

**OKEMOS PUBLIC SCHOOLS**  
**STORM WATER MANAGEMENT PROGRAM**  
**OKEMOS PS MS4-INGHAM**  
**CERTIFICATE OF COVERAGE NO. MIS040019**

**JANUARY 5, 2007**

**REVISED JANUARY 18, 2013**

## TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
	A. Background.....	1
	B. Regulatory Context.....	2
	C. Legal Authority and Enforcement Response Procedure.....	3
	D. Coordination with Local Government.....	3
	E. Receiving Waters Identification.....	4
	F. Goals and Objectives.....	4
<b>II.</b>	<b>PROGRAM ELEMENTS.....</b>	<b>5</b>
	A. Illicit Discharge Elimination Program.....	5
	B. Public Education Program.....	11
	C. Pollution Prevention/Good Housekeeping Program.....	14
	D. Public Involvement/Participation.....	19
	E. Construction Storm Water Runoff Control.....	22
	F. Post Construction Storm Water Runoff Control.....	24

### Appendices

Appendix A	Initial Assessment Questionnaire
Appendix B	Field Manual
Appendix C	Fertilizer/Pesticide/Herbicide Application Questionnaires
Appendix D	Maintenance/Janitorial/Grounds Staff Training Topics
Appendix E	Part 5 Rules – Reportable Quantities for Release Reporting

## **OKEMOS PUBLIC SCHOOLS STORM WATER MANAGEMENT PROGRAM**

### **I. INTRODUCTION**

#### **A. BACKGROUND**

Storm water runoff from lands modified by human activities can harm surface waters and, in turn, can change natural hydrologic patterns, accelerate natural stream flows, destroy aquatic habitat, and elevate pollutant concentrations and loadings. Urbanization alters the natural infiltration capability of the land and increases the amount of impervious surfaces within a watershed. Runoff, especially from urbanized areas, may contain high levels of contaminants, such as sediment, suspended solids, and chemicals from human activities.

In addition to pollutants being picked up by runoff, discharges from storm systems often include wastes and wastewater from non-storm water sources, referred to as illicit discharges. Municipal storm sewer systems are not designed to accept, process, or discharge such wastes. Sources include sanitary wastewater drains connected to the storm drain system; effluent from septic systems; car wash, laundry, and other industrial wastewaters; improper disposal of auto and household products (e.g., used motor oil and pesticides); and, spills from roadways.

In 1972, Congress amended the Clean Water Act (CWA) to prohibit the discharge of any pollutant to waters of the United States from a point source, unless the discharge is authorized by a permit. The permit process is governed by the National Pollutant Discharge Elimination System (NPDES).

In 1987, Congress again amended the CWA to require implementation, in two phases, of a comprehensive national program for addressing storm water discharges. The first phase, referred to as Phase I, required NPDES permits for medium and large municipal storm water systems, certain categories of industrial activity impacting storm water, and construction disturbing more than five acres resulting in storm water discharge from the site.

In 1999, the United States Environmental Protection Agency (U.S. EPA) promulgated the regulation entitled "National Pollutant Discharge Elimination System - Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges" (Federal Register, Volume 64, Number 235, pages 68722-68852). This is known as the Storm Water Phase II Final Rule. The rule regulates storm water discharges from two categories:

First, the rule covers storm water discharges to certain small *Municipal Separate Storm Water Systems* (MS4s). Public entities which operate MS4s may be regulated under this rule.

Second, the rule covers discharges from **construction activity** generally disturbing between 1 and 5 acres. A certified construction storm water operator (CSWO) who inspects the site can include an owner, developer, contractor, or subcontractor, but the permittee must be the land owner or recorded easement holder.

In Michigan, the Michigan Department of Environmental Quality (MDEQ) has been granted jurisdiction for implementing the CWA and managing the Phase II rules. Michigan has developed two general permits; one providing watershed coverage, and the second providing jurisdictional coverage.

## **B. REGULATORY CONTEXT**

The Storm Water Phase II Final Rule requires the owner/operator of a small MS4 to obtain NPDES permit coverage because a MS4 is defined as a point source discharge (PSD) of storm water into discrete conveyances, including roads with drainage systems and municipal streets, ultimately discharging into a receiving body of water. The rules are outlined in 40 CFR 122.

According to 40 CFR 122.26(b)(8), "municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- Owned or operated by a State, city, town, borough, county, parish, district, or other public body...that discharges into waters of the United States;
- Designed or used for collecting or conveying storm water;
- Which is not a combined sewer; and,
- Which is not part of a Publicly Owned Treatment Works (POTW)."

Specifically, MS4s within an **urbanized area**, as defined by the 2002 United States Census, must obtain coverage under the General Permit, either individually, or within a cooperative watershed group. The individual permit is referred to as a Jurisdictional General Permit.

The Phase II rules outline six minimum measures for a government unit that owns or operates a MS4 to implement in order to obtain coverage under the Jurisdictional General Permit for storm water discharge. The six minimum measures are designed to improve the quality of storm water discharged from such MS4s.

The permit requires development and implementation of a Storm Water Management Program that outlines how the MS4 will address the six minimum measures utilizing a series of Best Management Practices (BMPs), and defining measurable goals to monitor the improvement in storm water discharge. The program must be documented in a Storm Water Management Program written plan (Plan).

Okemos Public Schools has elected to obtain coverage under the Jurisdictional General Permit. This Storm Water Management Program Plan covers the entire district and each of its facilities. Specifically, this Plan covers the following district facilities:

<b>Facility</b>	<b>Address</b>
Okemos High School	2800 Jolly Road, Okemos, MI
Chippewa Middle School (includes Community Education and Senior Center)	4000 N. Okemos Road, Okemos, MI
Kinawa Middle School	1900 Kinawa Drive, Okemos, MI
Bennett Woods Elementary School and Transportation Department	2650 Bennett Road, Okemos, MI 2700 Bennett Road, Okemos, MI
Central Elementary School (includes Operations, Media & Technology, Print Shop, and Administrative Buildings)	4406 N. Okemos Road, Okemos, MI
Cornell Elementary School	4371 Cornell Road, Okemos, MI
Hiawatha Elementary School	1900 Jolly Road, Okemos, MI
Wardcliff Elementary School	5150 Wardcliff Drive, E. Lansing, MI
Edgewood Education Center	1826 Osage Drive, Okemos, MI

Okemos Public Schools submitted a Storm Water Discharge Permit Application Notice of Intent (NOI), on March 10, 2003. The NOI was re-submitted with Appendix A attached on March 27, 2006. The MDEQ issued Okemos Public Schools a Certificate of Coverage under the General Permit Number MIS040000 on September 18, 2003. The Certificate of Coverage Number is **MI040019** and designated name is **Okemos PS MS4-Ingham**.

**C. LEGAL AUTHORITY AND ENFORCEMENT RESPONSE PROCEDURE**

Okemos Public Schools does not have authority to enact ordinances, nor has roadway rights-of-way, authority to regulate illicit connections to its MS4 from outside sources, require post-construction controls from potential contributors to its MS4, limit seepage from public sanitary systems traversing its property, or provide highway construct and maintenance controls on municipal, county, or state roadways traversing its property.

Okemos Public Schools does have the authority to control its MS4 connections, implement construction controls on its on-site construction projects and roadways, conduct inspections, implement post-construction controls on its MS4, and implement pollution prevention/good housekeeping practices. If Okemos Public Schools identifies improper discharges to its MS4 from external sources, Okemos Public Schools will inform the discharger of its findings and the need to eliminate or correct the discharge. Okemos Public Schools will follow up with the discharger and if the discharger fails to correct the problem, MDEQ will be contacted for assistance.

Okemos Public Schools does not have the authority to enforce storm water violations of the public and therefore will rely on local and state for enforcement response. Okemos Schools will be responsible for communicating and notifying district staff and their hired contractors of storm water violations. Details of storm water incidents and response actions (e.g. names, locations, dates, response activities) shall be kept in the SWMP file.

**D. COORDINATION WITH LOCAL GOVERNMENT**

The district will coordinate implementation of this plan with the respective local body of government within which the facilities are located, to the extent feasible. This coordination will entail identification of the watershed within which each complex is located, and notification of the implementation of this plan. See Section II.D for a listing of the government entities and watershed groups with which Okemos Public Schools will be coordinating. Okemos Public Schools will attempt to obtain and review the watershed management plans developed by local stakeholders for the district’s receiving streams and evaluate actions, if any, to take.

**E. RECEIVING WATERS IDENTIFICATION**

The receiving waters from each complex known as of the submittal of the NOI are as follows:

<b>Facility</b>	<b>Receiving Waters</b>
Okemos High School	Heron Creek via on-site wetlands
Chippewa Middle School (includes Community Education and Senior Center)	Meridian Township Storm Sewer
Kinawa Middle School	Briarwood Drain
Bennett Woods Elementary School (includes Transportation Department)	No discharge from on-site wetlands
Central Elementary School (includes Operations, Media & Technology, Print Shop, and Administrative Buildings)	Meridian Township Storm Sewer
Cornell Elementary School	Meridian Township Storm Sewer
Hiawatha Elementary School	Meridian Township Storm Sewer
Wardcliff Elementary School	Meridian Township Storm Sewer
Edgewood Education Center	Meridian Township Storm Sewer

**F. GOALS AND OBJECTIVES**

The objective of development of a Storm Water Management Program by small MS4 owners/operators is to reduce pollutants in storm water to the maximum extent practicable (MEP) to protect water quality. Implementation of a program that incorporates elements of the six minimum measures will help Okemos Public Schools achieve this goal.

MEP is a standard that establishes the level of pollutant reductions MS4 operators can achieve through implementation of a storm water management program. The strategies may be different for each MS4 and each facility because of unique local hydrologic, geologic, and water quality concerns in each location. Therefore, MEP has been considered in development of the general program, however, specific requirements may vary for implementation on a case-by-case basis for each Okemos Public Schools facility, as appropriate.

## II. PROGRAM ELEMENTS

### A. ILLICIT DISCHARGE ELIMINATION PROGRAM

#### 1. INTRODUCTION

An Illicit Discharge Elimination Program (IDEP) is a program designed to identify, prioritize, and minimize or eliminate illicit connections to the storm water system, and to prohibit future connections.

#### 2. DEFINITIONS

The following are key IDEP terms:

**Illicit discharge:** Any discharge to, or seepage into, an MS4 that is not composed entirely of storm water or uncontaminated groundwater except discharges pursuant to NPDES permit.

**Illicit connection:** A physical connection to an that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

#### 3. PERMIT REQUIREMENTS

There are five permit requirements for developing an IDEP. They include:

- A listing or map of known storm water point sources to be included in the Notice of Intent (NOI) for coverage under the General Permit.
- A schedule for providing an updated map of the location of each known storm water point source discharge. The drawing must include a description of the conveyances leading to these point source discharges and the respective receiving waters or drainage systems,
- A program to find, prioritize, and eliminate illicit connections, and minimize illicit discharges to the MS4 or waters of the state,
- A description of a program to minimize infiltration of seepage from sanitary sewers and septic systems into the MS4, and
- Legal authority to prohibit discharges into the drainage system.

#### 4. ILLICIT CONNECTION IDENTIFICATION

##### a. Notice of Intent

Okemos Public Schools submitted a Storm Water Discharge Permit Application Notice of Intent (NOI) on March 10, 2003, and re-submitted the NOI with Appendix A on March 27, 2006.

##### b. Storm Water System Mapping

Okemos Public Schools contracted SME to assist in the development and implementation of the IDEP. SME will visit each facility to review existing drawings, interview maintenance staff, and conduct a walkover of the storm water system.

## OUTFALL IDENTIFICATION

SME will field verify the outfalls identified in the NOI as well as identify additional outfalls which may be discovered during the site visit. Outfall identification will include connections to other MS4s. Additionally, each outfall will be field-located utilizing a global positioning system (GPS) unit for inclusion on system maps prepared for each facility.

Following this initial step, where outfalls consist of connections to other MS4s, the down-gradient storm sewer operators will be contacted to verify the connections.

Identification of riparian lands that may be located on or traverses district property will also be made during this initial assessment.

## CONVEYANCES DESCRIPTION

Utilizing existing drawings, interviews with Okemos Public Schools maintenance staff, and field verification techniques, the storm water conveyance system at each facility will be compiled onto the site diagrams. Riparian lands will also be noted, if present.

- c. Outfall Condition - Initial Visual Screening  
An initial visual screening will be conducted to note and record outfall conditions, if accessible (e.g., those discharges which do not discharge to a down-gradient MS4). This will be conducted during the initial site visit and field verification process.
- d. Receiving Waters Condition - Initial Visual Screening  
An initial visual screening will be conducted to note and record receiving water conditions, if the outfall discharges directly to a water body. This will be conducted during the initial site visit and field verification process.
- e. Questionnaires/Interviews/Training  
An initial awareness training outline and a questionnaire to survey district maintenance staff regarding operations and potential illicit discharges have been developed. Questionnaires will be provided to a district custodial/maintenance staff representative from each facility following initial awareness training. The questionnaire is included in Appendix A. Responses to the questionnaires will be used to help narrow the focus of the illicit connection/discharge identification process.

Additional training on recognition of potential illicit connections, discharges, and outfall indicator parameters will be developed and conducted as part of the PEP, or provided as necessary to custodial/maintenance staff.

f. Dry Weather Screening

An initial dry weather visual screening of each identified outfall will be conducted to assist in the initial identification of potential illicit connections. The visual screening will be documented utilizing the Field Observation Checklist, attached as Appendix B. The screening will be conducted at all outfalls, including enclosed discharge points (i.e., connections to down-gradient MS4s) and outfalls to waters of the state. Screening will be conducted at least 72 hours after a storm event.

Dry weather screening will be conducted annually, thereafter, to assess progress in elimination/minimization of illicit connections/discharges. The annual screening will also include visual observations of the condition of each outfall and receiving waters at each location.

g. Additional Assessment/Confirmation of Illicit Discharges

Based on the field observations from initial site visits, document review, interviews, initial outfall visual observations, and dry weather screening, gaps in conveyance mapping and potential illicit discharges/connections may be identified, which will require additional assessment/confirmation.

Additional assessment may involve tracer dye or smoke testing of storm water conveyances, or sampling of discharges and laboratory analysis of indicator parameters. All available visual methods, including flow monitoring (e.g., introduction of high water volume in specific conveyances in conjunction with visual observation of changes in flow), will be used prior to testing or sampling. Monitoring parameters, if required, will consist of pH, ammonia, fluoride, and surfactants/detergents.

If sources of storm water flow not attributable to rain water or permitted non-storm sources cannot be identified, tracer dye testing may be required. Tracer dye testing can only be conducted by permission of the MDEQ. If tracer dye testing is warranted, a letter will be submitted to MDEQ outlining the dye product to be used, the estimated concentration in receiving waters, and a date range within which testing will be conducted. Tracer dye testing will not commence until MDEQ authorization is received.

For potential illicit discharges that may result from a cross-connection with a sanitary wastewater source, confirmation biological sampling will be conducted. Laboratory analysis for E. coli will be conducted.

For potential illicit discharges that may result from a cross-connection with a process water, or non-rain water source not specifically exempted by the Permit, chemical sampling and analysis will be conducted. Analytical parameters will be dependent on the nature of the potential

source. Appropriate indicator parameters will be selected on a case-by-case basis in order to confirm the illicit connection.

In the event a potential illicit discharge cannot be confirmed by a combination of the means described above, consideration will be given to utilizing a televised video assessment.

h. Prioritization of Potential Illicit Connections

Once illicit connections, if any, are identified, a schedule will be developed to eliminate or minimize the connections. The illicit connections identified will be prioritized for elimination or minimization based on the level of impact to the surface water quality and the level of effort/fiscal feasibility to implement. Fiscal feasibility is determined by available funds and timing for budgeting implementation in the appropriate school year. Priority will be given to illicit connections/discharges that have the greatest potential to harm down-gradient aquatic habitats.

5. **ILLICIT CONNECTION/DISCHARGE ELIMINATION/MINIMIZATION**

a. Implementation Plan

Illicit connections/discharges that require major capital expenditures to eliminate or minimize the connection/discharge will be prioritized based on available funds and budgeted for implementation in subsequent school years. Since continuing discharges are non-permitted and subject to fines up to \$25,000 per day per violation, they will be prioritized for rapid elimination. If the removal of a connection or discharge is delayed because of weather, capitol needs, or other critical factors, Okemos Public Schools will evaluate ways to collect and dispose of the source material so that the discharge is eliminated quickly. An implementation plan will be developed to track the progress of elimination/minimization of confirmed illicit connections/discharges.

In the event an illicit cross-connection to a sanitary line is identified, Okemos Public Schools is prepared to comply with the Sanitary Sewer Overflow (SSO) notification and annual reporting requirements for discharge of sewage from illicit sanitary cross-connections. Such an illicit connection will be given highest priority for elimination.

In the event a release of polluting materials from the facilities to the surface waters or ground waters of the state is observed, the Director of Facilities for Okemos Public Schools shall be notified immediately. The Director will then determine if the release shall be reported to the MDEQ (ph: 800-292-4706) per Part 5 Rules. A reportable release is defined as a release in excess of the reporting quantities in Part 5 Rules (see Appendix E).

b. Evaluation and Assessment Schedule

The following outlines the proposed schedule for implementation of the IDEP based on major tasks.

**SYSTEM MAPPING OF OUTFALLS AND CONVEYANCES**

Outfall identification was previously completed within 90 days of submittal of the Storm Water Management Program written plan (Plan) to the MDEQ.

The storm water system maps for each facility were developed and are available at Okemos Administrative Office at 4406 Okemos Road, Okemos, Michigan.

**INITIAL SCREENING OF OUTFALLS/RECEIVING WATERS**

Initial visual screening of each outfall and receiving waters was completed by 2007.

**INTERVIEWS/QUESTIONNAIRES/TRAINING**

Interviews with facility maintenance staff, distribution of the questionnaires, and initial awareness training were completed by 2007. Additional training of facility maintenance and grounds staff will be performed by 2014/2015. The training will involve pollution prevention practices and release response and reporting procedures.

**DRY WEATHER SCREENING**

The initial dry weather screening was completed in the fall (August/September) of 2006. The goal of the annual dry weather screening was to evaluate the progress in elimination or minimization of illicit connections/discharges (see below).

**ADDITIONAL ASSESSMENT/CONFIRMATION/PRIORITIZATION**

Additional assessment of potential illicit discharges/connections will be completed by the end of the 2013/2014 school year. The facilities will be grouped based on the gravity of the potential illicit discharge/connection determined during the initial visual assessment and dry weather screening tasks. Video confirmation, if needed, will be scheduled for the following school year on a case-by-case basis.

**SCHEDULE FOR ELIMINATION/MINIMIZATION**

Once potential illicit discharges/connections are confirmed, the connections/discharges, if feasible, will be eliminated by September 2015. Where elimination is impossible, measures to minimize the discharges will be implemented on the same schedule.

c. Measurable Goals

The following measurable goals will be used to assess the progress and effectiveness of IDEP implementation:

- Number of illicit discharges/connections eliminated versus number found
- Ability to meet the IDEP proposed schedule
- Number of personnel trained by 2014/2015 school year
- Written procedure to monitor new construction projects to prevent cross connections
- Dry weather flow monitoring
  - Selection of indicator parameters to assess quality of discharge (detergents and ammonia – both available in field kits)
  - Additional assessment by 2014/2015 school year

d. Fieldwork Manual/Checklists

SME has developed a field checklist for conducting visual assessments. The checklist includes guidelines for conducting the observations.

A similar checklist will be developed for conducting dry weather flow water quality monitoring. The checklist will include chemical sampling and analysis guidance.

SME also has developed Tracer Dye Testing Standard Operating Guidelines. The field checklist and the tracer dye guideline are included in Appendix B. The guidelines and checklists will be compiled into a field manual.

## **B. PUBLIC EDUCATION PROGRAM**

### **1. INTRODUCTION**

The purpose of the Public Education Program (PEP) is to promote, publicize, and facilitate education for the purpose of encouraging the “public,” as defined by the district, to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP).

### **2. PERMIT REQUIREMENTS**

The PEP permit requirements include educating the "public" in the following categories, as appropriate to each facility, the staff mix, and the audience:

- Hazards associated with illicit discharges and improper waste disposal, including prevention of grease and litter discharges to the storm water system by food service staff;
- Potentially impacted water body at each location and stewardship of the watershed;
- Good housekeeping practices including lawn care, pesticide and herbicide application, vehicle and equipment cleaning (power washing), de-icing;
- Availability and location of facilities for the collection and disposal of household hazardous wastes;
- Other maintenance activities as may apply to each facility, such as proper septic system care, management of riparian lands, and the role of vegetation in watershed maintenance.

### **3. DEFINITION OF PUBLIC**

For purposes of this plan, Okemos Public Schools has defined public as the Board of Education (Board), school district employees, district students, and outside contractors providing services to Okemos Public Schools.

### **4. AWARENESS PROGRAM**

A training program, utilizing the MDEQ-sponsored Storm Water Savvy promotional and training materials will be developed for this PEP. Okemos Public Schools management personnel will be responsible to disseminate appropriate information to employees whose job functions are directly related to activities that have the potential to affect storm water, including maintenance, grounds, and janitorial staff.

An awareness program will also be developed to notify contractors of their responsibilities to adhere to the Storm Water Management Program requirements.

In addition, promotional materials will be developed to disseminate to the district students on a periodic basis, generally annually. This will be accomplished through existing notification venues. Okemos Public Schools publishes a district newsletter entitled School Speak. In addition, each school publishes a newsletter. The district also maintains a web site at <http://okemos.k12.mi.us> that will be used to post pertinent information for the students. Articles for public awareness will be distributed through the Fall 2013 newsletter and the district’s website (see Section II.D).

Notification will include information on the availability and location of facilities for the collection and disposal of household hazardous wastes and the local governmental unit reporting procedures for discovery of illicit discharges.

Okemos Public Schools will consider coordinating additional PEP activities with the Greater Lansing Regional Committee (GLRC), the watershed permit group associated with watersheds to which district storm water discharges (See Public Involvement/Participation Section). The purpose of this activity will be to get help disseminating information to students and utilizing the GLRC student survey being developed.

Okemos Public Schools will evaluate the feasibility of incorporating storm water awareness into the district's curriculum with administration representatives responsible for district curriculum. The administration will be informed of the curriculum developed by the MDEQ. See Public Involvement/Participation Section for more information on coordination with administration.

The content of the various training/awareness materials will be geared specifically to each audience, but will cover the major categories outlined in Section 2 above.

#### 5. SCHEDULE FOR IMPLEMENTATION

Initial awareness training of maintenance staff will be conducted within 90 days of submittal of the Plan or upon MDEQ approval (see IDEP). Follow-up training of maintenance/janitorial staff will be conducted in the 2013/2014 school year. Awareness training for administrative staff (including the Board), will be developed and dissemination begun in the 2013/2014 school year.

Contractor awareness information will be developed and dissemination begun in the 2013/2014 school year.

Notification to students will be made initially during the 2013/2014 school year and periodically thereafter in the Okemos Public Schools School Speak newsletter and, as necessary, on the Okemos Public Schools web sit located at <http://okemos.k12.mi.us>. Periodic information will be included in the newsletter or mailed. Coordination with the regional watershed permit group's PEP will commence with the 2014/2015 school year.

Discussions with administration regarding the feasibility of incorporating storm water awareness into the district's curriculum will be completed by the end of the 2015/2016 school year.

#### 6. EVALUATION/MEASURABLE GOALS

The following measurable goals will be used to assess the progress of PEP implementation:

- Periodic survey of the various groups comprising the district's definition of "public" including maintenance/janitorial/grounds, administration, and

contractors, to assess behavior changes after awareness training/information dissemination; an initial survey will be conducted to establish the baseline level of understanding of the staff in the program

- Okemos Public Schools will coordinate with the regional watershed permit group's PEP to assess students behavior changes after information dissemination by the watershed group
- Track attendance at training for maintenance/janitorial/grounds staff to be conducted in the 2013/2014 school year
- Disseminate awareness materials to the "public" annually in newsletter or on web site by Fall 2013

## **C. POLLUTION PREVENTION/GOOD HOUSEKEEPING PROGRAM**

### **1. INTRODUCTION**

Okemos Public Schools facility operations cover a wide variety of activities and land uses that are potential sources of storm water pollutants. These include roadway and parking lot maintenance, transportation and equipment garages, open ditches and storm sewers, turf and landscaping activities, and waste handling and disposal activities. The purpose of a comprehensive pollution prevention and good housekeeping program is to document and evaluate current practices, identify opportunities for improvement, and help effect reduction of pollutants entering the storm water system from improper disposal of wastes, spills, and operations and maintenance activities.

The MS4 district consists of nine separate facilities where storm water is managed through conventional storm water collection and drainage systems (e.g. multiple catch basins). Pollution prevention practices and training for Okemos staff is prioritized at the locations where chemical use/storage and maintenance activities are most likely to occur: administrative office/maintenance facility and the bus yard. Facility and storm sewer drawings are available upon request at the Administrative Building. In the event storm water structures or facility changes are made, Okemos Public Schools will update drawings within 30 days.

### **2. PERMIT REQUIREMENTS**

The permit requires development, implementation, and compliance with a program of operation and maintenance BMPs with the ultimate goal of preventing or reducing pollutant runoff from operations to the maximum extent practicable. This includes ensuring staff:

- Properly handle wastes, recyclables, chemicals, and equipment used on the job;
- Maintain a clean work area;
- Regularly maintain storm water controls; and,
- Identify and report various storm water pollution sources, including illicit discharges, malfunctioning post-construction controls, and poor soil erosion and sedimentation controls at construction sites.

This requirement must be accomplished by providing staff with:

- Guidance or operation manuals;
- Employee training and testing; and
- Equipment and other resources necessary to prevent and reduce storm water pollution.

The permit requires the development and implementation of BMPs covering structural and administrative storm water controls, roadway construction and maintenance activities, fleet maintenance activities, and, turf management (pesticides and fertilizers).

3. **OPERATION AND MAINTENANCE**

An assessment will be made to document current Operation and Maintenance (O&M) activities, procedures, or policies, as appropriate. Once the assessment is complete, the activities, procedures, or policies will be reviewed to determine whether modifications are required in practices to help improve the quality of storm water discharge and to guide the implementation of training outlined in the PEP.

The following are examples of existing O&M activities in place at Okemos Public Schools and potential BMP modifications to those practices:

a. Lawn Chemical Management

Lawn care is managed and conducted by Okemos Public Schools. Generally, turf management chemicals are only applied to athletic fields. Since 2007, Okemos Public Schools has successfully reduced the amount of fertilizers used. A questionnaire will be used to obtain current information on fertilizer, pesticide, and herbicide application from maintenance staff at each location. The questionnaires will be compiled and an assessment made as to whether modifications to turf management practices can be made to improve the quality of storm water discharge. Okemos Public Schools will follow manufacturer recommendations for application of lawn chemicals, including ensuring the materials are not applied when rain is forecast. A copy of the questionnaire is included in Appendix C.

b. Pest Management

Okemos Public Schools has an Integrated Pest Management Plan (IPM) required by the Michigan Department of Public Health. Pesticide management is contracted. The IPM will be reviewed with respect to potential impacts on storm water quality. If not specifically covered in the IPM, Okemos Public Schools will ensure the contractor won't apply materials when rain is forecast.

c. Catch Basin Management

Currently, silt build-up in catch basins is cleaned out on an as needed basis. To date, only small clean up has been conducted by hand by Okemos Public Schools staff. The materials have been properly disposed at a licensed disposal facility off-site. Okemos Public Schools' procedures will be assessed and a determination made as to whether a preventive maintenance program should be implemented, including contracting out the catch basin cleaning. In addition, an evaluation into retrofitting catch basins with inserts will be made (see Post-Construction Storm Water Runoff Control for further discussion and schedule for implementation).

The catch basin at the Transportation Center is equipped with an oil/water separator and the water is discharged to the sanitary sewer. The oil/water

separator is maintained by Spartan Oil, which collects the oil for recycling off-site.

If not already conducted as part of a preventive maintenance program, Okemos Public Schools will incorporate routine (at least annual) inspections of the catch basins at each facility as part of a preventive maintenance program. If not already documented, Okemos Public Schools will develop a cleaning procedure outlining the cleaning process and disposal methods for solids and liquids. The US EPA Catch Basin Cleaning Fact Sheet, will be utilized in developing the procedure. Generally, catch basins will require cleaning once 50% of capacity is reached.

d. Road/Parking Lot Maintenance

Okemos Public Schools conducts limited maintenance on its roads and parking lots. Major reconstruction is contracted out. An assessment of activities associated with maintenance as well as street cleaning activities on Okemos Public Schools managed roads and parking lots will be assessed to determine whether either implementation of street cleaning, or an increased frequency, is feasible. Results of the evaluation will be documented in future annual reports, including justification should a program not be deemed feasible.

e. Salt And Sand/De-Icing

Okemos Public Schools maintains a small salt storage shed at the administrative complex. Salt for road and parking lot de-icing is obtained from Morton Salt. Salt is applied by Okemos Public Schools grounds staff utilizing truck-mounted calibrated spreaders. An assessment of the storage and application practices will be made to determine whether reductions in quantities or substitution of materials used, such as pre-wetting material, are feasible, and to assess whether storage practices require corrective actions to prevent spillage from entering the storm system.

f. Fleet Maintenance

Okemos Public Schools operates a fleet of buses and service vehicles. An assessment of maintenance activities will be made to determine current practices and whether improvements can be made to reduce potential impact on storm water discharge. Areas to be evaluated will include hazardous materials storage, used oil management, periodic vehicle inspections for leaks, and spill prevention. In addition, the district operates a vehicle wash unit that discharges to the sanitary sewer. This operation will also be included in the assessment and an evaluation made of potential impact to the storm system.

g. Trash Dumpster Management

An evaluation of solid waste management practices, specifically dumpster handling, including containment or proximity to catch basins, will be made. However, none of the dumpsters in use at Okemos Public Schools are equipped with hydraulic compactors. Based on the assessment, modifications may be made to dumpster location/management. The evaluation will also assess the potential for impact to the storm water system from other sources of trash.

In addition, the district's cafeteria drains discharge to the sanitary sewer and are generally equipped with grease traps, which are cleaned out periodically by an outside contractor and the grease removed off-site for disposal. Grease is therefore managed in a manner that does not impact storm water discharge.

h. Swimming Pool Maintenance

Okemos Public Schools operates a swimming pool at Okemos High School. The pool at Kinawa Middle School has been temporarily closed since approximately 2010. The pools discharge to the Meridian Township sanitary sewer system. Filter backwash is also discharged to the sanitary system.

h. Septic System Management

Okemos Public Schools has no septic systems.

i. Floor Maintenance

Floor scrubber/stripper and carpet cleaning wash water is collected and discharged to the sanitary sewer via janitorial slop sinks.

j. Sports Field Line Painting Equipment Cleaning

The district maintains sports fields and sports field line painting equipment cleaning is conducted. An evaluation of the cleaning methods will be made to ensure the discharge is to the sanitary sewer.

4. **ADDITIONAL BMPs**

In addition to implementing improvements to the existing management practices outlined above, consideration will be given to the following BMPs for implementation at Okemos Public Schools:

- Overall district hazardous materials management and spill prevention, including material storage
- Flow diversion installation
- Use of native plants to replace turf grass in selected areas
- Labeling of storm sewer structures installed after March 10, 2004
- Assessing impacts to water quality of new flood management projects (see Post-Construction Run-Off Section)

5. **STAFF AND CONTRACTOR TRAINING PROGRAMS**

In order to effectively implement improvements to existing operations or implement additional BMPs, specific BMP information will be incorporated into the PEP staff training and awareness information dissemination. Training of facility and maintenance personnel will be performed by 2014. Following the training, new hires for maintenance and grounds operations will be provided a pollution prevention/best management practices guidance document to review and sign. An outline of training topics for the maintenance/janitorial/grounds staff is included in Appendix D.

6. **IMPLEMENTATION SCHEDULE**

Okemos Public Schools will complete the re-assessment of existing BMPs by the end of the 2013/2014 school year. BMPs will be ranked by potential for impact to the storm water system. Priority will be given to improving BMPs with the highest potential for improving downstream ambient water quality. Catch basin maintenance procedure modifications will be completed by the end of the 2013/2014 school year.

7. **EVALUATION/MEASURABLE GOALS**

The following measurable goals will be used to assess the progress of Pollution Prevention/Good Housekeeping Program implementation:

- Dry weather flow water quality monitoring program of Okemos Public Schools outfalls (see IDEP)
- Tracking percentage of existing BMPs upgraded or improved
- Track attendance at training sessions (see PEP)
- Utilize surveys to track change in understanding/behavior (see PEP)
- Track volume of solids removed from catch basins
- Track changes in fertilizer usage, if soil testing warrants, or track application volumes

## **D. PUBLIC INVOLVEMENT/PARTICIPATION**

### **1. INTRODUCTION**

Okemos Public Schools would prefer to minimize contact with the general public at large, opting to correspond with local government or organizations for select issues that may affect the general public or the local watershed. Okemos Public Schools prefers to communicate using written correspondence, notices, or distribution of plans.

### **2. PERMIT REQUIREMENTS**

The permit encourages public input in all aspects of the storm water management program. Minimum actions required include following public notice requirements, as appropriate, when notifying the public that a storm water management program must be implemented. Since Okemos Public Schools has narrowly defined public for purposes of implementing its storm water management plan, public notice, as outlined in the permit, is not required. However, Okemos Public Schools does intend to notify appropriate local governments surrounding district facilities and local watershed groups of the availability of the plan for review.

The second requirement includes participation in a citizen advisory committee for the purpose of encouraging public involvement in all aspects of the storm water management program. Again, as the storm water management program is a captive program, input from outside Okemos Public Schools will not be required, however, input from Okemos Public Schools management and staff will be encouraged as the program is implemented.

Finally, cooperation with local stream or watershed protection organizations is encouraged. This involvement can include:

- Informing the organizations of activities under the storm water management program;
- Providing copies of the program written Plan and requesting input on the Plan;
- Seeking volunteer assistance including water quality monitoring assistance; and,
- Seeking ways to meet general permit requirements by assisting the local organizations with their ongoing programs for water resource protection and enhancement.

As discussed above, Okemos Public Schools has elected to communicate with the local organizations using written correspondence, notices, or limited distribution of its Storm Water Management Program written plan, or making the plan available for review under controlled conditions.

### **3. LOCAL GOVERNMENT/WATERSHED GROUP IDENTIFICATION**

Okemos Public Schools discharges storm water into several local government systems and watersheds, however, the district believes there is one regional

organization submitting a MS4 watershed permit covering all of Okemos Public Schools receiving waters. The local governments and regional watershed permit groups covering the various receiving waters from Okemos Public Schools discharges will be identified. Okemos Public Schools will identify other organizations for each of its facilities, if they are not within the regional watershed permit group program's geographic area.

4. **CORRESPONDENCE WITH LOCAL GOVERNMENT/WATERSHED GROUP**  
Okemos Public Schools intends to prepare a notification letter to submit to the governmental units and regional watershed permit groups identified above outlining the District's efforts in developing and implementing this Plan. This notification will be completed by January 21, 2015.

5. **NOTIFICATION TO PUBLIC**

As outlined in the PEP, notification to students ("the Public") of the requirement for the district to develop a storm water management program was initially made during the 2006/2007 school year and information on the implementation was made periodically thereafter in the Okemos Public Schools School Speak newsletter and, as necessary, on the Okemos Public Schools web site located at <http://okemos.k12.mi.us>. Periodic awareness information will be included in the newsletter or mailed. An article summarizing the objectives and activities of the SWMP will be included in the Fall 2013 newsletter provided to the parents, students, and district personnel. The newsletter article will provide community awareness of the benefits of protecting storm water, instructions for reporting violations, and an invitation to review and provide written comments to the SWMP. A similar article will be posted on the district's website.

After 30 days of public notification, Okemos Public Schools will review comments and update the SWMP, if necessary. Notification of SWMP changes will be made through the newsletter and website.

6. **COOPERATIVE ARRANGEMENT WITH WATERSHED GROUP**

Okemos Public Schools will cooperate with the watershed group for facilitating the watershed group's PEP (e.g., Okemos Public Schools will consider providing facilities for outreach meetings to the greater public by the watershed group).

In addition, Okemos Public Schools staff will periodically attend the regional watershed permit group meetings to foster cooperation between the District and the group.

7. **ADVISORY COMMITTEE**

To achieve the requirement for public participation, and given the District's definition of public, Okemos Public Schools will set up an internal committee made up of Facility and Grounds, and an administration representative with involvement in district curriculum. The purpose of the committee will be to provide input into the implementation of the District's Storm Water Management Program.

8. SCHEDULE FOR IMPLEMENTATION/MEASURABLE GOALS

The following measurable goals will be used to assess the progress of BMP implementation:

- Identification will be completed by the end of the 2013/2014 school year
- Notification will be made by the end of the 2013/2014 school year
- Attend at least one regional watershed permit group meeting by 2015
- Monitor activities of regional watershed permit group via other means (web site/newspaper); keep copies of group meeting newsletters or minutes
- Discuss storm water issues at periodic meetings of the Central Michigan School Maintenance Association

## **E. CONSTRUCTION STORM WATER RUNOFF CONTROL**

### **1. INTRODUCTION**

Polluted storm water from construction sites often flows to MS4s and ultimately is discharged into the receiving waters or drainage systems operated by others. Pollutants commonly discharged from construction sites can include:

- Sediment;
- Solid and sanitary wastes;
- Phosphorous (fertilizer);
- Nitrogen (fertilizer);
- Pesticides;
- Oil and grease;
- Concrete truck washout;
- Construction chemicals; and
- Construction debris.

Of these, sediment is the main pollutant of concern. Sediment runoff rates from construction sites are generally 10 to 20 times greater than from agricultural lands, and 1,000 times greater than from forest lands. During a short time, therefore, construction sites can contribute more sediment to waters of the state than are deposited naturally over several decades.

### **2. PERMIT REQUIREMENTS**

The Phase II Final Rule and the permit require control of storm water discharges from construction activity that results in land disturbance of greater than or equal to one acre, or disturb less than one acre but is part of a larger common plan of development or sale that would disturb one acre or more. In addition, Michigan's Soil Erosion and Sedimentation Control statute (Part 91 of Act 451 of 1994) prohibits offsite sedimentation for sites less than one acre if located within 500 feet of a wetland, lake or stream.

Construction projects meeting these requirements, therefore, are subject to soil erosion and sedimentation control (SESC) requirements outlined in the State of Michigan's Part 91 rules, including design and implementation of runoff control measures. The construction site developer or Okemos Public Schools must control waste, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality. Each construction site must be regularly inspected by a certified storm water operator (CSWO) during construction as required under the State of Michigan's Permit by Rule (Rule 323.2190) to make sure control measures are enforced.

### **3. EXISTING PROGRAM**

The district contracts out all construction projects involving earthwork. Currently, SESC permitting and Certified Storm Water Operator (CSWO) monitoring is the responsibility of the architectural/engineering firm responsible for civil engineering design, the general contractor/construction manager managing the construction project, or the earthwork subcontractor. Okemos

Public Schools will contractually require architects/engineers and/or construction managers be responsible for compliance with Michigan's Part 91 SESC requirements and Permit-by-Rule for construction storm water runoff control for construction disturbing more than one acre. Okemos Public Schools will require new construction projects to have an SESC Plan, obtain the SESC Permit prior to construction, maintain all SESC's during construction, and stabilize the site with permanent controls. The contract and associated construction bonds will be used to enforce the SESC requirements. Okemos Public Schools and/or their environmental consultant will also review the proposed construction location for potential environmental contamination concerns that may be exacerbated by earthwork (e.g. grading contaminated soils, storm water run-off from contaminated areas). If environmental contamination is suspected, the contractor shall implement BMPs to prevent the spread of contaminants via construction storm water run-off, erosion, excavation, etc.

Okemos Public Schools will oversee the construction activities and review on-going SESC activities. The Director will report complaints of SESC violations and sediment discharges to Meridian Township and/or Ingham County Drain Commissioner.

4. **ADDITIONAL BMPs**

The district will also contractually require architects/ engineers and/or construction managers be responsible for compliance with other environmental regulations and BMPs for construction (e.g., construction debris, concrete truck washout, and hazardous materials management), if not already included in the contract.

Okemos Public Schools will require new construction projects to include one or more of the following:

- sustainable or low impact development design,
- recycled materials, and/or
- stormwater BMPs.

5. **SCHEDULE FOR IMPLEMENTATION/MEASURABLE GOALS**

The following measurable goals will be used to assess the progress of BMP implementation:

- Evaluate current contract language and implement contractual requirement by the end of 2013/2014 school year
- Track compliance of contractors to permit-by-rule requirements for construction sites over one acre and other BMPs outlined above when construction projects involving earthwork are conducted while the current permit is in effect

## **F. POST CONSTRUCTION STORM WATER RUNOFF CONTROL**

### **1. INTRODUCTION**

Post-construction storm water management in areas undergoing new development or reconstruction is necessary because runoff from these areas has been shown to significantly affect receiving waters. There are generally two types of impacts from post-construction runoff. The first is caused by an increase in the type and quantity of pollutants. As runoff flows over areas altered by development, harmful sediment and substances, such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorous), can become suspended and carried to receiving waters.

The second type occurs by increasing the volume of water delivered to receiving waters during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead large volumes of water is collected from surfaces such as roofs, and asphalt or concrete roads/parking lots, is routed to the drainage system, and quickly flows to the nearest receiving water. This may result in stream bank scouring and downstream flooding, impacting aquatic life and property.

### **2. PERMIT REQUIREMENTS**

The permit requires development and implementation of a comprehensive storm water program for new development and redevelopment projects that outlines development, implementation, and enforcement of controls across the entire urbanized area at each facility to protect the designated uses in all receiving waters from the effects of urbanization.

The common effects of urbanization to be considered by the program include:

- Stream "flashiness" (higher peak flow and lower base flow);
- Stream bank erosion;
- Increased stream temperature and pollutant load;
- Reduced stream bank vegetation; and,
- Degraded fish and aquatic habitat.

Okemos Public Schools does not have the authority to enact ordinances requiring post-construction controls for any entities or storm water discharges that may inadvertently discharge to its MS4. And, the district is not subject to local site plan review, nor does it have control over review of site plans for off-site development. The district does, however, have the authority to develop its own site plans for development or redevelopment at the referenced affected complexes subject to this plan.

### **3. EXISTING SYSTEMS**

#### **a. Structural Controls**

Okemos Public Schools will conduct an evaluation and compile an inventory of existing structural controls in place at Okemos Public Schools facilities and verify the controls are maintained to ensure effectiveness.

Where appropriate, significant structural controls will be noted on the system maps prepared for the IDEP.

b. Non-Structural Controls

As part of the Pollution Prevention/Good Housekeeping evaluation, existing non-structural controls will be evaluated and documented.

4. COORDINATION WITH LOCAL OR REGIONAL STORM WATER MASTER PLANS

Okemos Public Schools will compile a list of local or regional watershed master plans associated with each facility. Okemos Public Schools will take into consideration the local or regional storm water master plan when evaluating new BMPs for post-construction flow controls during new development or renovation planning. Okemos Public Schools will attempt to reduce flow and pollutant loading for discharges to receiving waters that are deemed high priority by the local or regional watershed master plan.

5. POST CONSTRUCTION FLOW CONTROLS FOR NEW DEVELOPMENT AND REDEVELOPMENT

Although the district is not subject to local site plan review, for construction or re-development projects disturbing greater than or equal to 1 acre, Okemos Public Schools will evaluate, as part of the site planning process, the implementation of BMPs to comply with the local or regional storm water master plan into whose storm water system the district's storm water is discharged. Where the district's development/re-development project discharges directly into a surface water, Okemos Public Schools will evaluate, as part of the site planning process, the feasibility of implementation of BMPs designed to manage storm water run-off from the affected complexes subject to this plan at volumes no greater than levels discharged prior to development/re-development. Some of the BMPs Okemos Public Schools will consider include, but are not limited to, the following:

STRUCTURAL BMPs

- Dry extended detention ponds
- Infiltration basins/trenches
- Porous pavement (when shown to be effective in cold climates)
- Sand filters/filter strips
- Vegetative practices, such as bioswales and rain gardens
- Catch basin inserts

NON-STRUCTURAL BMPs

- Buffer zones
- Open space design
- Urban forestry
- Green parking
- Alternative pavers

In addition, long term erosion control will be facilitated by properly maintaining existing landscaping to prevent soil erosion.

6. **SCHEDULE FOR IMPLEMENTATION/MEASURABLE GOALS**

The following measurable goals will be used to assess the progress of BMP implementation:

- Assessment/documentation of existing systems by the end of 2013/2014 school year
- Develop a form to track maintenance of implemented BMPs and to identify/schedule BMPs that may need to be renovated or re-engineered
- Tracking BMPs implemented should new construction or renovation be planned while the current permit is in effect

## **APPENDIX A**

### **Initial Assessment Questionnaire**

## **APPENDIX B**

### **Field Manual**

## **APPENDIX C**

### **Fertilizer/Pesticide/Herbicide Application Questionnaires**

## **APPENDIX D**

### **Maintenance/Janitorial/Grounds Staff Training Outline**

## **APPENDIX E**

### **Part 5 Rules – Reportable Quantities**