Iowa Department of Natural Resources (IDNR) allowing a non-storm water discharge, specifically dye used to trace the flow of water. ISU developed an SOP when such dyes are going to be used. Part of the SOP is notifying the City of Ames and the Iowa Department of Natural Resources before using the dye. (Attachment D)
**Notifications of Discontinuation**

Two (2) construction projects reached final stabilization in 2011. Notices of Discontinuation were submitted to IDNR. ISU had four (6) active permitted sites at the end of 2011. ISU was not subject to any stormwater enforcement actions during the reporting period.

**Inspections**

Inspections were conducted by ISU Environmental Health and Safety (EH&S) on all ISU permitted construction sites. EH&S conducted 386 site inspections in 2011. 298 were weekly inspections and 88 were post rain event inspections. The inspections verified contractors were following specified BMP’s as provided in the site-specific Stormwater Pollution Prevention Plan.

ISU conducted its annual November dry flow inspection of all campus stormwater outfalls. EH&S employees visually inspected all stormwater outfalls to public waterways listed in the university database. The visual inspection involved walking streams on campus to identify illicit discharges. No illicit discharges were detected. A review of the annual outfall inspection process was conducted and no changes were administered to the inspection program.

Iowa State University Facilities Planning and Management (FP&M) continued to inspect the stormwater system (MS4) and conducted repairs as needed. Data is maintained in the FP&M computerized work management system, FAMIS.

**IDNR Inspections**

No MS4 permit compliance inspections were conducted during 2011.

**Stormwater Education Program**

EH&S provided stormwater training to 269 university staff members whose work has the potential to impact stormwater. Persons trained include FP&M Utility’s staff and managers, ISU Golf Course and Athletic Department grounds crews, Department of Residence staff, Custodial staff and other EH&S staff members.

Four (4) full time ISU staff attended the Iowa Water Conference in 2011. The conference was also attended by other members of the stormwater management committee. Stormwater specific trainings and professional development opportunities are utilized as time and budgets allow.

**Stormwater Web Page**

EH&S maintains a stormwater web page as a portion of its departmental webpage. The stormwater webpage provides a stormwater facts sheet, stormwater information, lists the stormwater hotline telephone number, has a stormwater survey, and links to other stormwater related websites. In 2011 EH&S created a new departmental webpage. The new webpage design is easier for users to navigate and provides EH&S a convenient format for editing webpage content more efficiently. The stormwater webpage continues to be evaluated for improvements and modifications.
Stormwater Hotline
The stormwater hotline received seven (7) calls related to construction activities on campus in 2011. Four of the calls pertained to off-site tracking of disturbed soil onto local roads. One call was about site stabilization via vegetative ground cover in a timely manner. One call was related to ponding water in a parking lot due to a storm drain intake BMP and an extreme rainfall event. One call was related to a dust complaint. All stormwater hotline calls were investigated promptly and any noted deficiencies were corrected in a timely manner.

Stormwater Management Committee
Iowa State University’s Stormwater Management Committee is required to meet periodically to discuss university stormwater activities. The committee met on a quarterly basis in 2011. Several campus entities were represented at the meetings, including students from the Soil and Water Conservation Club.

Campus Engagement and Volunteer Participation
Iowa State University offered a variety of activities that directly or indirectly support water quality in 2011. Volunteers included faculty, staff, students and local residents. Highlighted projects include:

- **VEISHEA Service Day “Stash the Trash” Event**: On March 26, 2011 during the annual VEISHEA festivities, 1,000 volunteers (student and local) and staff took part in the Stash the Trash Event. Over four (4) tons of trash was collected from campus.

- **International Student Council Clean-Up**: On November 6, 2011 a clean-up event was held on central campus by the international student council. Thirty-five (35) volunteers worked for almost three hours and collected 50 bags of trash.

- **Storm Drain Intake Marker Installation**: This event was held in conjunction with the annual College Creek Clean-Up. EH&S enlisted the assistance of the Soil and Water Conservation Club for placing markers on storm water intakes across campus. Approximately 20 volunteers installed 76 storm drain intake markers.
- **College Creek Clean-Up:** The third annual College Creek Clean-Up was held in conjunction with the storm drain marker event in 2011. After installing the storm drain markers the volunteers removed 420 pounds of trash from along the banks and within College Creek. Volunteers ranged in age from 3 to 46.

- **Arboretum Clean-Up:** On October 8, 2011 a clean-up event was held in the ISU Arboretum. Thirty (30) volunteers worked for over three hours and collected 25 bags of trash.

EH&S is working via the stormwater committee to identify effective and efficient ways to maintain thorough data on stormwater related volunteer projects across campus.
New Capital Improvement

In 2011, Iowa State University continued BMP implementation on capital projects. Native grass plantings and bioswales continue to be the most utilized practices. The Recreation Field Improvements project removed a large portion of impervious land that is being replaced with low mow and native grasses to facilitate infiltration. The Cyclone Sports Complex project has implemented three permanent retention ponds that will help minimize stormwater run-off issues previously observed in the area. (Attachment C)

Highlighted Campus Projects

The EH&S north native seeding, installed in 2010, received an additional 3000 square foot planting in 2011. The same mix of forbes and grasses, used prior, was also use for this additional planting. The planting will increase stormwater infiltration and reduce mowing, fertilization, and herbicide application.

The Recreation Facilities Expansion and Renovation project utilized a gray water system. The system allows rainwater to be collected and reused on-site. The project also incorporated bioswales and native plantings to encourage infiltration and reduce site run-off.

Pesticide and Fertilizer Management Program

ISU departments that apply pesticides and fertilizers continue to operate according to defined management programs. The university follows proper storage procedures, and meets guidelines for training certified applicators, minimizing application rates, and maintaining recordkeeping databases. Annual reviews determine best management and minimization of pesticides and fertilizer application amounts. Upon review of annual application rates, when lower application rates are effective, lower rates are applied in subsequent applications.

A significant improvement implemented in 2011 was the use of GPS on sprayer units. GPS technology eliminates application overlaps and overspray to areas next to the fields being sprayed. This technology allows more accurate applications and gives the operator the ability to apply exact rates and uniform coverage.

Operating expenses for this program were approximately $200,000.

Street Sweeping Program

ISU Campus Services conducted periodic street sweepings of university roads in 2011, collecting approximately 240 tons of debris.

AN ESTIMATE OF THE PREVIOUS FISCAL YEAR EXPENDITURES FOR IMPLEMENTATION OF THE MANAGEMENT PROGRAM AND THE BUDGET FOR THE CURRENT FISCAL YEAR

As in previous years, the stormwater management budget for calendar year 2011 was funded, “as needed” by several campus entities.
EH&S dedicated ½ full time equivalent (FTE) of staff time to stormwater activities. Salary and benefit expenses are estimated to be approximately $40,000. EH&S staff conducted inspections of all permitted construction sites which included 298 weekly site inspections, and 88 post rain event inspections, totaling 386 inspections for 2011. Also, EH&S staff maintained and evaluated upgrades of the stormwater website, maintained a quarterly stormwater hotline advertisement in the student newspaper, attended stormwater training conferences, and developed Iowa State University staff training programs.

FP&M stormwater program expenditures associated with stormwater project design/BMP, support, implementation and maintenance were approximately $1,850,000

Total estimated expenditures for fiscal year 2011 were $2,000,000. No annual amounts are appropriated for ISU stormwater management. Stormwater expenses continue to be funded on an as-needed basis.

**SUMMARY**

All permit required activities for the 2011 reporting period were completed on or before specified deadlines. It is estimated that the cost of compliance activities completed during calendar year 2011 exceeded $2,000,000. Iowa State University will continue to evaluate opportunities to improve stormwater quality. Individuals with questions, comments or concerns about stormwater quality issues at Iowa State University should contact Tim Harden, Environmental Specialist II, Iowa State University, Department of Environmental Health and Safety, 2809 Daley Drive, Ames, Iowa 50011-3660.
Attachment A

Main Campus

ISU Permitted Construction Sites as of December 31, 2011

- Ames Intermodal Facility IA-19220-18994
- Troxel Hall IA-20765-20534
Attachment B

South of Main Campus

ISU Permitted Construction Sites as of December 31, 2011

- Football Training Facility IA 20542-20311
- Cyclone Sports Complex IA 20333-20162
- Rec. Field Improvements IA 20634-20401
- ISU Vet Med Phase 2 IA-18226-18016
Attachment C
Attachment D

CERTIFIED MAIL

May 17, 2011

Dr. A. David Hing
Iowa State University
1122 ISU Services Building
2809 Dixie Dr.
Ames, IA 50011-3660

RE: Amendment to NPDES MS4 Permits 85-03-04

Dear Dr. Hing:

As discussed with Steve Muehlen of your staff, please find enclosed an amendment to the university’s National Pollutant Discharges Elimination System (NPDES) permit for the discharge of storm water from the Municipal Separate Storm Sewer System (MS4).

If you have any questions or comments concerning this matter please contact me at 515-294-2017 or john.petersen@iastate.edu.

Sincerely,

John Petersen
NPDES Section
Environmental Protection Division
Excluding NPDES permit amendment

Field Office 5

MAY 19 2011