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OHIO STATE UNIVERSITY MAIN CAMPUS



State of Ohio Environmental Protection Agency

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November 19, 2010

Amanda Grevias
Environmental Health and Safety
The Ohio State University
1314 Kinnear Road
Columbus, OH 43210

**Re: Storm Water Audit Findings of The Ohio State University
(Facility Number: 4GQ00009*BG)**

Dear Mrs. Grevias:

This letter is written in follow-up to my storm water audit of The Ohio State University conducted on November 10, 2010. The audit was performed to assess your compliance with Ohio EPA's Small Municipal Separate Storm Sewer System (MS4) storm water permit (OHQ000002). I would like to thank you and all University staff for answering questions and providing information during the audit. As a result, I have the following comments regarding your program and the implementation of the six minimum control measures:

Public Education and Outreach (Minimum Control Measure #1):

Permit Requirements:

You shall implement a public education program to distribute educational materials to the students and staff to conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

Decision process. You shall document your decision process for the development of a storm water public education and outreach program. Your rationale statement shall address both your overall public education program and the individual Best Management Practices (BMP's), measurable goals and responsible persons for your program. The rationale statement shall include the following information, at a minimum:

- How you plan to inform individuals about the steps they can take to reduce storm water pollution.

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Kortleski, Director



- How you plan to inform individuals and groups on how to become involved in the storm water program (with activities such as local stream restoration activities).
- Who are the target audiences for your education program who are likely to have significant storm water impacts and why those target audiences were selected?
- What are the target pollutant sources your public education program is designed to address?
- What is your outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) you will use to reach your target audiences, and how many people do you expect to reach by your outreach strategy over the permit term?
- Who (person or department) is responsible for overall management and implementation of your storm water public education and outreach program and, if different, who is responsible for each of the BMPs identified for this program.
- How will you evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.

Performance Standards: Your storm water public education and outreach program shall include more than one mechanism and target at least five different storm water themes or messages over the permit term. At a minimum, at least one theme or message shall be targeted to the development community. Your storm water public education and outreach program shall reach at least 50 percent of your population over the permit term. Your annual report shall identify each mechanism used, including each storm water theme, audience targeted and estimate of how many people were reached by each mechanism.

Permit Violations:

- No direct violations were noted concurrent with my review of this minimum control measure.

Education Items implemented by The Ohio State University:

- The University has elected to implement a website with respect to storm water pollution prevention and education.
- The University has implemented a school curriculum program which addresses storm water impacts. Please submit to my attention a list of classes and the approximate number of attendees.

- The University has developed newsletters which are emailed to all students and staff on an annual basis addressing storm water impacts.
- The University has implemented a Storm Drain Stenciling Program to educate all staff and students of direct connections to the Municipal Separate Storm Sewer System (MS4).
- The University has placed signs on all MS4 outfalls to the Olentangy River encouraging students and staff to notify key personnel in the event of a dry weather discharge.
- The University has developed the OSU Extension, which addresses improvement opportunities with respect to storm water impacts and Best Management Practices (BMP) implementation.
- A training program has been implemented for all OSU contractors with respect to proper storm water control implementation and maintenance during construction. Please forward to my attention all training program information for review.

Improvement Opportunities to ensure compliance with the Second Generation Storm Water Permit:

- OSU must expand the outreach mechanisms to the development community. A construction site document which is directed towards the development community for any construction site resulting in land clearing activities greater than one acre, is an example to meet this minimum control measure. This document must address expectations with respect to BMP implementation, maintenance, and enforcement protocols.
- The University should expand on the current website with respect to storm water pollution. The storm water website should be available and easily accessible through the homepage. The comprehensive storm water website should include all information with respect to the implementation of the six minimum control measures, and include notifications with respect to upcoming development. The web site should include a direct link to submit complaints. The web site should also solicit comments from all staff and students with respect to improvement opportunities of storm water BMP implementation. Per your request, I emailed you copies of favorable web sites on November 17, 2010.
- OSU must address the "decision process" as depicted above to ensure the chosen "priority pollutants" are appropriate to activities at the University. Based on our conversations and tour of the campus the "priority pollutants" would include, but not limited to sediment, fertilizers, illicit discharges from game day activities, waste management, deicing activities, among others.

The university must address the decision process in the next annual report. The University must be able to develop a rational statement for the priority pollutants, outreach mechanisms, and measurable goals associated with the public education program

- OSU should initiate surveys to ensure 50 percent of the population is being reached over the permit term or demonstrate an approvable alternative.
- OSU should continue and expand on the educational curriculum within the city school system. An evaluation of the success of the educational outreach within the school system must be included in the next annual report. Please refer to the following link for assistance:
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=8&minmeasure=1>

Public Involvement/Participation (Minimum Control Measure #2)

Permit Requirements:

You shall comply with State and local public notice requirements and satisfy this minimum control measure's minimum performance standards when implementing a public involvement/participation program.

Decision process. You shall document your decision process for the development of a storm water public involvement/participation program. Your rationale statement shall address your overall public involvement/participation program and the individual BMPs, measurable goals, and responsible persons for your program. The rationale statement shall include the following information, at a minimum:

- Have you involved the public in the development and submittal of your NOI and Storm Water Management Plan (SWMP) description?
- What is your plan to actively involve the public in the development and implementation of your program?
- Who are the target audiences for your public involvement program, including a description of the types of ethnic and economic groups engaged. You are encouraged to actively involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners associations, and educational organizations, among others.
- What are the types of public involvement activities included in your program. Where appropriate, consider the following types of public involvement activities: citizen representatives on a storm water management panel,

public hearings, working with citizen volunteers willing to educate others about the program, volunteer monitoring or stream clean-up activities.

- Who (person or department) is responsible for the overall management and implementation of your storm water public involvement/participation program and, if different, who is responsible for each of the BMPs identified for this program.
- How you will evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.

Performance Standards: Your storm water public involvement/participation program shall include, at a minimum, five public involvement activities over the permit term. Your annual report shall identify each public involvement/participation activity conducted, including a brief description of activity and include an estimate of how many people participated.

Permit Violations:

- No direct violations were noted concurrent with my review of this minimum control measure.

Participation/Involvement Items implemented by The Ohio State University:

- OSU is adhering to all planning and zoning requirements in addition to the public notice requirements in accordance with state regulations.
- The University has initiated additional public participation programs such as Rain Garden Workshops, River Clean Up, and Earth Week addressing compliance with this minimum control measure in accordance with the First Generation Permit.

Improvement Opportunities:

- The University should include in the comprehensive storm water web page: a posting of all proposed development and redevelopments at OSU's Main Campus. The posting should have an attached Storm Water Pollution Prevention Plan in order to solicit comment from the staff, students, public watershed groups and other interested parties to address improvement opportunities.
- It is Ohio EPA's intent to involve the public to the maximum extent practical with respect to development and redevelopments within the main campus. In addition to the proposed website upgrade listed above, the university may also elect to a specific presentation/review of the Storm Water Management Plans concurrent with the zoning and/or public notice meetings.

- OSU should strongly consider the development of a Storm Water Management Panel to review all development and re-development projects. The Storm Water Management Panel should also be active in the implementation of the six minimum control measures. The management panel should have various sub-committees with various duties with respect to the implementation of the six minimum controls measures.
- OSU must ensure the decision process is addressed and include the rational statements in the upcoming annual reports to justify the mechanisms chosen for this minimum control measures. Measurable goals must be inclusive in this report. The storm water themes, mechanisms and measurable goals should a direct reflection of the chosen "priority pollutants"
- Please ensure the upcoming annual reports address the performance standards of this minimum control measures.
- The University should incorporate participation from the public with respect to waste management and proper disposal.

Illicit Discharge Detection and Elimination (Minimum Control Measure #3):

Performance Standards per Second Generation Permit. Your storm water illicit discharge detection and elimination program shall include or have included an initial dry-weather screening of all your storm water outfalls over the permit term. Your program shall establish priorities and specific goals for long-term system-wide surveillance of your MS4, as well as for specific investigations of outfalls and their tributary area where previous surveillance demonstrates a high likelihood of illicit discharges. Data collected each year shall be evaluated and priorities and goals shall be revised annually based on this evaluation. Your comprehensive storm sewer system map shall be updated annually as needed.

Annual Reporting: Your annual report shall document the following: (1) number of outfalls dry-weather screened, (2) number of dry-weather flows identified, (3) number of illicit discharges identified, (4) number of illicit discharges eliminated, (5) provide schedules for elimination of illicit connections that have been identified but have yet to be eliminated and (6) summary of any storm sewer system mapping updates.

The following should be completed as required in First Generation Permit:

- Ordinance or a regulatory mechanism is in place as a result of the First Generation Permit Condition.
- Outfall map should be completed based on first generation permit conditions (i.e., streams ditches and outfalls)

- Inventory or map depicting location of Home Sewage Treatment Systems (HSTS) discharging to MS4 (including contact information).
- Protocols for detection and prioritization for elimination should be established.
- The General Permit states illicit discharge protocols shall include dry weather screening.

Permit Violations:

- No direct violations were noted concurrent with my review of this minimum control measure.

Illicit Discharge items implemented by The Ohio State University:

- All separate storm sewer system outfalls, which discharge directly into waters of the state, are properly mapped and identified on a GIS mapping system.
- The entire MS4 system has been mapped. The GIS layers which include all storm water outfalls, and the entire separate storm sewer system for OSU must be submitted to my attention.
- OSU has completed the first round of dry and wet weather screening associated with the MS4 outfalls discharging to waters of the state. Please submit to my attention the results of the Dry Weather screening upon completion.
- OSU has developed mechanisms to prohibit illegal discharges and dumping into the MS4 system.
- OSU has mapped all the Home Sewage Treatment Systems (HSTS) within the municipal limits. Based on our discussions, it appears there are NO HSTS's discharging to the MS4.
- OSU has implemented a wet weather sampling program in order to evaluate the success of the program.

Improvement Opportunities:

- OSU is documenting, with visual observations, photographs, and samples, all dry weather flows associated with the MS4 outfalls. The University should model the program after Cuyahoga Illicit Discharge and Detection Protocols. According to our conversations, minimal dry weather discharges have been noted to date.

- OSU must continue with the dry weather screening in order to identify and prioritize the illicit discharges for elimination. This would include continued sampling of all dry weather flows from the MS4 system. Ohio EPA would be willing to assist in the evaluation process and prioritization schedule to address appropriate elimination protocols in conformance with the MS4 permit conditions. Ohio EPA recommends the use of Cuyahoga's Illicit Discharge, Detection and Elimination Protocols
- OSU should establish written protocols for all personnel investigating illicit discharges and responding to spills. These protocols should be made available to all key personnel and should be updated on an annual basis or as needed. All key personnel should be trained on an annual basis to determine any improvement opportunities with respect to illicit discharge investigation and spill recovery.
- Ohio EPA recognizes the efforts OSU has taken to ensure compliance with this minimum control measure as wet weather monitoring was implemented for the main campus.

Construction Activities (Minimum Control Measure #4)

Performance Standards per Second Generation Permit. Your construction site storm water control program shall include pre-construction storm water pollution prevention plan review of all projects for construction activities that result in a land disturbance greater than or equal to one acre. To ensure compliance, these applicable sites shall be initially inspected. The frequency of follow-up inspections shall be on a monthly basis unless you document your procedures for prioritizing inspections such as location to a waterway, amount of disturbed area, compliance of site, etc. If you initially had coverage under a previous version of this permit you shall revise your program to satisfy these performance standards, if needed, within two years of when your coverage under this general permit was granted.

Annual Reporting: Your annual report shall document the following: (1)number of applicable sites in your jurisdiction, (2)number of pre-construction storm water pollution prevention plan reviews performed, (3)number and frequency of site inspections, (4)number of violation letters issued, (5)number of enforcement actions taken and (6)number of complaints received and number followed up on.

Following should be completed as required in First Generation Permit:

- Ordinance or legal mechanism in place for sediment and erosion controls
- Program shall include inspection, review and enforcement.
- Process in place to receive complaints.

Permit Violations:

- OSU has ensured all contractors have conducted self-inspections of active construction sites, but failed to conduct compliance inspections in accordance with the MS4 Permit.

Construction items implemented by OSU:

- OSU has developed a mechanism to address legal authority to ensure compliance with Ohio EPA's General Storm Water Permit Associated with Construction Activities. OSU mandates compliance construction site BMP implementation as a condition of all contracts for various construction site contractors.
- OSU has implemented review protocols for all development and redevelopment projects at the main campus. All Storm Water Pollution Prevention Plans are reviewed prior to construction to ensure the minimum control measures and requirements in Ohio EPA's "General Storm Water Permit associated with Construction Activities" are addressed.
- The review process is conducted by OSU. In addition, city of Columbus reviews all plans for construction activities which result in earth disturbing activities greater than one acre. The city mandates compliance with "The City of Columbus Storm Water Manual" which meets the minimum requirements of Ohio EPA's General Storm Water Permit.
- OSU has developed legal authority through contractual agreements, to initiate enforcement procedures in the event of repeat offenders.
- OSU is currently tracking complaints as they relate to construction activities within the main campus.

During the past construction season, Ohio EPA had the opportunity to evaluate several construction sites. I have attached all inspection reports for your reference.

Improvement opportunities to ensure compliance with the second Generation MS4 Permit:

- OSU must implemented inspection protocols to ensure all active construction sites maintain compliance with the conditions set forth in Ohio EPA's Storm Water Permit in addition to the local ordinance. Inspections are conducted at a minimum on monthly recurrence interval.
- OSU must develop a tracking system to track all construction storm water inspections to properly evaluate and address repeat offenders.

- OSU should establish, in writing, a stand alone document addressing enforcement protocols to establish consistency, in addition to an educational tool for the construction contractors. All key personnel must be trained with respect to the enforcement protocols.
- OSU should consider required setbacks, preservation standards, and regional storm water management.
- OSU should update and ensure the contractor's self-inspection reports include a signature line; a de-watering log, a corrective action date, and process to ensure earth disturbing activities do not violate the temporary/permanent stabilization requirements.

Post Construction (Minimum Control Measures # 5)

Performance Standard per Second Generation Permit:

Your post-construction Storm Water Management Plan (SWMP) shall include pre construction storm water pollution prevention plan review of all projects from construction activities that result in a land disturbance of greater than or equal to one acre to ensure the mandated controls are designed per the minimum requirements. These applicable sites shall be inspected to ensure that controls are installed per requirements. Your program shall also ensure that long-term operation and maintenance (O&M) plans are developed and agreements in place for all applicable sites. If you initially had coverage under a previous version of this permit you shall revise your program to satisfy these performance standards, if needed, within two years of when your coverage under this general permit was granted.

Annual Reporting: Your annual reports shall document the following: (1)number of applicable sites in your jurisdiction requiring post-construction controls, (2)number of pre-construction storm water pollution prevention plan reviews performed, (3)number of inspections performed to ensure as built per requirements, and (4)number of long-term operation and maintenance (O&M) plans developed and agreements in place.

Post Construction Items implemented by city of Heath:

- OSU has developed legal authority, via contractual agreements, to ensure the designs of all post construction water controls are adequately addressed. In addition, the city of Columbus is approving all post construction BMP's as part of their review. Columbus ensures all post construction BMP's are designed in accordance with city's Storm Water Manual which meets the minimum requirements of the "General Storm Water Permit Associated with Construction Activities, issued by Ohio EPA."

Permit Violations:

- No direct violations were noted concurrent with my review of this minimum control measure.

Improvement Opportunities and updates to ensure compliance with the second Generation MS4 Permit:

- OSU must ensure long term operations and maintenance of all post-construction Best Management Practices (BMP's). OSU must inspect and maintain all Post Construction Practices to ensure intended operations in perpetuity.
- OSU must develop a map depicting the locations of all post construction BMP's
- OSU must develop a standalone maintenance log, documenting all inspections and maintenance of post construction BMP's in accordance with the original design criteria and manufacture specifications.
- OSU has recently been relying on manufactured systems to satisfy the post construction water quality treatment requirements. It is disappointing OSU has not explored more effective, volume reducing controls such as bio retention facilities or options such as regional storm water treatment, as I am aware the university possesses the knowledge base for such implementation. It is my understanding OSU is exploring regional treatment as an alternative at this time.

Pollution Prevention/Good Housekeeping for Municipal Operations (Minimum Control Measure #6)

Performance Standards per Second Generation Permit. Your pollution prevention/good housekeeping program shall include, at a minimum, annual employee training. Your operation and maintenance program shall include appropriate procedures, controls, maintenance schedules and recordkeeping to address Part III.B.6.d.iii of the MS4 Permit.

Annual Reporting. Your annual reports shall document the following: (1)summary of employee training program(s) implemented with number of employees that attended and (2)summary of activities and procedures implemented for your operation and maintenance program.

Permit Violations:

- OSU is not handling the street sweepings and catch basin clean out material as a solid waste defined by the permit and Ohio EPA. Street sweepings and catch basin cleanings must be handled and disposed as a solid waste.
- I noted wash water from equipment cleaning and vehicle washing was not controlled or collected, and was migrating towards a separate storm sewer system on the date of this inspection.
- Corrective measures are expected within 10 days from receipt of this letter to ensure the disposal of all street sweepings and catch basin clean outs are taken to an approved sanitary landfill until such time a "Beneficial Re-use Policy is approved by Ohio EPA.
- Corrective measures are expected to eliminate the illicit discharges noted above and ensure proper disposal of waste water associated with equipment and vehicle washing operations within 10 days from receipt of this letter.

The following items should be addressed to ensure compliance with the Pollution Prevention/Good Housekeeping Section of the General Permit (Minimum Control Measure #6):

- OSU must develop a Storm Water Pollution Prevention Plan specific to the municipal operations required by 40 CFR 122.26. All key personnel must be trained on an annual basis with respect to the implementation of a Storm Water Pollution Prevention Plan.

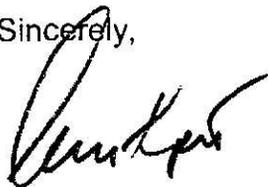
Improvement Opportunities:

- OSU must ensure that all street sweepings and catch basin cleanings are properly disposed at a sanitary landfill. Please demonstrate that corrective measures are taken to ensure proper disposal.
- All maintenance operations must be evaluated to ensure there are no illicit discharges from the floor drains.
- All key maintenance personnel must be trained with respect to proper storm water management and the components of the Storm Water Pollution Prevention Plan.
- All outside storage tanks which are not dual walled must include secondary containment. This would include but not limited to fuel tanks, waste oil tanks and brine storage tanks.

- All maintenance personnel should be trained with respect to the spill prevention and recovery protocols.
- OSU should seek minimal degradation alternative to current de-icing, fertilizing, pesticide/herbicide applications at OSU main campus.

In conclusion, Ohio EPA appreciates the efforts the OSU has demonstrated to implement the six minimum control measures as mandated in the MS4 Permit. If you have any questions or comments regarding this audit or the contents of this letter, please do not hesitate to contact me at (614) 728-3844 or via email harry.kallipolitis@epa.state.oh.us.

Sincerely,



Harry Kallipolitis
Storm Water Coordinator
Division of Surface Water
Central District Office

