

# **Oak Park Conservancy District (OPCD) – Storm Water Quality Management Plan**

**NPDES General Permit No. INR040001**

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## **SECTION II: CURRENT STORM WATER PROGRAM**

### **Existing Activities that Address Elements within MCMs**

There is a limited amount of activities taking place in the District that address the MCMs. These activities include:

#### *Public Education and Outreach*

- The 2004 Clark County Solid Waste Management District (SWMD)/Clark County Soil and Water Conservation District (SWCD) Recycling and Nonpoint Source Pollution Guide were mailed to every home in the District by the SWMD. This guide included information on recycling, household hazardous waste, nonpoint source pollution like soil erosion, fertilizers, and more.
- The Clark County SWCD website has information on storm water runoff and nonpoint source pollution.

#### *Public Participation and Involvement*

- Citizen reporting in the District mainly regards drainage issues like flooding and sinkholes.
- Storm drain marking was conducted by the Clark County SWCD in 2003/2004 in the District.
- Post notification of workshops conducted by the Clark County SWCD.

#### *Illicit Discharge Detection and Elimination*

- Household hazardous waste and motor oil collection facility available at the Clark County SWMD office.
- New IDDE resolution passed in June 2004.
- OPCD sanitary sewer system maintained.

#### *Construction Site Management*

- 2003 Erosion and Sediment Control Resolution: site inspections, enforcement capabilities.

#### *Post-Construction Storm Water Run-off Controls*

- Some post-constructions BMPs exist such as grassed swales. Otherwise, there is little in the District that addresses this issue.

#### *Good Housekeeping and Pollution Prevention*

- Keep in compliance with NPDES permit for OPCD wastewater treatment plant.
- Used motor oil stored until pick-up is arranged with a private company.
- Have secondary containment for diesel fuel areas.
- Vehicles washed away from storm drain system in graveled area.
- All hazardous materials are in marked containers and are properly disposed of.

## **Current use BMPs**

### *Structural*

Due to the residential character of the OPCD, few intentionally constructed structural BMPs exist within the jurisdictional boundaries of the District. These structural BMPs are the standard requirements by the Indiana Department of Natural Resources for erosion and sediment control. They consist of: vegetated swales, rip rap and mulch/straw for bank stabilization, rock check dams, sand bags around storm drains, temporary sedimentation ponds, and silt fence.

The structural BMPs are doing their jobs well, with one exception. Some of the vegetated swales in established neighborhoods have disappeared due to numerous property fences being placed in the easements. This appears to be a widespread issue, yet is only causing serious drainage problems in a few places. Secondly, portions of vegetated swales and ditches clear of fences are not being maintained by property owners (and it has been shown in their deeds that these swales/ditches are to be maintained by the property owners). These swales/ditches are becoming blocked by trash, yard waste, and a generalized overgrowth of plants. This is leading to numerous drainage and safety concerns in these specific areas relating to mosquito breeding and the flooding of yards. Also to be noted, the OPCD has been working with the power line company to remove limbs that they cut to keep them from blocking drainage in the District.

Overall, the existing structural BMPs have been very effective in helping lessen the impact of soil erosion along Lancassange Creek in relation to developers. Unfortunately, drainage in certain areas has been impeded by property fences and non-maintenance of easements by property owners along vegetated swales.

### *Nonstructural*

The Clark County Soil and Water Conservation District (SWCD) provide Clark County, including the OPCD, with educational information concerning nonpoint source pollution. During the spring, summer, and fall of 2003, the Clark County SWCD conducted a volunteer Storm Drain Marking Program and marked 294 storm drains in the OPCD. The Clark County SWCD also provides educational opportunities through informational public meetings. Notice of these meeting dates, times, and topics are publicly displayed at the OPCD wastewater treatment plant. The Clark County SWCD also makes available educational materials for homeowners, schools, and construction sites at the public meetings and the OPCD wastewater treatment plant, and maintains a web site at <http://www.clarkswcd.org/Urban/UrbanEduProject.htm>. The Clark County SWCD also provides information/assistance with concerns about conservation and other environmental issues in the county.

The Clark County Solid Waste Management District (SWMD) provides Clark County, including the OPCD, with educational information concerning recycling and household hazardous waste. A joint 2004 recycling guide between the Clark County SWMD and SWCD with information about recycling and nonpoint source pollution was sent to every household in the OPCD. A mandatory curbside recycling program for Clark County is

also in place. The Clark County SWMD also has a free household hazardous waste trailer and motor oil collection facility available to all residents in the OPCD

The OPCD has an erosion and sediment control ordinance in place that involves allowable methods of erosion and sediment control, plan review, inspection procedures, and more. This ordinance has been in place since last year and is currently in use with two subdivisions being built in the district.

The OPCD also utilizes a public concern process that reviews drainage complaints throughout the district and applies corrective measures if it is the responsibility of the district. Otherwise, concerns are forwarded to the appropriate party. This process is still new, but working well. It allows people in the district to contact someone and have some type of action taken. Obviously, if the district is not responsible for the problem, it can only pass the information on and request that the matter be taken care of.

Finally, the employees have been given limited training in pollution prevention and good housekeeping. There is also an operations and maintenance program in place.

Overall, the existing non-structural BMPs have also been effective in helping improve water quality. The Clark County SWCD and Clark County SWMD have made numerous services and considerable amounts of information concerning water quality available to residents in the OPCD. Two subdivisions are currently being developed and both are satisfactorily following the OPCD erosion and sediment control regulations.

### **Update of Part B – Characterization Report**

Updates for Part B consist of:

- Public education materials are being developed for septic tank maintenance, proper disposal of pet waste, riparian zone awareness, and more
- IDDE and Erosion and Sediment Control Resolutions have been approved
- The complaint procedure is being improved
- A spill prevention plan is being formulated

Also, water quality testing will commence this fall for Lancassange Creek in accordance with the NOS for Part B received at the end of June 2004.

## **SECTION III: CONTROL MEASURES**

### **MCM #1: Public Education and Outreach**

The objective of the OPCD Public Education and Outreach Plan is to raise the awareness of the individual regarding how their activities and activities of others impact storm water runoff and water quality, and the measures they can utilize to improve storm water quality.

As per the regulation requirements, the Oak Park Conservancy District (OPCD) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

(1) Define method to assess constituents to identify base-line knowledge (Section A).

(2) The program must address the following:

- (A) Improvement in disposal practices (Section B)
- (B) Cast storm drain cover installations (Section C)
- (C) School curricula or website implementation (Section C)
- (D) Educational materials distribution (Section C)
- (E) Outreach to every population sector (Section B and C)

### **BMP Selection**

BMPs for this control measure were identified by the OPCD *Part B: Baseline Characterization* as determined by land uses and potential pollutants resulting from those land uses. The characterization report identified land uses within the District as primarily high density residential with a few commercial businesses, four schools, a few small parks, and limited agricultural use. The focus of public education and outreach will be directed at the reduction of potential pollutants resulting from these land uses, specifically, metals, hazardous chemicals, bacteria, and nutrients. Activities associated with these pollutants that this program will address include transportation-related activities, application of lawn chemicals, disposal of household hazardous wastes, pet wastes, and other wastes, septic tank maintenance, and protection of drinking water supplies.

### **Section A: Assessment**

#### **BMP 1: Public Knowledge/Input Survey**

An initial public opinion survey will be distributed and evaluated by the end of 2004. To reach every constituent in the OPCD area, surveys will be mailed to the households and businesses within the OPCD area. The District will utilize results from the survey in determining the focus and direction of its future Public Education and Outreach programs and Public Involvement programs.

A second survey will be conducted in Year Five (5) to determine if the constituents of the District have benefited from the original outreach program.

#### **Targeted Audience(s):**

Residents  
Businesses

**Measurable Goals:**

Measurable goals for this BMP include the number of surveys distributed, the number of respondents, and the percent increase of knowledge as determined by the second survey in Year Five (5).

**Reporting and record keeping:**

The Storm Water Coordinator (please note that the Storm Water Coordinator is actually the MS4 operator) will retain a copy of the survey and all results.

**Section B: Partner Coordination**

***BMP 2: Clark County Soil and Water Conservation District (SWCD) Partner Coordination***

**Publicize Urban Conservation and Nonpoint Source Pollution**

The Clark County SWCD provides Clark County, including the OPCD, with educational information concerning nonpoint source pollution. The SWCD provides educational opportunities through informational public meetings. Notice of these meeting dates, times, and topics are publicly displayed at the OPCD wastewater treatment plant. The SWCD also makes available educational materials for homeowners, schools, and construction sites at the public meetings and the OPCD wastewater treatment plant,

The Clark County SWCD maintains a web site at <http://www.clarkswcd.org>. This website has information available on numerous urban conservation related topics. The SWCD continues to maintain, revise, and add information to their web site. The OPCD will continue to promote and increase exposure of the web site availability to OPCD adults and school-aged children. The OPCD future website will also link to the SWCD website.

**Targeted Audience(s):**

- Residents
- School-age Children
- Businesses

**Measurable goals:**

Measurable goals for this BMP include: events publicized and educational material made available at the OPCD plant from the SWCD.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of all events publicized and all educational material made available.

***BMP 3: Clark County Solid Waste Management District (SWMD) Partner Coordination***

### **Publicize Safe Means for Disposal of Waste**

The Clark County SWMD provides Clark County, including the OPCD, with educational information concerning recycling and household hazardous waste. A joint 2004 recycling guide between the Clark County SWMD and SWCD with information about recycling and nonpoint source pollution was sent to every household in the OPCD. A mandatory curbside recycling program for Clark County is in place. The Clark County SWMD also has a free household hazardous waste trailer and motor oil collection facility available to all residents in the OPCD. The OPCD will continue to support the SWMD waste collection and recycling programs and promote use of these programs by OPCD residents, schools, businesses, and District operations (see MCM #6 Good Housekeeping).

#### **Targeted Audience(s):**

Residents  
School-age Children  
Businesses

#### **Measurable goals:**

The number of OPCD residents that annually use the facility and the quantity of waste they recycled. This tracking will begin in Year Two (2).

#### **Reporting and record keeping:**

If possible, the District will pursue a cooperative effort with the Clark County Solid Waste District for tracking the number of District residents using the facility and the quantity of waste they recycled.

## **Section C: Pollution Prevention Education**

### ***BMP 4: Distribute Residential Pollution Prevention Information***

The OPCD will continue the current cooperative effort with the SWCD and SWMD to distribute information. Topics may include: proper disposal of automotive fluids and household hazardous materials, clean-ups of spills or leaks, proper car washing, and proper application of lawn chemicals, including fertilizers, pesticides, and herbicides, pet waste, illegal dumping, on-site sewage disposal systems, nonpoint source pollution, and more may also be included in this program.

#### **Targeted Audience(s):**

Residents

#### **Measurable goals:**

The number of educational materials distributed to homeowners beginning in Year Two (2). Distribution methods will most likely include mass mailing in the form of brochures and/or newsletters and availability at the District office.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of all materials distributed and the amount distributed.

***BMP 5: Distribute Commercial Pollution Prevention Information***

Education of commercial and retail businesses will focus on good housekeeping practices. Topics may include: improper disposal of hazardous chemicals, spill prevention and clean-up, proper storage of equipment from rainfall exposure, proper applications of lawn chemicals, and more may also be included in this program.

**Targeted Audience(s):**

Businesses

**Measurable goals:**

The number and type of educational materials distributed to businesses beginning in Year Three (3). Distribution methods will most likely include mailings in the form of brochures and/or newsletters and availability at the District office.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of all materials distributed and the amount distributed.

***BMP 6: Website Implementation***

The District will develop and implement a website about the OPCD and its functions in Year Four (4). This site will include relevant information about nonpoint source pollution, illegal dumping, and storm water quality. Also available will be an opportunity for people to report illegal dumping and/or other storm water concerns.

**Targeted Audience(s):**

Residents  
School-age Children  
Businesses

**Measurable goals:**

The number of visitors that to the site, number of questions, comments, and concerns, and citizen reporting of illegal dumping via email, will be recorded.

**Reporting and record keeping:**

The Storm Water Coordinator will report the number of annual visitors to the site, the number of questions, comments, or concerns received, and how many reports of illegal dumping are placed.

### **BMP 7: Require Curbside Storm Drain Markers or Pre-Cast Storm Drain Inlets**

During the spring, summer, and fall of 2003/2004, the Clark County SWCD conducted a volunteer storm drain marking program that marked 310 curbside storm drains in the OPCD. These markers have the phrase “No Dumping – Drains to River” on them. This will be a requirement by August 2007 for all new developments.

#### **Targeted Audience(s):**

Residents  
School-age Children  
Businesses

#### **Measurable goals:**

The number of new developments that use storm drain markers or put in pre-cast storm drain inlets with the phrase “No Dumping” (or something similar).

#### **Reporting and record keeping:**

The Storm Water Coordinator will report the number of new curbside storm drain inlets with the message “No Dumping” on them.

### **Section D: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

#### **Year One (Sept 2003 – Aug 2004)**

- Clark County SWCD Partner Coordination (BMP #2)

#### **Year Two (Sept 2004 – Aug 2005)**

- Distribute and Evaluate Initial Public Survey (BMP #1)
- Clark County SWCD Partner Coordination (BMP #2)
- Clark County SWMD Partner Coordination (BMP #3)
  - 25% of Households Participating in Recycling Program
- Initiate Distribution of Residential Pollution Prevention Materials (BMP #4)

#### **Year Three (Sept 2005 – Aug 2006)**

- Clark County SWCD Partner Coordination (BMP #2)
- Clark County SWMD Partner Coordination (BMP #3)
  - 50% of Households Participating in Recycling Program
- Continue Distribution of Residential Pollution Prevention Materials (BMP #4)
- Initiate Distribution of Commercial Pollution Prevention Materials (BMP #5)

#### **Year Four (Sept 2006 – Aug 2007)**

- Clark County SWCD Partner Coordination (BMP #2)
- Clark County SWMD Partner Coordination (BMP #3)
  - 75% of Households Participating in Recycling Program
- Continue Distribution of Residential Pollution Prevention Materials (BMP #4)

- Continue Distribution of Commercial Pollution Prevention Materials (BMP #5)
- Initiate Website (BMP #6)
- Require Curbside Storm Drain Markers or Pre-Cast Storm Drain Inlets (BMP #7)

#### **Year Five (Sept 2007 – Aug 2008)**

- Distribute and Evaluate Second Public Survey (BMP #1)
- Clark County SWCD Partner Coordination (BMP #2)
- Clark County SWMD Partner Coordination (BMP #3)
  - 100% of Households Participating in Recycling Program
- Continue Distribution of Residential Pollution Prevention Materials (BMP #4)
- Continue Distribution of Commercial Pollution Prevention Materials (BMP #5)
- Update Website (BMP #6)
- Enforce Storm Drain Marker Requirements (BMP #7)
  - 100% of New Developments have Markers

### **Section E: Summary**

This Public Education and Outreach Plan was developed to address the findings of the OPCD *Part B: Baseline Characterization* regarding the land uses within the OPCD and the potential pollutants resulting from those uses, as well as meeting the goals of the other Minimum Control Measures as required by the Storm Water Phase II NPDES Permit Rule 13. Many of the BMP described here overlap other control measures under the OPCD Storm Water Quality Management Plan, thus emphasizing the importance and influence of education in all areas of storm water quality management. These educational and outreach practices also lay the groundwork for the development and implementation of a successful Public Participation and Involvement Plan.

Periodic reassessment of constituent storm water knowledge and evaluation of program effectiveness will be instrumental in developing a comprehensive and effective storm water quality improvement program for the OPCD.

### **MCM #2: Public Participation and Involvement**

The objective of the OPCD Public Participation and Involvement Plan is to increase individual responsibility for water quality and promote environmental stewardship.

As per the regulation requirements, the Oak Park Conservancy District (OPCD) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

- (1) Define the method to survey constituents to determine interest in participating in the program (Section A).

(2) Define your public notice process and public involvement (Section B and C).

(3) The program must address the following (Section C):

- (A) Community participation in citizen panels
- (B) Community clean-up activities
- (C) Citizen-watch group and drain marking projects
- (D) Public meeting notifications for all meetings on storm water program development and implementation

### **BMP Selection**

BMPs for this control measure were identified by the OPCD *Part B: Baseline Characterization* as determined by land uses and potential pollutants resulting from those land uses and as an outgrowth of the OPCD Public Education and Outreach Plan. The focus of the public participation and involvement will encourage general public participation in public meetings and events and programs, reporting observations of illicit discharges or improper waste disposal at construction sites and other locations, storm drain marking, and litter pick-up.

## **Section A: Assessment**

### **BMP 1: Public Knowledge/Input Survey**

An initial public opinion survey will be distributed and evaluated by the end of 2004. To reach every constituent in the OPCD area, surveys will be mailed to every household and business within the OPCD area. The District will utilize results from the survey in determining the focus and direction of its future Public Education and Outreach programs and Public Involvement programs.

A second survey will be conducted in Year Five (5) to determine if the constituents of the District have benefited from the original outreach program. This is also a compliance activity with Control Measure 1.

#### **Measurable goals:**

Measurable goals for this BMP include the number of surveys distributed, the number of respondents, and the percent increase of knowledge as determined by the second survey in Year Five (5).

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the survey and all results.

## **Section B: Reporting Illegal Dumping**

### **BMP 2: Citizen Reporting Procedure**

The OPCD currently maintains a procedure for documenting complaints, concerns or reporting of activities associated with its sanitary sewer and storm water systems. The OPCD will continue its current program through documentation of citizen reporting and the OPCD response. By August 2004, the current procedure will be modified to track reports that specifically address illicit discharges. During Year Three (3), the procedure will be re-examined to see if it is working properly.

#### **Measurable goals:**

Evaluation of this program will be based on the effectiveness this procedure has in identifying and eliminating illicit discharges. This will be accomplished by tracking the number of reports that resulted in the detection of an illicit discharge and the number of those discharges that are eliminated.

#### **Reporting and record keeping:**

The Storm Water Coordinator will annually report the number of concerns that deal with illegal dumping and the number of discharges that are eliminated.

## **Section C: Public Involvement**

### **BMP 3: Storm Drain Marking Program**

During the spring, summer, and fall of 2003/2004, the Clark County SWCD conducted a volunteer storm drain marking program that marked 310 curbside storm drains in the OPCD. These markers have the phrase “No Dumping – Drains to River” on them. This will be a requirement by August 2007 for all new developments. Marking can also be done in areas where the old markers have come off and need to be replaced. In Year (4), an inspection program for areas with older markers will be initiated as part of the program.

#### **Measurable goals:**

The number of new storm drain markers that are put out in the District. This will also include the number of volunteers used.

#### **Reporting and record keeping:**

The Storm Water Coordinator will annually report the number of new curbside storm drain markers and the names of volunteers that assisted with the marking.

### **BMP 4: Litter Prevention and Pick-Up Program**

In Year Two (2), the District will develop a litter prevention and pick-up program with Riverside Elementary School and/or general volunteers in conjunction with the compliance measures Illicit Discharge Detection and Elimination and Municipal Operations and Good Housekeeping Plans. This program will be implemented in Year

Three (3). Volunteers will receive safety training and pollution prevention information prior to beginning clean-up of a site.

**Measurable goals:**

Evaluation of this program will be based on the number of participants in the program and the sites cleaned of litter.

**Reporting and record keeping:**

The Storm Water Coordinator will annually report the number of volunteers used and the amount of litter picked up.

***BMP 5: Gain Public Input***

**Measurable goals:**

The District will gain input from citizens on storm water program issues by meeting at least twice annually, beginning in Year Two (2) to present issues, proposed solutions, and take questions and comments.

**Reporting and record keeping:**

The Storm Water Coordinator will document all meetings with a short summary of the meeting minutes, results, and attendees.

***BMP 6: Provide Appropriate Public Notification of All Storm Water Meetings***

**Measurable goals:**

By August 2004, the District will appropriately publicize all dates and times of all meetings where storm water related issues are discussed.

**Reporting and record keeping:**

The Storm Water Coordinator will retain copies of all publications and newspaper notices for these meetings.

**Section D: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

**Year One (Sept 2003 – Aug 2004)**

- Citizen Reporting Procedure (BMP #2)
- Provide Appropriate Public Notification of All Storm Water Meetings (BMP #6)
  - 100% Appropriate Notification

**Year Two (Sept 2004 – Aug 2005)**

- Distribute and Evaluate Initial Public Survey (BMP #1)
- Continue Citizen Reporting Procedure (BMP #2)
- Develop Litter Prevention and Pick-Up Program (BMP #4)
- Gain Public Input (BMP #5)

- Provide Appropriate Public Notification of All Storm Water Meetings (BMP #6)
  - 100% Appropriate Notification

**Year Three (Sept 2005 – Aug 2006)**

- Continue Citizen Reporting Procedure (BMP #2)
- Initiate Litter Prevention and Pick-Up Program (BMP #4)
- Gain Public Input (BMP #5)
- Provide Appropriate Public Notification of All Storm Water Meetings (BMP #6)
  - 100% Appropriate Notification

**Year Four (Sept 2006 – Aug 2007)**

- Continue Citizen Reporting Procedure (BMP #2)
- Initiate Storm Drain Marking Program (BMP #3)
  - 50% of New Developments Marked
  - 50% of Missing Markers Replaced
- Continue Litter Prevention and Pick-Up Program (BMP #4)
- Gain Public Input (BMP #5)
- Provide Appropriate Public Notification of All Storm Water Meetings (BMP #6)
  - 100% Appropriate Notification

**Year Five (Sept 2007 – Aug 2008)**

- Distribute and Evaluate Second Public Survey (BMP #1)
- Continue Citizen Reporting Procedure (BMP #2)
- Continue Storm Drain Marking Program (BMP #3)
  - 100% of New Developments Marked
  - 100% of Missing Markers Replaced
- Continue Litter Prevention and Pick-Up Program (BMP #4)
- Gain Public Input (BMP #5)
- Provide Appropriate Public Notification of All Storm Water Meetings (BMP #6)
  - 100% Appropriate Notification

**Section E: Summary**

This Public Participation and Involvement Plan was developed to address the findings of the OPCD *Part B: Baseline Characterizations* regarding the land uses within the OPCD and the potential pollutants resulting from those uses. The BMPs described here build upon the Public Education and Outreach Plan, as well as other control measures of the OPCD Storm Water Quality Management Plan, thus emphasizing the importance and influence of public participation and involvement in all areas of storm water quality management. Public participation and involvement promotes an increased awareness of how individual activities can greatly impact the overall environmental quality and can lead to improved environmental stewardship and quality of life.

### **MCM #3: Illicit Discharge Detection and Elimination (IDDE)**

The Indiana Storm Water General Permit Rule 13 requires Municipal Separate Storm Sewer System (MS4) operators to develop a Storm Water Quality Management Plan (SWQMP) that includes a commitment to develop and implement a program to prevent or reduce pollutant run-off from municipal operations within its jurisdiction.

As per the regulation requirements, the Oak Park Conservancy District (District) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

- (1) Develop a storm sewer system map (Section A).
- (2) Implement regulatory mechanism to prohibit illicit discharges (Section B).
- (3) Plan to detect, address, and eliminate illicit discharges (Section C).
  - (A) Dry weather screening
  - (B) Active industrial facilities identification
- (4) Educate public employees, businesses, and the general public about household hazardous wastes (Section D and E)
- (5) Household hazardous waste recycling (Section E).

#### **Section A: Storm Sewer System**

##### **OPCD Outfall Mapping**

As required by the Rule 13, the OPCD will develop a map of all the storm water outfalls by which it discharges into the receiving waters identified on its Notice of Intent (NOI) letter and Part A. The map will facilitate the OPCD in prioritizing areas for investigation of illicit discharges either to its conveyances or via other conveyance to the OPCD receiving waters. The map will identify outfalls with pipe diameters of 12” or greater and open ditches with a two (2) foot or larger bottom. Locations of outfalls will be identified by longitude and latitude in decimal degrees or global positioning system (GPS) mapping displaying mapping-grade accuracy data with an accuracy discrepancy of less than five (5) meters.

##### **BMP 1: Develop Storm Sewer System Map**

##### **Measurable goals:**

The District will develop a storm sewer system map indicating the location of all its storm sewer outfall points, its storm sewer conveyances, United States Geological Survey solid or intermittent blue line streams, topography, and city streets. The map will be

completed by the year 2008, with 25% complete by August 2005, and an additional 25% completed by August of each year thereafter.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the storm sewer system map. The amount of linear feet mapped for each year will be reported, along with a copy of the map.

**Section B: IDDE Policies**

**Enforcement Procedure**

The OPCD regulatory capacity is authorized through resolutions, duly adopted by a governing board following a public review process. The NPDES Rule 13 requires all MS4s to implement a regulatory mechanism prohibiting illicit discharges into MS4 conveyances and establishing enforcement procedures and actions. The regulation must include identification of permissible discharges and grant the MS4 the authority to enter private property to conduct investigations into potential illicit discharges. Attached in Appendix A is the Oak Park Conservancy District Resolution prohibiting illicit discharges into its storm water conveyances. This resolution is based on a model from the Environmental Protection Agency website<sup>1</sup>.

The Resolution identifies permissible discharges and illicit connections that are prohibited as stated in the Rule 13. The resolution also empowers the OPCD with the authority of enforcement and to seek relief against violators. It provides for the suspension of access to the MS4 by violators and authorizes the OPCD access to enter and inspect facilities subject to the resolution where an illicit discharge is suspected. It also authorizes the OPCD to establish criteria for Best Management Practices (BMP) to abate the discharge of pollutants into the MS4's receiving waters for activities, operations, or facilities that may cause or do contribute to such discharges. The resolution also charges property owners along its jurisdictional watercourses with the responsibility of maintaining that property in a condition that deters pollution or degradation of the waters, refrains from impediment of flows, and any other activity that may become a hazard to the use, function, or physical integrity of the watercourse.

In addition, the resolution describes the procedures to be followed in the event of a spill or release of hazardous or non-hazardous materials that result in, or may result in, the discharge of pollutants into storm water, the storm drain system, or waters of the State.

**BMP 2: Adopt an Illicit Discharge Ordinance**

**Measurable goals:**

The District will develop and implement an Illicit Discharge Resolution by August 2004. Evaluation of this BMP will be determined by, among other measures, the number of incidents in which the authority it grants the OPCD to investigate illicit discharges, the number of violations cited, the number and type of enforcement actions taken the number of discharges eliminated

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of this ordinance for reporting purposes.

**Section C: IDDE Procedures****Determination of Illicit Discharge Detection Methodology**

Research was conducted into the results obtained by other municipalities from uses of different detection methodology. Comprehensive studies of the Rouge River National Wet Weather Demonstration Project by the Wayne County Department of Environment, Michigan<sup>2</sup>, provided valuable information for determining types of illicit discharges associated with specific land uses, and methods for most effectively detecting those discharges. Information gleaned from that research revealed that:

- Liquid waste from illicit discharges contributes a significant amount of waste, including human waste, oil, grease, detergents, chemicals, and solids to surface waters.
- Prioritizing investigations by type of business was more successful in detecting illicit discharges than was tracing the potential source of a specific pollutant.
- Businesses represented the highest percentage of illicit storm drain connections in a large, urbanized area.
- Automobile-related facilities represented the highest percentage of those connections.
- An average of 2.5 illicit connections was found at businesses with illicit connections.
- The majority of the business illicit connections were drains connected to the storm sewer, with floor drains representing the highest percentage of those connections.
- Faulty or failing on-site sewage disposal systems (OSDS), or septic systems, in residential areas have a substantial impact on surface water pollution.
- The highest percentage of illicit discharges identified resulted from visual observations by field crews and the public, visual observations of manholes and outfalls and testing of the liquid flow in manholes, and dye testing.
- Regular inspection and maintenance of OSDS could substantially reduce these discharges.
- Aerial, infrared and thermal photography were ineffective in distinguishing illicit discharges, and requirements for resources and trained staff for analysis of data hinder use of these technologies.
- Targeting toilets and sinks for illicit connections could significantly reduce fecal coliform bacteria, phosphorus, ammonia, total and suspended solids, potassium, BOD5, COD, and volatile solids discharges.
- Education is very important in developing an illicit discharge elimination plan.

**Prioritizing Areas for Investigation**

Mapping of land uses and known existing separate storm and sanitary sewers will be utilized in prioritizing areas to investigate for illicit discharges or connections to storm sewers. The methodology utilized for identification of illicit discharges will be

determined by land uses. The existence of sanitary sewers in residential areas will identify areas to investigate for faulty or failing OSDs. Appropriate sampling methods of storm sewer outfalls will be determined by the types of land uses they service, and provide a path for tracing to potential sources of discharges.

### **Prioritization of Non-Residential Land Uses**

The baseline characterization of the OPCD identified land uses as residential, commercial businesses, schools, and construction activities on developing sites. No industrial facilities are located in the OPCD. Based on the findings of the Rouge River project, investigation of non-residential land uses will be by the following prioritization:

- Priority I: Automobile-related businesses
- Priority II: Utilities, construction companies;
- Priority III: Private service agencies, retail establishments, schools.

Screening for illicit discharges will be conducted at all OPCD outfalls as they are mapped, with 25% screened during the second year ending in August 2005, and 25% each year thereafter until complete. The OPCD will document all screening information such as outfall location, tests or methods utilized, pollutants or other parameters detected, and action taken, and maintain a record of the documentation for a minimum of five years.

Surveys will be conducted via dry weather screening or other means at the mapped outfalls to determine the potential presence of illicit discharges. The outfalls will first be observed for visual or odor indications of the presence of illicit discharges. Visual indicators will include, but are not limited to, floatable materials, irregularity of color, and turbidity. All observable indicators will be noted on the survey and evaluated for potential sources. Field testing kits or similar methods to analyze for pH, conductivity, or nitrogen-ammonia will be used to identify possible pollutant sources. Water quality sampling will be conducted if it is deemed necessary to confirm the presence, character and potential origin of suspected pollutants of concern or other parameters.

Other methods that may be used to determine the origin of illicit discharges include manhole observation, video inspection, smoke testing, dye testing, and tracking illegal dumping.

Field observation of outfalls will first be conducted to determine the presence of illicit discharges that result from improper connections of sanitary sewer lines, drains, toilets, or sinks to storm sewers. Outfalls will be observed for indicators such as unusual or muddy color, sewage odor, or sewage solids. Sampling for water quality parameters may be conducted if indicators from field observations are inconclusive or to more precisely determine the source of the discharge. Observation of manholes may also be conducted to help determine the discharge source. Observation will begin with the first manhole upstream of the outfall with a junction and continue to the next manhole until no evidence of a discharge is found. The source of the discharge can then be narrowed down to possible sources between those two manholes.

Smoke testing may be utilized to determine the exact source of a discharge. Smoke testing involves injecting a non-toxic smoke into the storm sewer lines and observing smoke emerging from sanitary sewer vents. Any detected emergence of smoke will be investigated for a point of origin, such as illicit connections from a building, or defects such as cracks or leaks in the storm sewer line. If a defect in the storm sewer lines is suspected, further investigation such as televising the lines may be necessary. If the source appears to be from a building, dye testing may be utilized.

Results from the Rouge River project suggest that dye testing is the most reliable and cost effective method for detection of illicit connections to storm sewers. The project studies also indicated that new as well as older, established businesses has been found with improper connections.

Dye testing is conducted from the suspected point of origin, therefore requiring MS4 personnel to enter the premises. The OPCD will first notify the building owner of a suspected violation and attempt to gain entry through voluntary permission. If entry is not voluntarily granted, it may be necessary to enforce the provisions of the Resolution granting the MS4 that authority.

To conduct the dye test, the dye is deposited in floor drains, trench drains, interior catch basins, interior catch basins with oil separators, machine process water, and sump pumps, toilets, and sinks of the facility by one of the staff, with another staff member at the outfall suspected of receiving the discharge. The staff members will be equipped with two-way radios to communicate when the dye has been deposited into the drains and toilets. The staff member at the appropriate manhole can then communicate if the dye detected. Dye tests are the most efficient use of funds and time in detecting illicit discharges when a number of businesses require testing or are in close proximity to one another.

Pollutants typical of non-residential discharges include ammonia, surfactants, potassium, chlorine, solids, BOD5, COD, phosphorus, volatile solids and fecal coliform organisms. Sampling may be conducted at outfalls associated with identified illicit discharges to determine pollutant concentrations contributed by those discharges.

### **Residential On-Site Sewage Disposal Systems**

The largest contributors of illicit discharges to storm sewer systems from residential land uses are faulty or failing OSDS, or septic tanks. Studies of three communities in the Rouge River Watershed, Michigan<sup>3</sup>, revealed that evaluation of residential OSDS identified an alarming 18% failure rate. As these systems age, their structures may begin to corrode, leaks form in pipes, and contents of the system are released to nearby groundwater or storm sewer systems, or percolate to the ground surface. OSDS discharges contribute ammonia, total solids, suspended solids, COD, volatile solids, and fecal coliform. A survey by the Wayne County Environmental Health Division, Michigan, found that most homeowners knew very little about their OSDS, how to maintain it, and if it was leaking. In most instances, when initially notified of an illicit

discharge from their OSDS, homeowners willingly remedied the problem with no further action necessary by the municipality. Homeowner education and required inspections prior to transfer of title of property were two highly effective methods identified to reduce the number of faulty or failing OSDS.

To facilitate identifying illicit discharges from OSDS, residential areas will be prioritized by mapping existing sanitary sewers and identifying residences known to have OSDS. Once locations with OSDS are identified, the OPCD will provide the property owner with educational materials explaining how an OSDS works, how to care for the system, signs of a failing system, and who to call for service or further information. Property owners will also be encouraged to connect to the existing sanitary sewer system if available or advised of the OPCD requirement to connect if the property is located within 300 feet of a sanitary sewer line.

If any indicators of a failing OSDS such as: sewage backing up into a home, gray water discharging to ground surface, standing water on seepage field, mushy areas on seepage field, slack sludge residue and/or toilet paper around surface of septic tank cover, growth of cattails or wet marsh area on downward slope from septic tank, excessive vegetative growth over seepage field are observed by staff, the District will inform the property owner about the discharge, the importance of regular inspections and maintenance of their OSDS, and the necessary measures to eliminate the discharge. The District will then also contact the Clark County Health Department to notify them of the situation since they have jurisdiction over this issue.

### **Elimination of Detected Illicit Discharges**

This plan identifies a number of measures or processes that will be utilized to eliminate illicit discharges detected within the OPCD. Measures used will be determined on a case-by-case basis, beginning with a request for a voluntary remedy and proceeding to exercising full authority established by the Storm Water Protection Through Illicit Discharge Detection and Elimination (IDDE) Resolution. Often business or homeowners are unaware that a problem exist and will voluntarily correct the situation once they have been notified. Educational material will be distributed regularly to educate owners about the hazards and illegality of illicit connections and facilitate detection.

When the source of an illicit discharge is identified, the OPCD will first notify the property owner by a written Notice of Violation (NOV), which will state the nature of the violation and the acceptable remedy. If the discharge poses an immediate health or safety threat, the property owner will be given a verbal notice of violation with directions to immediately cease any activities that may result in the discharge, and take immediate action to eliminate any threat to health or safety. A written NOV will immediately follow.

If, after due notice, the property owner fails to cease an illicit discharge and/or remedy the violation, or file an appeal, then the OPCD will take any necessary measures to restore the integrity of the storm water outflows as allowed for by the IDDE Resolution. Such measures may include, but are not limited to, imposing fines, denial of access to

other MS4-provided utilities, seeking an injunction against the violator to restrain further activities, or compel abatement or remediation of the violation.

If the District determines that it is the responsible party for a discharge resulting from an improper connection or faulty or leaking sanitary sewer line, immediate measures will be taken to remedy the problem. To prevent future improper connections or discharges due to faulty system lines, the OPCD will maintain accurate mapping of both sanitary and storm sewer systems, perform routine inspections and maintenance, and initiate appropriate training of personnel.

The OPCD will also develop a plan for spill response for hazardous waste spills or firefighting activities that could result in the discharge of hazardous materials into the storm sewer system (also in the Good Housekeeping and Pollution Prevention section, BMP #2). The OPCD will coordinate with local fire officials to develop a plan that would divert hazardous materials from entering the storm sewer system, either through containment or diversion into the sanitary sewer system. Training for OPCD and firefighting personnel will be an integral part of this plan and the OPCD Good Housekeeping and Pollution Prevention program.

### **Illegal Dumping**

Illegal dumping describes dumping waste materials onto property or into storm drains. The high-density residential character of OPCD discourages illegal dumping in most areas. There are, however, undeveloped areas or areas under development, out of the public eye, that are targets for illegal dumping. Studies show that this form of illicit discharge is extremely difficult to track to individual sources, instead often dealt with after the fact through clean-up efforts. Though signs prohibiting illegal dumping are often used to discourage it, staffing restraints prohibit most of the District from close monitoring of target areas. Often, illegal dumping is prevented through the education of local residents and the establishment of local watch groups. Many residential areas already support watch groups to protect the safety of the residence against unlawful intrusion. Many of these groups can be encouraged to expand their watch through education about illegal dumping and outreach programs such as volunteer participation in storm drain marking or stenciling.

The OPCD has coordinated with the Clark County Soil and Water Conservation District to educate the general public about storm water runoff and the impacts of nonpoint source pollution. To discourage illegal dumping, the OPCD will take measures as determined necessary to clean up sites where illegal dumping has occurred, and post signs or restrict access, as appropriate, to prevent future dumping.

To discourage illegal dumping into storm drains, the Clark County Soil and Water Conservation District (SWCD) has placed markers on storm drains throughout the OPCD. This volunteer-assisted program was implemented through the CCSWCD 319 Nonpoint Source Pollution Awareness Education Program. The markers, which display the phrase, “No Dumping – Drains To River,” are intended to discourage illegal dumping

into storm drains as well as raise awareness and educate the general public about storm water runoff.

**BMP 3: IDDE Methodology for Eliminating Illicit Discharges**

**Measurable goals:**

As outlined in this plan, the OPCD will develop policies and procedures for detecting and eliminating illicit discharges. These policies and procedures will be developed and implemented by August 2005.

**Reporting and record keeping:**

The Storm Water Coordinator will develop documentation tools for tracking the results of the implementation of its IDDE Plan in detecting and eliminating illicit discharges. The primary purpose of the documentation tools will be for tracking of the number of illicit discharges detected and the number eliminated. Other information to be documented includes the number and type of procedures used to detect illicit discharges, such as the number of routine inspections conducted, the number of dye test, smoke test or field observations performed. Also, the number and type of discharges shall be documented, as well as the number of violations cited, the number of methods or measures taken to eliminate the discharge, fines imposed, any costs associated with elimination, and any other pertinent information.

**BMP 4: IDDE Complaint Receipt and Tracking Program**

**Measurable goals:**

The District will investigate all complaints of illegal discharges and dumping into storm drain inlets by August 2004.

**Reporting and record keeping:**

The Storm Water Coordinator will retain copies of complaints received. Reporting will include number of complaints received, number of actual illegal discharges, and number of illegal discharges eliminated.

**BMP 5: Perform Dry Weather Screening – Outfall Inspections**

**Measurable goals:**

The District will conduct visual inspections of all outfalls and look for signs of illegal dumping. Inspection of outfalls will take place in conjunction with mapping efforts of the storm sewer system. Outfalls will be inspected at least once annually once located. This will begin by August 2005.

**Reporting and record keeping:**

The Storm Water Coordinator will retain information about the number of outfalls inspected. If screening took place, information included will concern: type of testing done, location, date, and results.

### **BMP 6: Develop Policies and Procedures Concerning Illegal Dump Sites**

#### **Measurable goals:**

By August 2006, the District will develop a program for the clean up of illegal dump sites and posting of signs or access restrictions to discourage future dumping. The program will involve participation by OPCD employees and the general public in the clean-up efforts. Implementation of the program is planned to begin in Year Three (3), with a goal to have all sites cleaned up by Year Five (5).

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain information about the number dump sites cleaned up, the number of "NO DUMPING" signs posted or accesses otherwise restricted, and the number of participants in the program.

### **Section D: Educate Staff about IDDE**

*Employee education is one of the first steps to stopping illicit discharges. By increasing awareness of staff, problems can be noted quickly and efficiently handled.*

### **BMP 7: Staff Training on IDDE**

#### **Measurable goals:**

Beginning in Year Two (2), the District will provide approximately one (1) hour of education annually to staff on IDDE. Training topics may include: the impact of illicit discharges on surface water quality, basic investigations, proper reporting procedures, how illicit discharges can be identified through observations during the course of conducting routine work assignments, and emergency spill response.

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

### **Section E: Public Education**

### **BMP 8: Publicize Safe Means for Disposal of Waste**

#### **Measurable goals:**

The District will develop and distribute information concerning the Recycling Center and the Household Hazardous Waste Facility, both located at the Clark County Solid Waste Management District office, and proper waste disposal in general by August 2005.

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the information and the distribution amount. For evaluation and reporting purposes, the OPCD will pursue a cooperative effort with the Clark County Solid Waste Management District for tracking the number

of OPCD residents using the facility and the quantity of waste they recycled. This activity is also a compliance activity for the Public Education and Outreach Control Measure.

***BMP 9: Distribute Residential and Commercial Brochure(s) on Illegal Dumping, Pollution Prevention, OSDS, and Nonpoint Source Pollution***

**Measurable goals:**

The District will develop and distribute information concerning the above topics to residential and commercial areas and schools by August 2006.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the information and the distribution amount. This activity is also a compliance activity for the Public Education and Outreach Control Measure.

***BMP 10: Distribute Brochure to Property Owners with OSDS about Maintenance***

**Measurable goals:**

The District will develop and distribute information concerning the OSDS to residential sites with these types of systems by August 2006.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the information and the distribution amount. This activity is also a compliance activity for the Public Education and Outreach Control Measure.

**Section F: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

**Year One (Sept 2003 – Aug 2004)**

- Develop and Implement Illicit Discharge Ordinance (BMP #2)
- Initiate IDDE Complaint Receipt and Tracking Program (BMP #4)

**Year Two (Sept 2004 – Aug 2005)**

- Storm Sewer System Map Development (BMP #1)
  - 25% Completed
- Implement IDDE Methodology for Eliminating Illicit Discharges (BMP #3)
- Continue IDDE Complaint Receipt and Tracking Program (BMP #4)
- Inspect Outfalls – Dry Weather Screening (BMP #5)
  - 25% of Illicit Discharges Detected
- Develop Policies and Procedures Concerning Illegal Dump Sites (BMP #6)
- Initiate Staff Training about IDDE (BMP #7)
- Distribute Educational Information to Residential and Commercial sites; Schools (BMP #8)

**Year Three (Sept 2005 – Aug 2006)**

- Storm Sewer System Map Development (BMP #1)
  - 50% Completed
- Eliminating Illicit Discharges (BMP #3)
  - 25% of Detected Discharges Eliminated
- Continue IDDE Complaint Receipt and Tracking Program (BMP #4)
- Inspect Outfalls – Dry Weather Screening (BMP #5)
  - 50% of Illicit Discharges Detected
- Implement Program Concerning Illegal Dump Sites (BMP #6)
  - 25% of Illegal Dump Sites Cleaned
- Continue Staff Training about IDDE (BMP #7)
- Distribute Educational Information to Residential and Commercial sites; Schools (BMP #8-10)

**Year Four (Sept 2006 – Aug 2007)**

- Storm Sewer System Map Development (BMP #1)
  - 75% Completed
- Eliminating Illicit Discharges (BMP #3)
  - 50% of Detected Discharges Eliminated
- Continue IDDE Complaint Receipt and Tracking Program (BMP #4)
- Inspect Outfalls – Dry Weather Screening (BMP #5)
  - 75% of Illicit Discharges Detected
- Continue Program Concerning Illegal Dump Sites (BMP #6)
  - 50% of Illegal Dump Sites Cleaned
- Continue Staff Training about IDDE (BMP #7)
- Distribute Educational Information to Residential and Commercial sites; Schools (BMP #8-10)

**Year Five (Sept 2007 – Aug 2008)**

- Storm Sewer System Map Development (BMP #1)
  - 100% Completed
- Eliminating Illicit Discharges (BMP #3)
  - 75% of Detected Discharges Eliminated
- Continue IDDE Complaint Receipt and Tracking Program (BMP #4)
- Inspect Outfalls – Dry Weather Screening (BMP #5)
  - 100% of Illicit Discharges Detected
- Continue Program Concerning Illegal Dump Sites (BMP #6)
  - 100% of Illegal Dump Sites Cleaned
- Continue Staff Training about IDDE (BMP #7)
- Distribute Educational Information to Residential and Commercial sites; Schools (BMP #8-10)

## Section G: Resources

- 1) USEPA. 2002. *Model Ordinances to Protect Local Resources: Illicit Discharges*. <http://www.epa.gov/owow/nps/ordinance/discharges.htm>
- 2) Johnson, B. and D. Tuomari,.1998. *From Theory to Implementation – Finding Illicit Connections*. Rouge River Demonstration Project. <http://www.rougeriver.com/proddata>
- 3) Johnson, B. and D. Tuomari. 1998. *Did You Know...The Impact of On-Site Sewage Systems and Illicit Discharges on the Rouge River*. Rouge River Demonstration Project. <http://www.rougeriver.com/proddata>

## MCM #4: Construction Site Run-off Management

The goal of the Oak Park Conservancy District (OPCD) Construction Site Storm Water Run-Off Control Plan (Program) is to reduce the discharge of storm water pollutants to the maximum extent practicable by requiring construction sites to reduce sediment in site runoff and reduce other pollutants such as litter and concrete wastes through the utilization of structural and non-structural Best Management Practices (BMPs), good housekeeping procedures and proper waste management. Excessive erosion and sediment transport can harm receiving water habitat through both scouring and smothering of spawning areas. Pollutants addressed by the Program include sediment and associated metals, nutrients and pesticides; paints; concrete; stucco; litter; and other non-storm water discharges. The pollutants that have been identified as target pollutants by the *Part B: Baseline Characterization* include eroded soils, metals, and pesticides.

As per the regulation requirements, the Oak Park Conservancy District (OPCD) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

- (1) Develop an ordinance or other regulatory mechanism that controls polluted run-off from sites that disturb one (1) acre or more (Section A).
- (2) The program must address the following:
  - (A) BMPs for control of sediment, erosion, and other wastes (Section A)
  - (B) Review and approval process prior to land disturbance (Section B)
  - (C) Procedures for site inspection and enforcement (Section C)
  - (D) Establish written procedures to identify priority sites (Section C)
  - (E) Procedures to receive and consider public input, inquiries, and concerns (Section D)
  - (F) Implement a process for tracking public input and follow-up (Section D)

- (G) Training program for staff (Section D)
  - (H) NOI submittal information (Section A, B, and C)
  - (I) Local SWCD inclusion (Section B)
- (3) Program to address construction projects owned by MS4 entity (Section B)
- (A) Approach is MS4 entity project leaves the R-O-W
  - (B) Traffic phasing plan
  - (C) Utility relocation areas
  - (D) Material hauling and transportation routes/roads
  - (E) Borrow pits
  - (F) Temporary staging and material stockpiling areas
  - (G) Temporary disposal areas for waste materials

## **Section A: Regulatory Mechanism**

### **BMP 1: Revise OPCD Erosion and Sediment Control Resolution #2003-03**

The Resolution was reviewed and revised to be compliant with the NPDES Storm Water Rule 13 (327 IAC 15-13-15) and Rule 5 (327 IAC 15-5) in June 2004, and adopted by the OPCD Board of Directors on August 25, 2004. The Resolution establishes regulatory authority to the OPCD for the control of polluted run-off from construction activities with a land disturbance greater than or equal to one (1) acre, requires the submittal for review and approval of construction plans containing appropriate BMPs for such construction sites prior to issuing a grading permit or commencement of land disturbing activities; and authorizes the OPCD to enforce the requirements of the Resolution.

The Resolution requires that all erosion and sediment control measures, including but not limited to those required to comply with the Resolution, meet the design criteria, standards and specifications for erosion and sediment control measures similar to or the same as those outlined in the USDA Natural Resources Conservation Service *Field Office Technical Guide* (FOTG), the Indiana Department of Natural Resources *Indiana Handbook for Erosion Control in Developing Areas* (current edition), or the Oak Park Conservancy District *Storm Water Specifications*, whichever is most stringent.

The Resolution also requires that a complete Notice of Intent (NOI) letter, as specified under Rules 13 and 5, be submitted to the commissioner of the IDEM and the local SWCD.

#### **Measurable goals:**

Beginning in Year One (1), the OPCD will implement and enforce the Resolution.

In Year Five (5), the OPCD will review the Resolution for accuracy and adequacy and continued compliance with current applicable rules and regulations. The Resolution will continue to be evaluated, at a minimum, every five (5) years, and updated as necessary.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of this Resolution for reporting.

Evaluation of this BMP will be determined by, among other measures, the number of construction permits reviewed and approved for erosion and sediment control measures by the OPCD, the number of violations cited as a result of inspections, the number and type of enforcement actions taken, and the reduction of pollutants from construction activities detected in receiving waters.

**Section B: Construction Project Review****Clark County SWCD Plan Review**

All construction plans for projects within the OPCD (even those OPCD-operated) will be submitted for review to the local SWCD, the IDNR, or other entity designated by the IDEM for review and approval, prior to land disturbance. Currently, the OPCD has no written agreement with the Clark County SWCD for plan review. Ideally, the SWCD will be provided thirty-five (35) days to comment and/or give recommendations on each construction project, unless the SWCD provides written documentation to the OPCD that it does not wish to participate in the construction plan review process.

**OPCD-Operated Projects**

Upon commencement of construction activity, representatives of the SWCD or IDNR may conduct periodic inspections of project sites to evaluate and determine compliance with the provisions of 327 IAC 15-5.

Written authorization of the OPCD to review plans internally will be based on a demonstrated ability of the OPCD to comply with the minimum requirements of 327 IAC 15-5. In some instances, the OPCD may be granted limited authorization based on project size, type of project (i.e., highway, structures, infrastructure, parks), proximity of the project to a outstanding state resource water or exceptional use water, or if a specific area or watershed has been designated by the local SWCD or other entity for the purpose of study or accelerated land treatment to address water quality concerns.

If written authorization is received to review plans internally, the OPCD will not be required to submit the construction plans to the local SWCD or IDNR; however the OPCD will still be required to submit a Notice of Intent to the IDEM and a copy of the NOI to the local SWCD as required in 327 IAC 15-5. .

The local SWCD or IDNR will retain the authority to request a copy of the construction plans as a reference while conducting site inspections or to review the construction plans to ensure that the plans continue to meet the minimum requirements of 327 IAC 15-5. Upon review of construction plans or documentation of on-site compliance issues, the IDNR may reinstate the submittal of plans for review for OPCD-operated projects.

A traffic phasing plan, that describes the alternate vehicular traffic routes during the construction project will be included with the construction plan submittal for all projects that alter traffic routes and the OPCD conducted itself.

In addition, the OPCD-operated project storm water pollution prevention plan will address the following areas outside of right-of-ways:

- (1) Utility relocation areas.
- (2) Material hauling and transportation routes/roads.
- (3) Borrow pits.
- (4) Temporary staging and material stockpile areas.
- (5) Temporary disposal areas for waste materials.

Areas that are associated with the construction activity, even ones that are off-site, will be addressed in the construction plan submittal for all projects that utilize the areas listed above and the project is conducted by the OPCD. The areas listed above have the potential to create polluted storm water run-off, via improper storage and transfer, excavation activity or vehicular tracking.

***BMP 2: Develop Policies and Procedures for SWCD Review of Construction Erosion and Sediment Control Plans***

**Measurable goals:**

Beginning in Year One (2), the OPCD will develop policies and procedures to provide an opportunity for the local SWCD to review construction site plans and conduct construction site inspections, and provide input, comments or recommendations to the OPCD for individual projects. These policies and procedures shall also specify a time period for the SWCD response to prevent undue delay of OPCD final action to approve plans or projects.

**Reporting and record keeping:**

Documentation of this BMP will be by the number of construction plans reviewed by the SWCD as a result of these policies and procedures, and the number of inputs, comments or recommendations to the OPCD.

***BMP 3: Develop Policies and Procedures for Construction Activities Operated by the OPCD within the OPCD Designated Area.***

**Measurable goals:**

Beginning in Year Two (2), the OPCD will develop policies and procedures for construction activities operated by the OPCD, within the OPCD area, which will establish plan submittal to the local SWCD for approval, plans for traffic phasing plans for applicable projects, and address relevant areas outside of right-of-ways. Beginning in Year Three (3), the OPCD will begin implementation of these policies and procedures.

**Reporting and record keeping:**

Documentation of this BMP will be by the number of OPCD operated projects submitted to the SWCD for approval, the number, type, and location of projects including traffic phasing, and the number, type and location of BMPs installed, maintained or improved to address applicable areas outside of right-of-ways.

***BMP 4: Review and Revise Policies and Procedures for Construction Plan Review Process***

**Measurable goals:**

Beginning in Year One (1), the OPCD will review and evaluate its current policies and procedures for construction plan reviews. Beginning in Year Two (2), the OPCD will develop and begin implementation of policies and procedures for construction plan reviews that incorporates a process for review of erosion and sediment control measures. The policies and procedures will include, at a minimum, review of plans for inclusion of appropriate erosion and control measures and specifications, compliance with the revised OPCD Erosion and Sediment Control Resolution and other local ordinances, prioritization of the site for inspection and enforcement based on the nature and extent of the construction activity, topography, characteristics of soils and threat to receiving water quality.

**Reporting and record keeping:**

Documentation will be through record keeping of all plans submitted for review, plans reviewed, the number of plans approved, and the number requiring re-submittal due to deficiencies.

**Section C: Inspection and Enforcement**

**Inspection**

Development projects are notified of local erosion, sediment and pollution control requirements and Construction Permit requirements during the entitlement process. Construction projects are required to adequately address OPCD, SWCD, and state requirements through the development approval process and municipal procedures by requiring each project to have an adequate Storm Water Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan (ESC). Prior to any land disturbing activities, the OPCD and the SWCD will require proof that a Notice of Intent (NOI) letter for coverage under the Construction Permit has been submitted and require the submittal of a SWPPP, if applicable. The SWPPP submitted must contain the following items at a minimum:

1. vicinity map;
2. site map;
3. list of potential sources of storm water pollution;
4. type and location of BMPs;
5. sequence of BMP implementation;
6. monitoring and maintenance guidelines for each BMP; and
7. name and number of the person responsible for implementing the SWPPP.

All construction projects are inspected a minimum of twice monthly to ensure that sites adequately address erosion, sediment and pollution control and comply with the OPCD Erosion and Sediment Control Resolution and any other local ordinances. Inspection staff ensure that control measures and practices are implemented, properly installed and maintained during the construction of a project, beginning with rough grading and ending with construction completion. As applicable, inspectors will verify that SWPPPs are on site at private development construction sites or being implemented at municipal project construction sites. Enforcement of private development projects are conducted by OPCD inspectors. Enforcement of municipal projects is conducted by OPCD and SWCD construction inspectors.

### **Enforcement**

In accordance with the OPCD Erosion and Sediment Control Resolution, if a construction site is not in compliance, sanitary house lateral tap-ins will be immediately suspended until compliance is achieved.

### **Identify Priority Sites**

Minimum construction inspection frequencies will be established for projects of one acre or more. Each site of one acre or more will be prioritized as a high or moderate threat to water quality. Factors utilized to rate sites are as follows:

1. The project size, including the phase of construction (i.e., grading, improvements and structures), activity level and land use;
2. Whether the site is in the area of a previous project with known erosive soils that was required to use mechanical or chemical filtration systems;
3. Whether the site borders and/or discharges directly to a water of the State and 303 (d) listed water body that is sediment-impaired;
4. The number of previous violations of local storm water ordinances, including recent Construction Permit violations obtained by developer/contractor in the OPCD jurisdiction and the quality of the site's BMP implementation and housekeeping practices.

Private development projects designated as a high threat to water quality will be inspected a minimum of once every two weeks during the wet season (March 1 to June 30) and once a month during the remainder of the year. Development sites designated as a moderate threat to water quality will be inspected a minimum of once a month during the entire year. Municipal construction inspectors will regularly enforce local storm water requirements and document actions in their daily logs. At a minimum, municipal projects will meet the inspection frequencies discussed above based on each site's designation as a high or moderate threat to water quality. These are minimum standards for inspection schedules; when possible, staff will meet the Construction Element goal of inspecting each private development project every two weeks.

If Program staff cannot determine whether the developer/owner has submitted an NOI letter to the IDEM and the local SWCD, staff will notify the IDEM and the SWCD within five business days of discovery. Non-filer referrals will include the project location, developer, estimated project size, and records of communication with the developer regarding filing requirements.

The new activities being implemented in order to comply with the Indiana NPDES Storm Water Permit rules include verifying that applicable projects submit a SWPPP containing required items discussed above, prioritizing construction sites as a high or moderate threat to water quality, and implementing the minimum inspection frequency.

***BMP 5: Develop Policies and Procedures for Site Inspection and Enforcement of Proper Installation and Maintenance of BMPs.***

**Measurable goals:**

Beginning in Year One (1), the OPCD will review and evaluate its current policies and procedures for construction site inspections. Beginning in Year Two (2), the OPCD will develop and begin implementation of revised policies and procedures for prioritization of construction sites, inspection of construction sites to ensure proper installation, implementation and maintenance of erosion control measures and practices, enforcement of the OPCD Erosion and Sediment Control Resolution and any other local ordinances, and verification that SWPPPs are on site.

**Reporting and record keeping:**

Documentation of this BMP will be by the number of construction sites inspected; the number, type and location of structural BMPs installed and inspected, maintained or improved, to function properly; the number, type, and location of non-structural BMPs utilized; the number of violations cited, and the number of violations corrected.

## **Section D: Outreach and Education**

### **Staff Training**

The OPCD will educate and provide guidance to OPCD staff and the construction and development communities on local and state requirements and new technology and practices as found in the Indiana Handbook for Erosion Control in Developing Areas and other resources. Outreach will include topics such as current regulations; changes in regulations, procedures or requirements; and new practices and control measures. Outreach may take the form of fact sheets on regulations, workshops, staff meetings, preconstruction meetings, brochures for specific practices (e.g., landscapers), etc.

As directed by the Indiana Construction Permit rules, the focus of outreach during this permit term will be the annual training of OPCD employees who are engaged in construction activities. Outreach to the construction and development community will be conducted as staffing and budget allow.

### **Concern Process**

Outreach to the general public will be through the implementation of the citizen complaint, input and inquiry process. The OPCD currently utilizes a public concern process that reviews drainage complaints throughout the district and applies corrective measures if it is the responsibility of the district. This process is still new, but working well. It allows people in the district to contact someone and have some type of corrective response.

This public concern process utilizes a complaint/concern form that is filled out when a complaint is received. Corrective actions are taken and also recorded on the form. All complaints/concerns are kept on file at the OPCD office for future documentation.

The OPCD will continue to utilize this process as a part of its Public Participation/Involvement and Illicit Discharge Detection and Elimination programs. The process and forms will be reviewed for adequacy of use to include complaints or concerns regarding construction activities and appropriate revisions will be made. The OPCD will also develop a process for tracking the complaints/concerns, recording the date and nature of the complaint/concern, consideration given by OPCD staff, date and type of corrective actions taken, and follow-up activities.

Through its Public Education and Outreach program, the OPCD intends to raise public awareness regarding the complaint/concern process, with specific implementation plans under all three programs by August 2004.

### ***BMP 6: Staff Training on Erosion and Sediment Control***

#### **Measurable goals:**

The District will provide at least one (1) hour of education annually to staff on local requirements, proper installation, and proper maintenance of erosion and sediment control measures. Education topics may include: local ordinances, policies, standard operating procedures, requirements for pollution prevention, and proper installation, operation, and maintenance of erosion control measures.

This is also a compliance activity for Control Measure 6 for municipal operations pollution prevention and good housekeeping. Other training activities on this topic are found in the District's Municipal Operations Pollution Prevention and Good Housekeeping Plan.

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

### **BMP 7: Training for Erosion and Sediment Control Inspectors**

#### **Measurable goals:**

Beginning in Year Two (2), after the erosion and sediment control inspection program policies and procedures have been adopted, the District will provide training to the construction program staff on erosion and sediment control and the local requirements. The District will require erosion and sediment control plan reviewers and construction site inspectors to attend state-sponsored training on erosion and sediment control, or shall enroll those staff in other appropriate training sessions. Currently, only the Storm Water Coordinator does the erosion and sediment control inspections in the District.

#### **Reporting and record keeping:**

The trainer or other authorized personnel will write a brief narrative describing topics covered and method of delivery during each training session and a copy of the narrative will be retained for reporting purposes. The date and the name of staff will be documented for reporting purposes. The OPCD will retain documentation that all appropriate staff received this training.

### **BMP 8: Review and Revise Citizen Complaint Procedure to Include Erosion and Sediment Control Complaints**

#### **Measurable goals:**

Beginning in Year One (1), the current citizen complaint procedure will be reviewed and evaluated for revisions to include complaints or concerns regarding erosion and sediment control from construction site activities. Appropriate revisions will be made and implemented during Year Two (2). The procedure will include a process for tracking the type of complaint, date received, nature of complaint, follow-up inspection date and activities, and actions taken.

#### **Reporting and record keeping:**

The Storm Water Coordinator will document all complaints received, the date received, nature of the complaint, follow-up inspection date and activities, and actions taken.

## **Section E: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

### **Year One (Sept 2003 – Aug 2004)**

- Review, Revise, and Enforce OPCD Erosion and Sediment Control Resolution (BMP #1)
- Review and Revise Policies and Procedures for Construction Plan Review Process (BMP #4)
- Develop Policies and Procedures for Site Inspection and Enforcement of Proper Installation and Maintenance of BMPs (BMP #5)
- Initiate Staff Training on Erosion and Sediment Control (BMP #6)
- Review and Revise Citizen Complaint Procedure (BMP #8)

### **Year Two (Sept 2004 – Aug 2005)**

- Enforce OPCD Erosion and Sediment Control Resolution (BMP #1)
- Develop Polices and Procedures for SWCD Review of Construction Erosion and Sediment Control Plans (BMP #2)
- Develop Polices and Procedures for Construction Activities Operated by the OPCD in the OPCD Designated Area (BMP #3)
- Initiate Policies and Procedures for Construction Plan Review Process (BMP #4)
- Initiate Policies and Procedures for Site Inspection and Enforcement of Proper Installation and Maintenance of BMPs (BMP #5)
- Continue Staff Training on Erosion and Sediment Control (BMP #6)
- Initiate Training Erosion and Sediment Control Inspectors (BMP #7)
  - 50% of Inspectors Trained
- Implement Citizen Complaint Procedure (BMP #8)
  - 25% of Complaints Resolved

### **Year Three (Sept 2005 – Aug 2006)**

- Enforce OPCD Erosion and Sediment Control Resolution (BMP #1)
  - 50% Compliance
- Initiate Polices and Procedures for SWCD Review of Construction Erosion and Sediment Control Plans (BMP #2)
- Initiate Polices and Procedures for Construction Activities Operated by the OPCD in the OPCD Designated Area (BMP #3)
  - 100% Compliance
- Continue Procedures for Construction Plan Review Process (BMP #4)
- Inspect/Enforcement of Proper Installation and Maintenance of BMPs (BMP #5)
  - 50% Compliance
- Continue Staff Training on Erosion and Sediment Control (BMP #6)
- Continue Training Erosion and Sediment Control Inspectors (BMP #7)
  - 100% of Inspectors Trained
- Citizen Complaint Procedure (BMP #8)
  - 50% of Complaints Resolved

### **Year Four (Sept 2006 – Aug 2007)**

- Enforce OPCD Erosion and Sediment Control Resolution (BMP #1)
  - 100% Compliance
- Continue Procedures for SWCD Review (BMP #2)
- Continue Procedure for Construction Activities Operated by the OPCD (BMP #3)
- Continue Procedures for Construction Plan Review Process (BMP #4)
- Inspect/Enforcement of Proper Installation and Maintenance of BMPs (BMP #5)
  - 100% Compliance
- Continue Staff Training on Erosion and Sediment Control (BMP #6)
- Continue Training Erosion and Sediment Control Inspectors (BMP #7)
- Citizen Complaint Procedure (BMP #8)
  - 75% of Complaints Resolved

### **Year Five (Sept 2007 – Aug 2008)**

- Enforce OPCD Erosion and Sediment Control Resolution (BMP #1)
- Continue Procedures for SWCD Review (BMP #2)
- Continue Procedure for Construction Activities Operated by the OPCD (BMP #3)
- Continue Procedures for Construction Plan Review Process (BMP #4)
- Inspect/Enforcement of Proper Installation and Maintenance of BMPs (BMP #5)
- Continue Staff Training on Erosion and Sediment Control (BMP #6)
- Continue Training Erosion and Sediment Control Inspectors (BMP #7)
- Citizen Complaint Procedure (BMP #8)
  - 100% of Complaints Resolved

### **Section E: Summary**

The OPCD has historically maintained a high level of cooperation from the land development industry operating within its jurisdictional boundaries. Through frequent inspections of construction sites, the OPCD has encountered only minor infractions of its Erosion and Sediment Control Resolution. The OPCD hopes to continue this high level of responsibility by land developers and improve the knowledge base of its staff through training and improved inspection procedures. Refinement of the citizen complaint process is also expected to improve the general public's knowledge of the impact construction activities can have on receiving waters and promote increased overall environmental stewardship within the OPCD.

### **MCM #5: Post-Construction Storm Water Run-Off Control**

The goal of the Oak Park Conservancy District (OPCD) Post-Construction Storm Water Run-Off Control Plan (Program) is to reduce the discharge of storm water pollutants to the maximum extent practicable by requiring discharges of post-construction storm water run-off from new development and re-development areas to reduce sediment in site runoff and reduce other pollutants through the utilization of structural and non-structural Best Management Practices (BMPs). Beginning in Year Two (2) of its NPDES General Permit for Storm Water Run-Off, the OPCD will develop its Program to address the requirements of 327 IAC 15-13-16 for the control of storm water run-off control from post-development sites.

As per the regulation requirements, the Oak Park Conservancy District (OPCD) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

- (1) A commitment to develop, implement, manage, and enforce a program to address discharges of post-construction storm water run-off from new development and redevelopment areas that disturb one (1), or more (Sections A – D).

- (2) Develop an ordinance or other regulatory mechanism that addresses post-construction run-off control (Section A).
- (3) Where appropriate, the OPCD will use any combination of storage, infiltration, filtering, or vegetative practices to reduce the impact of pollutants in storm water run-off on receiving waters. In addition to the combination of practices, the following requirements will be utilized (Section A and D):
  - (A) Infiltration practices will not be allowed in wellhead protection areas;
  - (B) Discharges from the OPCD area will not be allowed directly into sinkholes or fractured bedrock, without treatment that results in the discharge meeting Indiana ground water quality standards as referenced in 327 IAC 2-11;
  - (C) Any storm water practice that is a Class V injection well must ensure that the discharge from such practices meets Indiana ground water quality standards as referenced in 327 IAC 2-11;
  - (D) As site conditions allow, the rate at which water flows through the OPCD conveyances shall be regulated to reduce outfall scouring and stream bank erosion;
  - (E) As site conditions allow, a vegetated filter strip of appropriate width will be maintained along un-vegetated swales and ditches;
  - (F) New retail gasoline outlets, new municipal, state, federal, or institutional refueling areas, or outlets and refueling areas that replace their existing tank systems, will be required by OPCD ordinance or other regulatory means to design and install appropriate practices to reduce lead, copper, zinc, and polyaromatic hydrocarbons in storm water run-off.
- (4) Personnel training for those responsible for plan review, inspection, and enforcement of post-construction BMPs (Section B ).
- (5) Written operational and maintenance plan for all storm water structural BMPs (Section C).

### **Section A: Regulatory Mechanism**

This resolution will, among other items: prohibit infiltration practices in wellhead protection areas; prohibit discharges from the OPCD area will not be allowed directly into sinkholes or fractured bedrock; require that any storm water practice that is a Class V injection well must ensure that the discharge from such practices meets Indiana ground water quality standards; vegetated filter strips of appropriate width will be maintained along un-vegetated swales and ditches; New retail gasoline outlets, new municipal, state, federal, or institutional refueling areas, or outlets and refueling areas that replace their existing tank will design and install appropriate practices to reduce lead, copper, zinc, and polyaromatic hydrocarbons in storm water run-off.

**BMP 1: Develop a Resolution for Post-Construction Storm Water Run-Off Control**

**Measurable Goals:**

Beginning in Year Two (2), the OPCD will develop a Resolution to establish regulatory authority to the OPCD for the control of storm water run-off from post-construction new development or redevelopment according to the requirements of 327 IAC 15-13-16. The Resolution will stipulate acceptable BMPs for new development or re-development post-construction storm water run-off and authorize the OPCD to enforce the requirements of the Resolution.

In Year Five (5), the OPCD will review the Resolution for accuracy and adequacy and continued compliance with current applicable rules and regulations. The Resolution will continue to be evaluated, at a minimum, every five (5) years, and updated as necessary.

**Reporting and record keeping:**

The Resolution will be used for reporting this requirement. Evaluation of this BMP will be determined by, among other measures, whether or not an ordinance was developed to address post-construction run-off; the number of enforcement actions that occur as a result of the new ordinance; and the projected amount of impervious cover reduced under the new ordinance.

**Section B: Training**

OPCD personnel responsible for plan review, inspection, and enforcement of post-construction BMPs will receive, at a minimum, annual training, addressing such topics as appropriate control measures, inspection protocol, and enforcement procedures. Personnel that are involved in the implementation of the post-construction run-off control plan will receive relevant storm water training. This training will be conducted “in-house” by the OPCD staff or some other trainer, and occur, at a minimum, annually. During an inspection of the OPCD area program, training documentation will be reviewed to verify that training is being conducted, is relevant to the post-construction storm water run-off control plan, and is reaching all the appropriate OPCD personnel.

**BMP 2: Staff Training for Review, Inspection and Enforcement**

**Measurable goals:**

Beginning in Year Two (2), the OPCD will develop an employee training program for its Post-Construction Storm Water Run-Off Control Plan. OPCD personnel responsible for plan review, inspection, and enforcement of post-construction BMPs will receive, at a minimum, annual training, addressing such topics as appropriate control measures, inspection protocol, and enforcement procedures.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

**Section C: Operational and Maintenance Plan**

The OPCD operator will develop and implement a written Operational and Maintenance Plan for all storm water structural BMPs in Year Two (2). The plan will address inspection frequency, maintenance procedures, operational testing or observations to ensure proper function, preventative maintenance, and recordkeeping.

A certification form that combines the completed requirements of 327 IAC 15-13-16 (e) and (b) will be completed and submitted to the IDEM once the plan has been developed and implemented, or seven hundred thirty (730) days from the date the initial NOI letter submittal was received by the IDEM, whichever is earlier.

At a minimum, every five (5) years the Operational and Maintenance plan will be reviewed for adequacy and accuracy, and updated, as necessary.

***BMP 3: Develop and Implement Written Operational and Maintenance Plan*****Measurable goals:**

The Storm Water Coordinator will develop and implement a written Operational and Maintenance Plan for all storm water structural BMPs.

**Reporting and record keeping:**

Reporting and record keeping for this BMP will be a copy of the Operational and Maintenance Plan.

**Section D: Structural BMP Selection Criteria and Standards**

Developers will, to the maximum extent practicable, seek first to utilize the least intrusive BMP that will meet these selection criteria and performance standards. The best plan combines structural and non-structural BMPs to meet these standards.

**Criteria**

Selected BMPs will:

- fit the site;
- minimize impervious surfaces;
- minimize directly connecting impervious areas to receiving waters;
- minimize soil and vegetation disturbances;
- preserve and protect existing vegetation, riparian or buffer zones, filter strips, open spaces, and other sensitive areas.

## Performance Standards

Selected BMPs will:

- not increase pre-construction run-off rate (developer must provide peak run-off rates for pre- and post-construction site conditions);
- not cause outfall scouring, increased sedimentation, or bank erosion;
- not increase pre-construction flooding conditions;
- not result in a direct discharge to subsurface aquifers or other subsurface waters used for public water supplies;
- not result in a direct discharge to sinkholes or fractured bedrock;
- use vegetated filter strips, where possible, on both embankments of storm water conveyances;
- retain storm water on-site to reduce increased run-off rates from impervious surfaces;
- not impair or negatively impact the water quality of any waters of the State or the OPCD;
- provide a plan for long-term maintenance and operation;
- comply with any other current or future performance standards established by the OPCD, the IDEM, or other regulatory agency.

## Allowed Structural BMPs Types

Structural BMPs must meet the design criteria, standards and specifications for erosion and sediment control measures similar to or the same as those outlined in the USDA Natural Resources Conservation Service *Field Office Technical Guide* (FOTG), the Indiana Department of Natural Resources *Indiana Handbook for Erosion Control in Developing Areas* (current edition), or the Oak Park Conservancy District *Storm Water Specifications*, whichever is most stringent.

- **Storage Practices:** Storage or detention BMPs control storm water by gathering runoff in wet ponds, dry basins, or multichamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices both control storm water volume and settle out particulates for pollutant removal.
- **Infiltration Practices:** Infiltration BMPs are designed to facilitate the percolation of runoff through the soil to ground water, and, thereby, result in reduced storm water quantity and reduced mobilization of pollutants. Examples include infiltration basins/trenches, dry wells, and porous pavement.
- **Vegetative Practices:** Vegetative BMPs are landscaping features that, with optimal design and good soil conditions, enhance pollutant removal, maintain/improve natural site hydrology, promote healthier habitats, and increase aesthetic appeal. Examples include grassy swales, filter strips, artificial wetlands, and rain gardens.

## Non-Structural BMPs

- **Planning and Procedures.** Runoff problems can be addressed efficiently with sound

planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality.

- **Site-Based Local Controls.** These controls can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.

#### ***BMP 4: Buffer Strip and Riparian Zone Preservation***

##### **Measurable goals:**

Beginning in Year Two (2), the OPCD will evaluate and specify BMPs that preserve or create buffer strips and riparian zones.

##### **Reporting and record keeping:**

Documentation will be through record keeping of selected BMPs; whether or not development codes were changed to require buffer zones; the number of selected BMPs installed, implemented or preserved; the acreage of land conserved and mapped as buffers or riparian zones; the acreage of land converted to buffers or riparian zones; changes in water quality of run-off leaving buffer areas.

#### ***BMP 5: Filter Strip Creation***

##### **Measurable goals:**

Beginning in Year Two (2), the OPCD will evaluate and specify BMPs that create filter strips, including vegetated filter strips of appropriate width to be maintained along un-vegetated swales and ditches.

##### **Reporting and record keeping:**

Documentation will be through record keeping of selected BMPs; whether or not development codes were changed to require filter strips; the number of filter strips installed, implemented or preserved, and mapped; changes in water quality of run-off leaving areas with filter strips.

#### ***BMP 6: Minimization of Land Disturbance and Surface Imperviousness***

##### **Measurable goals:**

Beginning in Year Two (2), the OPCD will evaluate and specify BMPs that minimize land disturbance and surface imperviousness. The OPCD will also map 25% per year (in accordance with the construction of the storm sewer system map) of the impervious and pervious surfaces throughout the District.

##### **Reporting and record keeping:**

Documentation will be through record keeping of selected BMPs; whether or not development codes were changed to require minimization of land disturbance and surface

imperviousness; the number of new developments using selected BMPs; the reduction in impervious surface area and infrastructure and mapping of pervious and impervious surfaces.

### **BMP 7: Maximization of Open Space**

#### **Measurable goals:**

Beginning in Year Two (2), the OPCD will evaluate and specify BMPs that maximize open space. These areas will be mapped 25% per year (in accordance with the construction of the storm sewer system map).

#### **Reporting and record keeping:**

Documentation will be through record keeping of selected BMPs; whether or not development codes were changed to require maximization of open space; the number of new developments using selected BMPs; the acreage of land preserved or created and mapped as open space; the acreage of land converted to open space and mapped; changes in water quality of run-off leaving open space areas.

### **BMP 8: Community Growth Planning**

#### **Measurable goals:**

Beginning in Year Two (2), the OPCD will evaluate and specify BMPs that direct community physical growth away from sensitive areas and towards areas that can support it without compromising water quality.

#### **Reporting and record keeping:**

Documentation will be through record keeping of selected BMPs; whether or not development codes were changed to require community physical growth away from sensitive areas and towards areas that can support it without compromising water quality; the number of new developments using selected BMPs; the reduction in impervious surface area and infrastructure; the increase in open space preservation or creation; mapping of open spaces, pervious and impervious surface areas; the improvements to water quality of run-off as a result of directed community growth.

## **Section E: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

### **Year One (Sept 2003 – Aug 2004)**

- None

### **Year Two (Sept 2004 – Aug 2005)**

- Develop a Post-Construction Resolution (BMP #1)
- Develop and Implement Staff Training (BMP #2)
- Develop and Implement Operational and Maintenance Plan (BMP #3)
- Develop Structural BMP Selection Criteria and Standards (BMP #4-8)

- 25% of Impervious/Pervious Area Mapped
- 25% of Open Space Mapped

**Year Three (Sept 2005 – Aug 2006)**

- Implement and Enforce Post-Construction Resolution (BMP #1)
  - 25% Compliance
- Continue Staff Training (BMP #2)
- Implement Operational and Maintenance Plan (BMP #3)
- Implement and Enforce BMP Criteria and Standards (BMP #4-8)
  - 50% of Impervious/Pervious area Mapped
  - 50% of Open Space Mapped

**Year Four (Sept 2006 – Aug 2007)**

- Enforce Post-Construction Resolution (BMP #1)
  - 50% Compliance
- Continue Staff Training (BMP #2)
- Implement Operational and Maintenance Plan (BMP #3)
- Implement and Enforce BMP Criteria and Standards (BMP #4-8)
  - 50% Implementation of BMPs
  - 75% of Impervious/Pervious area Mapped
  - 75% of Open Space Mapped

**Year Five (Sept 2007 – Aug 2008)**

- Enforce Post-Construction Resolution (BMP #1)
  - 75% Compliance
- Continue Staff Training (BMP #2)
- Implement Operational and Maintenance Plan (BMP #3)
- Implement and Enforce BMP Criteria and Standards (BMP #4-8)
  - 100% Implementation of BMPs
  - 100% of Impervious/Pervious area Mapped
  - 100% of Open Space Mapped

**Section F: Summary**

This Post-Construction Storm Water Run-Off Control Plan was developed to address the findings of the OPCD Baseline Characterizations regarding the land uses within the OPCD and the potential pollutants resulting from those uses. Through the implementation of regulatory controls and public education, initiatives taken through new development and re-development of areas within the OPCD can dramatically improve the quality of storm water run-off. The establishment of practices that improve storm water run-off quality can also improve the overall quality of life within the OPCD through not only improved water quality and reduced occurrences of flooding, but with increases in open spaces, buffer strips and riparian zones for recreation and education, cleaner public spaces, improved community growth, and increased environmental stewardship.

## **MCM #6: Good Housekeeping and Pollution Prevention**

The Indiana Storm Water General Permit Rule 13 requires Municipal Separate Storm Sewer System (MS4) operators to develop a Storm Water Quality Management Plan (SWQMP) that includes a commitment to develop and implement a program to prevent or reduce pollutant run-off from municipal operations within its jurisdiction.

As per the regulation requirements, the Oak Park Conservancy District (District) has developed and will implement a program to ensure that existing municipal, state or federal operations are performed in ways that will reduce contamination of storm water discharges. That program includes the following regulation requirements with references to the relevant section of the plan indicated:

- (1) Written documentation of maintenance activities, maintenance schedules, and long term inspection procedures for BMP to reduce floatables and other pollutants discharged from the separate storm sewers. Maintenance activities shall include, as appropriate, the following:
  - (A) Periodic litter pick up as defined in the MS4 area SWQMP (Section F)
  - (B) Periodic BMP structure cleaning as defined in the MS4 area SWQMP (Section E)
  - (C) Periodic pavement sweeping (Section F)
  - (D) Roadside shoulder and ditch stabilization (Section F)
  - (E) Planting and proper care of roadside vegetation (Section F)
  - (F) Remediation of outfall scouring conditions (Section E)
  
- (2) Controls for reducing or eliminating the discharge of pollutants from operational areas, such as roads, parking lots, maintenance and storage yards, including the following:
  - (A) Covering or otherwise reducing the potential for polluted storm water run-off from deicing salt or sand storage piles, if applicable (Section C)
  - (B) Establishing designated snow disposal areas that have minimal potential for pollutant run-off impact on MS4 area receiving waters (Section C)
  - (C) Providing containment facilities for accidental losses of concentrated solutions, acids, alkaloids, salts, oils, or other polluting materials (Section C)
  - (D) Standard operating procedures for spill prevention and clean up during fueling operations (Section B)
  - (E) BMP for vehicular maintenance areas (Section C)
  - (F) Prohibition of equipment or vehicle wash waters and concrete or asphalt hydrodemolition waste waters into storm water run-off, except under the allowance of an appropriate NPDES wastewater permit (Section C)
  - (G) Minimization of pesticide and fertilizer use and use of Indiana state chemist guidance requirements for their use, application, handling, storage, mixing, loading, transportation and disposal (Section C)

- (H) Proper disposal of animal waste. If applicable, it is recommended that canine parks be sited at least one hundred fifty (150) feet away from a surface waterbody (Section G)
- (3) Written procedures for the proper disposal of waste or materials removed from separate storm sewer systems and operational areas (Section D). All materials removed must be:
  - (A) Reused or recycled; or
  - (B) Disposed of in accordance with applicable solid waste disposal regulations.
- (4) Written documentation that new flood management projects are assessed for their impacts on water quality and existing flood management projects are examined for incorporation of additional water quality protection devices or practices (Section E).
- (5) Written documentation that appropriate MS4 entity employees have been properly trained, with periodic refresher sessions, on topics such as proper disposal of hazardous wastes, vegetative waste handling, fertilizer and pesticide application, and the function of implemented BMPs (Section B).

**Working with other entities:**

The regulation requires that the MS4’s program encompass these measures to the extent of their authority. All public roadways and some public open spaces located within the physical boundaries of the Oak Park Conservancy District (District), the MS4 operator, are owned by and therefore, fall under the jurisdiction of other MS4 entities, including Clark County, the city of Jeffersonville, and the various home owners’ associations. These entities did not enter into any agreement with the District as co-permittees of their storm water NPDES permit. The District, however, is committed to storm water quality improvement throughout its area and will working with these entities to assure compliance with all the requirements of the storm water regulations.

The following sections describe the Best Management Practices (BMPs) the District will implement for their storm water quality municipal operations and good housekeeping control measure.

**Section A: Developing a Good Housekeeping Improvement and Maintenance Program**

*This section outlines the process used to design and implement the overall maintenance program in the District. Presented here are four steps for improving the program and a checklist for describing the current program.*

**Step 1: Description and evaluation of the existing program**

The activity checklist that follows is a starting point in describing the District’s maintenance practices. Those activities that apply have been checked. Those activities that are performed by another MS4 entity or fall under the jurisdiction of another MS4

are duly noted. Practices that are the responsibility of another MS4 entity may be monitored for performance.

**Step 2: Gather input and ideas for improving maintenance practices**

The last column in the activity checklist is for recording the maintenance manager’s notes about how the District’s practices might be improved or modified. These ideas are to be shared with other maintenance personnel for their input. The goal of this task is to develop a list of simple, low-cost improvements, as well as some larger, more costly improvements the District can make over the coming years.

**Step 3: Develop a work plan and record keeping/tracking forms**

Once possible maintenance improvements have been identified, a schedule will be developed for making the changes. Standard record keeping forms will be adjusted from current one or new ones developed to assist staff in performing and recording the maintenance practices and results.

**Step 4: Implement the work plan and annually assess the program**

Implementation of the work plan will be according to the schedule defined in Step 4 and records will be kept. Every year, before the budgeting process begins for the coming fiscal year, the District’s maintenance practices will be re-evaluated. Evaluation will be based, in part, on the answers to these questions:

- is the staff aware of how their actions affect storm water quality?
- has staff been making improvements?
- are the improvements working?
  - if no, what other practices need to change?
- are additional resources and capital required to continue the program?

Reference to the activity checklist will be made to assure that all possible practices have been considered during this annual assessment.

***BMP 1: Develop and Implement a Good Housekeeping Improvement Plan***

**Measurable goals:**

The District will review and evaluate its current housekeeping and maintenance programs in Year Two (2) for effectiveness in water quality improvement, determine areas in need of improvement, identify needed additional activities, and develop a program to improve or add activities to improve municipal operations water quality impacts. The program will include a schedule for regular inspection and maintenance of all its jurisdictional storm water conveyances and outfalls; procedures for proper disposal of wastes recovered from maintenance or cleaning activities; a spill prevention plan; planned vehicle maintenance and washing areas; minimization of herbicide use; a training program for staff to implement these activities and procedures; and recommendations for public education of municipal operations.

**Reporting and record keeping:**

To accomplish these measurable goals, the District will document its review and evaluation of current housekeeping and maintenance programs, recommendations for improvements or additions, and recommendations selected for implementation. The District will use the activity checklist to review and evaluate its current programs and make recommendations for improvements and additions.

**Section B: Educate Staff about Storm Water Quality**

*Employee education is one of the first steps to improve the maintenance program. The District will utilize several easy, cost-effective ways to get the word out and increase awareness about how everyday maintenance practices affect storm water quality:*

**Make presentations at staff safety meetings.**

Prepare brief 10-15 minute informative presentations on various storm water quality related topics (pollution prevention, good housekeeping practices, illicit discharge detection and elimination, and erosion and sediment control). Currently, full staff safety meetings take place at 8 a.m. in the District conference room once per week. Storm water quality topics will now be presented approximately every third week beginning August 2004.

**Develop tools for maintenance crews.**

Prepare laminated cards describing notification procedures for spill incidents and place one in each District maintenance truck. Develop small kits for all trucks so that maintenance staffs have the materials to immediately address small spill situations and protect the storm sewers.

**Post signs at maintenance facilities and yards.**

Post good housekeeping signs wherever there is a chance that spills and leaks can occur. Make items such as drip pans and spill kits readily available at these locations to prevent spills and leaks from coming in contact with storm water runoff.

**Involve the maintenance staff in the planned improvements.**

Encourage staff input for improvements and empower them to take action immediately when they notice a storm water quality problem in the field. Use maps to locate the areas of the system where they've observed the most problems.

**BMP 2: Develop a Spill Response Plan****Measurable goals:**

The District will develop and implement a spill response plan by August 2005. This is also a compliance activity for the Illicit Discharge Detection and Elimination Measure.

**Reporting and record keeping:**

The Storm Water Coordinator will provide a written copy of this plan to IDEM.

### **BMP 3: Staff Training on Pollution Prevention and Good Housekeeping Practices**

#### **Measurable goals:**

The District will provide approximately one (1) hour of education annually to staff on storm water pollution prevention and good housekeeping practices for municipal operations. Training topics may include: local ordinances; policies; standard operating procedures and requirements for pollution prevention; proper application of herbicides on the plant grounds, lift stations, and easements; proper fleet maintenance practices; spill prevention and cleanup; and storm sewer system maintenance.

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

### **BMP 4: Staff Training on Illicit Discharge Detection and Elimination**

#### **Measurable goals:**

The District will provide at least one (1) hour of education annually to staff on illicit discharge detection and elimination. Education topics may include: definition of illicit or non-storm water discharge; local discharge requirements; review of local outfall mapping; identifying and tracking suspected discharges; and reporting suspected discharges.

This is also a compliance activity for Control Measure 3 for illicit discharge detection and elimination. Other training activities on this topic are found in the District's Illicit Discharge Detection and Elimination Plan.

#### **Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

### **BMP 5: Staff Training on Erosion and Sediment Control**

#### **Measurable goals:**

The District will provide at least one (1) hour of education annually to staff on local requirements, proper installation, and proper maintenance of erosion and sediment control measures. Education topics may include: stream bank maintenance guidelines; proper installation and maintenance of erosion control measures.

This is also a compliance activity for Control Measure 4 for construction site storm water runoff control. Other training activities on this topic are found in the District's Construction Site Storm Water Runoff Control Plan.

**Reporting and record keeping:**

The Storm Water Coordinator will retain a copy of the informative presentation on the above stated topics for reporting purposes. The date and the names of staff present will be documented on the copy for reporting purposes.

**BMP 6: Develop Tools for Maintenance Crews**

**Measurable goals:**

The District will have small kits available in each District maintenance truck for spill incidents by August 2005.

**Reporting and record keeping:**

The Storm Water Coordinator will take pictures of the spill incident kits and include an itemized list of materials present to IDEM.

**BMP 7: Post Signs at Facility Concerning Spill Response Plan**

**Measurable goals:**

Laminated signs will be posted at the plant where spill kits are located by August 2005.

**Reporting and record keeping:**

The Storm Water Coordinator will take pictures of each location with the signs posted.

**Section C: Keeping a Clean Maintenance Shop/Yard**

*Maintenance and storage of vehicles and equipment involves many substances that are extremely harmful to the environment. Fuel, solvents, metal shavings, lubricants, and other materials all cause toxic effects if they are allowed to enter storm water runoff. Also, bulk storage of materials such as hazardous wastes, fuels, emulsified oil, asphalt, concrete, and sand can contribute to stream pollution if the materials are not managed and contained properly.*

***The facility audit***

*A facility audit is an efficient method for determining the cleanliness of an entity's maintenance yard. The following maintenance yard self audit checklist will help give the District a good sense of what improvements should be made to better protect storm water quality.*

**BMP 8: Facilities Operations**

**Measurable goals:**

The District will evaluate its current facilities operations and develop a map of these facilities to locate operations and storage areas in such a manner that contamination to receiving waters or storm sewer systems are eliminated or minimized. The map will identify locations for specific activities, such as vehicle/equipment maintenance areas and washing areas, storage areas, and fueling areas, and staff will be trained in procedures for

performing activities in ways that eliminate or minimize the potential for storm water or receiving water contamination. It will be finished by August 2006.

**Reporting and record keeping:**

The Storm Water Coordinator will provide a copy of the finished map to IDEM.

**Maintenance Yard Audit Checklist**

*Use this checklist as a guide for conducting maintenance yard water quality practices.*

Practice	Done	Procedure	Procedure Number
<b>Prevent exposure</b>		Perform maintenance indoors	1
		Provide dead-end sump	2
		Wash in a contained area	3
		Cover bulk materials	4
		Label & store containers properly	5
		Disconnect process drains	6
		Designate snow disposal areas	7
<b>Provide containment</b>		Use drip pans for parked vehicles	8
		Drain fluids from vehicles	9
		Contain large fuel tanks	10
		Contain uncovered bulk materials	11
		Store containers on pallets	12
		Use dumpsters with lids	13
		Clean up spills promptly	14
		Regrade site to divert storm water	15
<b>Remove pollutants</b>		Provide oil & grease controls	16
		Apply erosion control	17
		Use sediment controls	18
		Install storm water filters	19
		Build storm water detention	20
<b>Other steps</b>		Don't generate additional water	21
		Educate staff	22
		Reduce chemical use	23
		Recycle wastes	24
		Consider alternative products	25
		Prepare site drainage map	26
		Inspect storm sewers monthly	27
		Keep water out of dumpsters	28

After using the above maintenance yard self audit, the District will implement the following procedures:

**BMP 9: Prevent Exposure to Storm Water**

**Measurable Goals (August 2007):**

- **Perform vehicle/equipment maintenance and washing in designated areas.**  
Waste water from concrete or asphalt hydrodemolition will also be prohibited

from entering the storm sewer system and shall instead be discharged to the sanitary sewer system.

- **Store bulk materials, including deicing salt or sand stockpiles, under cover.** Will be placed at the furthest distance from receiving waters or storm drains as feasible.
- **Make sure all containers are labeled and stored correctly.** Store indoors whenever possible, and routinely check for leaks.
- **Make sure that building drains or drains in outside storage or processing areas** do not discharge to the storm sewer system. Any such drains will be connected to the sanitary sewer system.
- **Establish designated snow disposal areas** that have minimal potential for pollutant runoff impact on the storm sewer system and receiving waters.

**Reporting and record keeping:**

Reporting and record keeping will be through the development of a facilities operations map showing the proximity of vehicle/ equipment maintenance, wash, and fueling areas, storage areas, snow disposal areas, and any other areas where activities could result in contamination of storm water runoff or receiving streams. Reporting and recordkeeping will also be through the development of an inspection and maintenance schedule for vehicle/equipment maintenance and fueling areas, material storage, deicing and sand stockpiles, and waste transfer areas. Reporting will also be done through documentation of topics and the number of staff trained in procedures for the prevention of pollution through these good housekeeping measures, including vehicle maintenance, fueling, and washing good housekeeping. Reporting of this BMP will also be covered under the staff training BMP.

***BMP 10: Provide Containment if Maintenance/Storage Cannot be Done Under Cover***

**Measurable Goals (August 2007):**

- **Use drip pans and other containment devices to prevent spills** while servicing vehicles, or for vehicles and equipment parked for extended periods.
- **Enclose fuel tanks and other large liquid containers** within secondary containment. Include valves that can be closed to prevent a large spill from traveling offsite. Follow other regulations to properly size the tank containment area.
- **For bulk materials stored without cover** and areas where accidental losses of concentrated solutions, acids, alkaloids, salts, oils, or other such materials could occur, provide containment walls and install inlet protection on nearby storm sewer drains.

- **For containers stored without cover,** make sure they are labeled and stored correctly within secondary containment areas.
- **Use dumpsters with lids** for storage of waste materials and garbage.
- **Clean up spills promptly.** Use absorbent material, such as kitty litter, to clean up liquid spills. Provide materials to cover drains until spills are cleaned up. Install spill kits in areas where accidents can occur (e.g., fueling areas). Train staff in standard operating procedures for spill prevention and clean-up during maintenance and fueling operations.
- **For new or remodeled facilities,** consider ways to grade the site so that storm water is diverted away from fueling, storage and disposal areas. Also, grade the site and construct berms so that all storm water runoff stays within the property boundaries. Keep clean water away from all potential sources of pollution.

**Reporting and record keeping:**

Reporting and record keeping will be through the development of a facilities operations map as described above, showing all maintenance, fueling, and storage areas. Reporting will also be done through documentation of new BMP installed and their location on the facilities map; the number of staff trained or otherwise instructed in procedures for equipment maintenance, materials storage, spill prevention, and spill clean-up; and a copy of the written instructions or training materials. Reporting of this BMP will also be covered under the staff training BMP.

**BMP 11: Remove Pollutants from Runoff**

**Measurable Goals (August 2007):**

- **Control erosion.** Stabilize exposed soil areas to prevent soil from eroding during rain events. Preferably use native plants and mulch/straw that will hold the soils in place while the vegetation is establishing. If vegetation is not an option, apply temporary erosion control blankets or use rip rap as appropriate.
- **Install sediment controls.** Once sediment is already eroded and mobilized on a site, steps must be taken to keep it out of the storm sewer system or waterways. Use the best available technology for both slowing down the flow of water (to allow sediment to drop out) and holding the sediment back. These include: silt fences, fabric-covered triangular dikes, gravel-filled burlap bags, biobags or hay bales staked in place, and sediment detention ponds.
- **Storm water filters.** Use vegetated storm water filters with native plants where possible, to filter out pollutants in storm water runoff and reduce maintenance of vegetated areas. Vegetated storm water filters include grassed swales and filter strips, compost filters, and sand filters. Also, temporary storm drain inlet filter inserts are also available and could be considered.

## **BMP 12: Other Steps**

### **Measurable Goals (August 2007):**

- **Don't generate additional water.** Sweep, vacuum or mop floors, sidewalks, and pavement rather than hosing them down. Dispose of swept materials properly. Use absorbent to soak up leaks and spills.
- **Educate staff.** All facility workers will be instructed on how their actions can affect storm water quality, including agency staff using the facility on a periodic basis, to deliver or pick up materials and supplies. At a minimum, staff will be instructed in the proper procedures to deal with spills and leaks, through presentations at safety meetings, posting signs, showing videos and providing training sessions.
- **Reduce chemical use whenever possible.** New practices will be adopted when applicable that use less or no chemicals, as a way to save money and protect the environment. Herbicides that are used at the plant will be applied only with a hand sprayer where applicable. No fertilizers or pesticides are currently in use.
- **Recycle wastes.** Used materials and wastes will be recycled whenever possible. Materials waiting to be recycled will be stored under cover with proper containment precautions. At all times, staff will follow proper waste management requirements.
- **Prepare a site drainage map.** A site drainage map will be developed using the facility operations map as a base. The site drainage map will indicate the locations of all storm drain inlets and pipes, as well as all points where the site discharges to the municipal storm sewer system or a nearby waterway. The direction of surface water flow will be indicated with arrows. The drainage map will be used as a planning tool to understand how water travels across the site and where there is the potential for storm water to contact stored materials and maintenance activities. Facility workers will be trained to use the map.
- **Inspect the storm sewer system.** On a quarterly basis, and after major rainfall events, inspections will be performed at the plant on storm water control structures, drain inlets, outfalls to streams, and storm water treatment devices. Inspectors will check for sediment build-up, remove accumulated materials, and look for signs of pollution (e.g., oil sheen, discolored water or foul odor). If a problem is noted, the source of the pollution will be tracked down and eliminated as quickly as possible.
- **Keep water out of dumpsters.** All dumpsters will be equipped with lids to keep rainwater from contacting garbage and leaching out to the ground surface.

**Reporting and record keeping:**

Reporting and record keeping will be through the development of a site drainage map to be used in planning for location of installation of additional pollution control measures; reporting forms to record the date, type, and location of pollution control devices or measures installed or implemented; inspection and maintenance schedule of new measures installed; and the number of employees trained in operation and maintenance of pollution control devices or measures installed or implemented; Reporting of this BMP will also be covered under the staff training BMP.

**Section D: Storing and Disposing of Waste Materials**

*This section reviews the various types of wastes produced and discusses testing and disposal requirements, and recycling options to reduce costs and help the environment. Also described are ways to protect storm water quality during waste dewatering process.*

Virtually all maintenance practices generate waste by-products. Typical wastes include:

- **Sludges, sediment, and debris** from streets, parking lots, catch basins, and storm drain lines which are picked up with mechanical sweepers, vacuum/air sweepers, vacuum equipment, or by hand.
- **Dredged sludge materials** from channel, stream and detention pond maintenance.
- **Dropped leaves** that are collected seasonally.
- **Other vegetation**, such as grass clippings, woody debris and dead plants and shrubs, that are collected by crews maintaining streamside areas, roadsides, medians, parks and other vegetated public areas.
- **Deicing sands and gravels** from road and bridge snow and ice control operations.
- **Waste paper**, scrap food, food containers, cigarette butts, grit, rubber and plastic particles, glass, synthetic organic compounds, and other types of man-made substances.

**BMP 13: Waste Materials Disposal****Measurable goals:**

The District will develop standard operating procedures for the handling and disposal of waste recovered from municipal operations and storm water system maintenance activities by August 2008.

**Testing and Disposal**

The regulations require that the MS4s develop written procedures for the disposal of wastes or materials recovered from storm sewer systems and operational areas. Disposal of such materials is to be through recycling or reuse or otherwise disposed in accordance

with applicable solid waste regulations. District staff will be trained to determine the nature of wastes generated as a result municipal operations housekeeping activities, proper handling and disposal methods for solid wastes or recyclable waste, and proper sampling for determination, handling, storage, transport, and disposal of hazardous waste.

### **Recycling**

There are several options for recycling some of the waste materials described above. Large quantities of sand and gravel may be collected for use with trench backfill. Materials collected through litter clean up activities may include aluminum cans, plastic and glass bottles, and paper. Recyclable materials will be sorted out for recycling and remaining materials can be landfilled. All oils being generated from vehicles etc. at the District are currently being recycled.

### **Dewatering practices**

Dewatering is commonly used to reduce the volume and weight of debris to be recycled or landfilled. The District will utilize its wastewater treatment dewatering facility when applicable for storm water system debris. Dried materials will be landfilled or otherwise disposed according to state and federal regulations.

### **Reporting and record keeping:**

The District will develop standard operating procedures for the handling and disposal of waste recovered from municipal operations and storm water system maintenance activities. A copy of the procedures will be retained for reporting purposes. District staff will be trained in the procedures and the number of staff trained will be reported. The District will also develop forms for documenting and reporting the types, amounts, and disposal methods for all recovered wastes.

## **Section E: Storm Sewer System: Maintenance and Flood Management**

This section describes various inspection and maintenance practices for the separate storm sewer system and provides procedures for conducting the work in a way that helps protect the environment when:

- Inspecting the system
- Cleaning and repairing storm sewer pipes and storm drain inlets
- Cleaning ditches and stream channels
- BMP Cleanings
- Maintaining detention ponds and other storm water treatment devices.

## **BMP 14: Routine Storm Sewer Conveyance/Outfall Inspection and Maintenance**

### **Measurable goals:**

The District will develop and implement a program to prevent or reduce pollutant runoff from its municipal operations. As part of that program, the District will schedule and perform regular inspections of all its jurisdictional storm water conveyances and outfalls and perform maintenance as determined through inspections. Information gathered will be periodically evaluated for target pollutant loadings and source identification. Information will also be evaluated for opportunities to modify procedures and/or storm water conveyances to improve efficiency of operation and maintenance and effectiveness in the reduction of floatables and other pollutant discharges, flooding, and costs.

Scheduling of the District's storm sewer system will coincide with the on-going process of mapping its storm sewer conveyances and outfalls. Mapping of the District's system is anticipated to be 25% complete by August 2005, with an additional 25% completed each year thereafter. Beginning in September 2005, after the completion of mapping 25% of its storm sewer conveyances and outfalls, the District will schedule that portion of its system for inspection and maintenance to be completed by August 2005. As each additional 25% of mapping is completed, that portion of the systems will also be scheduled for inspection and maintenance. A long-term inspection schedule will be developed through evaluation of information and recommendations resulting from these initial inspections. The District will do the following along with the mapping:

- **Target maintenance to storm sewer conveyance most in need.** Maintenance will only be performed on storm sewer pipes, culverts, detention ponds, ditches, and other storm water treatment devices like grassed swales in need. Sediment buildup depends on several factors, including sewer size and gradient. For most storm sewers that are sized and placed correctly, silt will begin to build up immediately after cleaning and reach equilibrium within a few weeks or months. These pipes can go for years without requiring sediment removal.

For root removal, the District's sanitary sewer root cutter will be used. When applicable, a camera inspection will be made of the storm sewer to determine the nature of the blockage before using the root cutter.

- **Install downstream debris traps before cleaning sewers.** Baskets or other materials will be used to trap silt and debris and a vacuum hose to collect it, instead of flushing the materials downstream. This debris and sediments will be disposed of properly.
- **Sediments leaving any District construction site will be kept to a minimum.** With any work done on the storm sewer system that will leave bare soil, appropriate erosion and sediment control measures in the form of erosion control blankets, seeding, and mulching will be used.

- **Outfalls will be periodically checked for scouring.**

**Reporting and record keeping:**

To accomplish these measurable goals, the District will document all actions taken to develop and implement its storm sewer inspection and maintenance plan. The District will document how areas are inventoried and prioritized for inspection and cleaning. Based on this prioritization, the District will develop a schedule to inspect and report on conditions of all District storm water conveyances and outfalls and retain this information for reporting purposes. The District will document all repairs or routine maintenance performed, as well as any new facility construction, retrofits, or preventative measures implemented, type and volume of materials collected from cleaning, and materials disposal method. All such information will be retained for reporting purposes.

The District will document the length of conveyance and the number of outfalls inspected and cleaned and the method for cleaning. The quantity and type of trash, sediment, and other pollutants removed during cleaning will be tracked along with methods of disposal. Any measures to reduce flooding or maintenance needs will also be documented.

**BMP 15: Flood Management System Retrofitting**

**Measurable goals:**

Retrofits can be done as stand-alone projects, or as a part of repair and replacement projects scheduled for the future. Usually, retrofits are done on older parts of the storm sewers in areas that are already built out. Water quality benefits will be considered starting immediately on all repairs and retrofits in the District. The following suggested measures have been determined to be feasible for aging conveyances within the District:

- **Include water quality considerations in retrofits.** If a storm sewer conveyance needs replacement because of poor condition, replacement with one that also improves water quality will be a primary consideration. An example is replacing inlets with trapped catch basins.
- **Retrofit as preventative measures.** Retrofits of existing storm sewer conveyances with plantings of native vegetation can provide both flood control and pollutant removal. Installation of native vegetation as pretreatment of storm water before it enters the system can help lengthen the life of aging systems and reduce maintenance requirements. The current system will be evaluated for opportunities for the installation of native vegetation plantings and all new facilities will be required to consider vegetative measures as an alternative to or in conjunction with traditional measures.
- **Assess new flood management projects for water quality impacts.** Assessment of new flood management projects for water quality impacts and requirements for water quality protection will help facilitate continued storm water quality improvement. New projects will be assessed for water quality

protection, as well as flood management, and will be incorporated into the routine inspection and maintenance schedule.

**Reporting and record keeping:**

Reporting and record keeping will be through the development of reporting forms to record: date; type and location or designation of existing storm water treatment device and retrofit devices or measures used; unusual observations such as indications of flooding, excessive silt build-up, etc.; reported complaints; dry weather flows; type of retrofit device or measure used; any other maintenance activity performed; amount and type of debris removed; method of removal and disposal; and follow-up required.

For new projects, reporting and recording keeping will be through the development of reporting forms to record: date of construction/installation completion; type and location of treatment device; inspection and maintenance requirements; incorporation into the District's system inspection and maintenance schedule.

**Section F: Roadways and Roadside Areas**

**Roadway Jurisdictional Authority:**

The District does not have jurisdictional authority over the roadways within its physical boundaries. Clark County currently maintains the roads, providing street sweeping and snow removal services. Storm water runoff from these roadways enters the District storm sewer system via inlets in, alongside, or near the roadways. The District will work in cooperation with Clark County to implement procedures that improve the quality of the roadway storm water runoff. The following are recommendations for the Clark County highway department with cooperation where possible from the District. Any recommendations implemented will be at the discretion of the Clark County highway department. Reporting and recording keeping will likewise be dependent upon information provided by the Clark County highway department.

***BMP 16: Roadway and Roadside Maintenance***

**Measurable goals:**

The District will, to the extent of their authority, develop a program to monitor the roadway and roadside maintenance activities performed within the District boundaries by the Clark County Highway Department by August 2006. This will primarily consist of allowing citizens to contact the District concerning littering, debris on streets, etc. and the District will then inform the Clark County Highway Department. Personnel members of the District will be informed to look for areas that need to be maintained and will receive training on this topic.

**Reporting and record keeping:**

Reporting and record keeping will be through the development of reporting forms to record: date, location, type of activity necessary (street sweeping, litter pickup, etc), and when contact made to Clark County Highway Department concerning this issue.

## **Section G: Public Education**

Often the job of maintenance personnel is more difficult because of public actions that result in wastes and other pollutants being spilled or dumped into storm sewers and streams. Educating the public on how their actions impact storm water quality is an important step in storm water quality improvement.

### **BMP 17: Managing Pet Waste**

#### **Measurable goals:**

The District will develop an educational program for pet owners regarding the impacts of pet waste on surface waters and proper collection and disposal methods by August 2006.

#### **Reporting and record keeping:**

The District will distribute informational brochures or place articles in newsletters to homeowners regarding the impacts of pet waste, proper collection, and disposal methods. The District will retain a copy for reporting purposes, along with the number of brochures or newsletters distributed.

## **Section H: BMP Timeline**

*This section provides a timetable for the implementation of the BMPs described in this plan.*

### **Year One (Sept 2003 – Aug 2004)**

- Initiate Good Housekeeping and Pollution Prevention Staff Training (BMP # 3-5)
- Flood Management System Retrofitting Considerations (BMP #15)

### **Year Two (Sept 2004 – Aug 2005)**

- Develop Good Housekeeping Plan (BMP #1)
- Develop and Implement Spill Response Plan (BMP #2)
- Good Housekeeping and Pollution Prevention Staff Training (BMP # 3-5)
- Spill Kits (BMP #6)
  - 100% Assembled and in OPCD Maintenance Trucks
- Signs (BMP #7)
  - 100% Posted
- Routine Storm Sewer Conveyances Mapping/Inspections (BMP #14)
  - 25% Completed
- Flood Management System Retrofitting Considerations (BMP #15)

### **Year Three (Sept 2005 – Aug 2006)**

- Continue Good Housekeeping Plan (BMP #1)
- Continue Spill Response Plan (BMP #2)
  - 25% of Spills Contained
- Good Housekeeping and Pollution Prevention Staff Training (BMP # 3-5)
- Maintain Spill Kits and Signs (BMP #6-7)

- Facilities Operations Map (BMP #8)
  - 100% Completed
- Routine Storm Sewer Conveyances Mapping/Inspections (BMP #14)
  - 50% Completed
- Flood Management System Retrofitting Considerations (BMP #15)
- Initiate Roadway/Roadside Maintenance Plan (BMP #16)
- Distribute Pet Waste Management Information (BMP #17)

**Year Four (Sept 2006 – Aug 2007)**

- Continue Good Housekeeping Plan (BMP #1)
- Continue Spill Response Plan (BMP #2)
  - 50% of Spills Contained
- Good Housekeeping and Pollution Prevention Staff Training (BMP # 3-5)
- Maintain Spill Kits and Signs (BMP #6-7)
- Update Facilities Operations Map (BMP #8)
- Develop and Implement Maintenance Shop/Yard Plan (BMP #9-12)
  - 50% Implemented
- Routine Storm Sewer Conveyances Mapping/Inspections (BMP #14)
  - 75% Completed
- Flood Management System Retrofitting Considerations (BMP #15)
- Implement Roadway/Roadside Maintenance Plan (BMP #16)

**Year Five (Sept 2007 – Aug 2008)**

- Continue Good Housekeeping Plan (BMP #1)
- Continue Spill Response Plan (BMP #2)
  - 75% of Spills Contained
- Good Housekeeping and Pollution Prevention Staff Training (BMP # 3-5)
- Maintain Spill Kits and Signs (BMP #6-7)
- Update Facilities Operations Map (BMP #8)
- Continue Maintenance Shop/Yard Plan (BMP #9-12)
  - 100% Implemented and Update as Necessary
- Waste Management Disposal Plan (BMP #13)
- Routine Storm Sewer Conveyances Mapping/Inspections (BMP #14)
  - 100% Completed
- Flood Management System Retrofitting Considerations (BMP #15)
- Implement Roadway/Roadside Maintenance Plan (BMP #16)

**Maintenance Manager’s Activity Checklist**

*Use this checklist as a starting point in describing your organization’s maintenance practices. Check those activities that apply, or add other activities in the blank spaces provided. In the “Manager’s Notes” column, make notes about improvements you’d like to make related to each activity on the checklist.*

Name: <i>Bryan R. Wallace</i>
Date: <i>Oak Park Conservancy District</i>

<b>Practice</b>	<b>Applies (Y/N)</b>	<b>Manager's Notes</b>
<b><i>Maintaining the Storm Sewer System</i></b>		
Culvert cleaning & repair	Yes	District does not maintain any culverts in Clark County Right of Way (ROW) – monitoring needed
Pipe cleaning & repair	Yes	District does not maintain any pipes in the Clark County ROW – monitoring needed
Catch basin/inlet cleaning & repair	Yes	District does not maintain any catch basins in the Clark County ROW – monitoring needed
Drainage channel (ditch) maintenance	Yes	District does not maintain any ditches in the Clark County ROW – monitoring needed
Natural stream Maintenance	No	Lancassange Creek maintained by Clark County
Detention pond Maintenance	No	Mostly borne by home owners associations – monitoring needed
Maintenance of other treatment devices	Yes	Weir structures, etc.
Flood management system retrofitting	Yes	None currently planned
New flood management projects	No	None currently planned
<b><i>Maintaining &amp; Repairing Roadways</i></b>		
Street cleaning	No	Clark County jurisdiction and responsibility – monitoring needed
Snow & ice control	No	Clark County jurisdiction and responsibility – monitoring needed
<b><i>Maintaining Roadside Areas</i></b>		
Vegetation management	No	Clark County responsibility – monitoring needed

<b>Practice</b>	<b>Applies (Y/N)</b>	<b>Manager's Notes</b>
Erosion control	No	Clark County responsibility – monitoring needed
Litter control	No	Clark County responsibility – monitoring needed
<b><i>Keeping a Clean Maintenance Yard</i></b>		
Vehicle maintenance	Yes	Gravel parking lot with one storm drain inlet nearby
Vehicle washing	Yes	Gravel lot in back of plant – no storm drain inlets
Bulk materials storage	Yes	All materials stored in locked buildings
Hazardous materials storage	Yes	All materials stored in locked buildings
Above ground fuel tanks	Yes	Multiple diesel fuel tanks w/ fuel leakage containment system– no storm drain inlets nearby
Fueling area(s)	Yes	Right at diesel fuel tanks – all normal vehicle fueling at gas station
Garbage dumpsters	Yes	Multiple garbage dumpers – no storm drain inlets nearby
Oil & grease controls	Yes	Standard oil drip pans for vehicle maintenance
Erosion and sediment controls	Yes	Crown vetch plantings on hillsides surrounding plant
Stormwater filter(s)	No	
Detention pond/wetlands	No	
Other treatment device(s)	No	
New or remodeled facility being planned	Yes	None currently planned
Waste minimization	Yes	Small recycling plan currently in place
Site drainage map	Yes	Being developed
Stormwater outfalls	Yes	In the process of being mapped
<b><i>Storing and Disposing of Waste Materials</i></b>		
Sludge & sediment (vacuum & street	No	

<b>Practice</b>	<b>Applies (Y/N)</b>	<b>Manager's Notes</b>
sweeping waste)		
Dredged sediments	No	
Dropped leaves	No	
Other vegetation	No	
Deicing sands & gravels	Yes	Only have small quantities in buckets for deicing of three car parking lot and sidewalk in front of office building
Testing practices	No	
Recycling practices	No	
Dewatering practices	Yes	In the District wastewater treatment process – taken to landfill
<b><i>Educating Staff about Stormwater Quality</i></b>		
Safety meeting presentations	Yes	Being developed
Training	Yes	Being developed
Tools for maintenance crews	Yes	Being developed
Signs posted at facilities & yards	Yes	Being developed
Involve staff	Yes	Being developed
Pollution prevention and good housekeeping practices training	Yes	Being developed
Illicit discharge detection and elimination training	Yes	Being developed
Erosion and sediment control training	Yes	Being developed
<b><i>Educating Public about Stormwater Quality</i></b>		
Informational flyers	Yes	Being developed
Newsletter/paper articles	Yes	Being developed
School programs	Yes	Being developed

Practice	Applies (Y/N)	Manager's Notes
Pesticide and fertilizer proper use	Yes	Being developed
Proper disposal of household hazardous waste	Yes	Being developed
Littering and illegal dumping	Yes	Being developed
Proper disposal of pet waste	Yes	Being developed

## SECTION IV: BOUNDARIES

The District is split into three sections and is bounded as follows:

### *Area 1*

Beginning at the northeasterly line of Allison Lane and the south line of Oak Park Boulevard; northeastwardly to the west line of Park Lane; southeastwardly to the southeast line of Oak Park Ninth Addition extended; northeastwardly with the southeast line to the southwest line of Riverside Subdivision; northwestwardly with southwest line of Riverside Subdivision to the southeast line of Oak Park Eighth Addition and northwest line of Riverside Subdivision, northwestwardly with northwest line to northeast line of Oak Park Eighth Addition; northwestwardly with northeast line of Oak Park Eighth Addition which is also the southwesterly line of Fields of Lancassange Subdivision to the southeast line of Middle Road; northwardly with the southeast line of Middle Road to the northeast line of Fields of Lancassange Subdivision; southeastwardly with the northeast line of Fields of Lancassange Subdivision to its southeast corner; southwestwardly with the southeast line of Field of Lancassange Subdivision to the northeast line of Riverside Subdivision; southwestwardly with northeast line to the northeast line of Meadowdowns; eastwardly with the northeast line to southeasterly line of Meadowdowns; southeastwardly with southeast line of Meadowdowns; southeastwardly with southeast line of Meadowdowns to Utica Pike; northeastwardly with west line of Utica Pike to the northwest line of Island View; northeastwardly with northwest line to southeasterly line of Island View; southwestwardly with southeast line to southeasterly line of Island View; southwestwardly with southeasterly line to southwest line of Island View; southwestwardly with southeasterly line to southwest line of Island View; northeastwardly with the westerly line to the southerly line of Island View; northwestwardly with the southerly line to the east line of Utica Pike; southwestwardly along the east line of Utica Pike; southwestwardly along the east line of Utica Pike to Longview Drive, including all those properties facing Utica Pike; northwestwardly along the south line extended to the south line of Longview Drive; south along the westerly line of Utica Pike to the northeasterly line of Allison Lane; northwest along the northeasterly line of Allison Lane to the point of beginning. Containing all that part of the Conservancy District in McBride Heights, Riverside Subdivision, Island View,

Meadowdowns, all that in the first section, second section, third section and fourth section of Oak Park, south of Oak Park Boulevard, and Fields of Lancassange Subdivision.

#### *Area 2*

Beginning at the southeast line of Oak Park Boulevard and the easterly line of Sycamore Road; southeastwardly with the southeast line of Oak Park Boulevard to the northeasterly line of Allison Lane; southeastwardly with the northeasterly line of Allison Lane to the westerly line of Utica Pike; southwestwardly with the northerly line to the westerly corner of Cherokee Terrace; southwestwardly with the northerly line to the westerly corner of Cherokee Terrace; northwestwardly with the line of Cherokee Terrace extended to the southwesterly corner of the Avery/Read tract; northeastwardly with the southerly line of the Avery/Read tract to the southeasterly corner thereof; northwestwardly with easterly line of the Avery/Read tract to the westerly line of Middle Road; northeastwardly with the westerly line of Middle Road to the northeasterly line of Allison Lane, including all those properties facing Middle Road on the southeast side; northwestwardly with the northeasterly line of Allison Lane to the northwesterly line of Indian Hills extended, including all those properties facing Allison Lane on the northeast side; northeastwardly with the northwesterly line of Indian Hills to the southwesterly line of Capitol Hills, Section 4; southeastwardly with the southwesterly line of Capitol Hills extended, to the most southerly corner of Oak Park, Section 8; southwestwardly to the easterly line of Sycamore Road; southeastwardly with the easterly line of Sycamore Road to the point of beginning. Containing all that part of the Conservancy District in Wathen Heights, Wathen Estates, Wathen Ridge, Walford Manor, Beech Grove, Indian Hills, Clark Dell, Oak Park, Section 4, Section 5, and Section 6; south of Sycamore Road and east of the east line of Allison Lane.

#### *Area 3*

Beginning at the southeast line of Oak Park Boulevard and the easterly line of Sycamore Road; northwestwardly with the northeasterly line of Sycamore Road to the northwesterly line of Oak Park Section 6; northeastwardly to the southerly corner of Oak Park, Section 8; northwestwardly to the westerly corner of the Klein tract and the southerly line of Park Road; southeastwardly to another corner of the Klein tract and the southerly line of Park Road; northeastwardly to the northeasterly corner of the Klein tract; southeastwardly with the line of Seilo Ridge; southeastwardly to the southeast line of Middle Road; southwestwardly with the east line of Middle Road to the northeasterly line of Oak Park, Section 8; southeastwardly to the most easterly corner of Oak Park, Section 8; southwestwardly to the most northerly corner of Oak Park, Section 7; southeastwardly to the most easterly corner of Oak Park, Section 9; southwestwardly with the southerly line of Oak Park, Section 9, extended to the westerly line of Park Lane; northwestwardly to the southeasterly line of Oak Park Boulevard; southwestwardly to the easterly line of Sycamore Road, the point of beginning. Containing the Klein tract, the Catholic Church tract, Seilo Ridge Subdivision, Capitol Hills Subdivision, Sections 7, 8 & 9 of Oak Park, and part of Sections 3, 5 & 6 of Oak Park, Pebble Creek Subdivision and Lighthouse Apartments also known as Pebble Creek Apartments.

### **Estimate of Linear Feet of the Storm Sewer System**

To begin, plat maps of every subdivision were obtained from the Clark County Recorder's office. Each drainage easement on the maps has been highlighted and will soon be placed into an ArcView 9 file for easy reference. After determining the location of the drainage easements, the easement lengths were totaled and placed into an Excel spreadsheet. See Appendix B for these totals.

## **SECTION V: PROGRAMMATIC INDICATORS**

Not all of the indicators listed below are applicable to the OPCD. After each programmatic indicator that is applicable, the location is noted on Appendix F. Also listed on Appendix F are new indicators specific to the OPCD program.

### **Required Indicators:**

- 1) Number or percentage of citizens that have an awareness of storm water quality issues (Appendix F: MCM #1)
- 2) Number and description of meetings, training sessions, and events conducted to involve citizen constituents in the storm water program (Appendix F: MCM #2)
- 3) Number or percentage of citizen constituents that participate in storm water quality improvement programs (Appendix F: MCM #2)
- 4) Number and locations of storm drains marked or cast (Appendix F: MCM #2)
- 5) Linear feet of MS4 mapped and indicated on an area map (Appendix F: MCM #3)
- 6) Number and location of MS4 area outfalls mapped (Appendix F: MCM #3)
- 7) Number and location of MS4 area outfalls screened for illicit discharges (Appendix F: MCM #3)
- 8) Number and location of illicit discharges detected (Appendix F: MCM #3)
- 9) Number and location of illicit discharges eliminated (Appendix F: (MCM #3)
- 10) Amount of HHW materials collected in MS4 area (Appendix F: MCM #3)
- 11) Number and location of constituent drop-off centers for automotive fluid recycling (Appendix F: MCM #3)
- 12) Number or percentage of constituents that participate in the HHW collections (Appendix F: MCM #3)
- 13) Number of construction sites obtaining an MS4 entity-issued storm water run-off permit (Appendix F: MCM #4)
- 14) Number of construction sites inspected (Appendix F: MCM #4)
- 15) Number and type of enforcement actions taken against construction site operators (Appendix F: MCM #4)
- 16) Number of public informational requests received concerning construction sites (Appendix F: MCM #4)
- 17) Number, type, and location of structural BMPs installed (Appendix F: MCM #5)
- 18) Number, type, and location of structural BMPs inspected (Appendix F: MCM #5)
- 19) Number, type, and location of structural BMPs maintained or improved to function properly (Appendix F: MCM #5)
- 20) Type and location of nonstructural BMPs utilized (Appendix F: MCM #5)
- 21) Area of open space preserved and mapped (Appendix F: MCM #5)

- 22) Pervious and impervious areas mapped (Appendix F: MCM #5)
- 23) Number and location of refueling areas that have installed storm water BMPs (Appendix F: MCM #5)
- 24) Number and location of MS4 entity facilities that have containment for accidental releases of stored polluting materials (Appendix F: MCM #6)
- 25) Area, amount, and location where pesticides and fertilizers are applied by a MS4 entity to places where storm water can be exposed within the MS4 area (Appendix F: MCM #6)
- 26) Area and location of un-vegetated swales and ditches that have an appropriately-sized vegetated filter strip (Appendix F: MCM #6)
- 27) Linear feet and location of MS4 conveyances cleaned or repaired (Appendix F: MCM #6)
- 28) Linear feet and location of roadside shoulders and ditches stabilized
  - a. Not Applicable. The OPCD does not have jurisdiction over the roads; they are in the County Right-of-Way.
- 29) Number and location of storm water outfall areas remediated from scouring conditions (Appendix F: MCM #6)
- 30) Number and location of deicing salts and sand storage areas covered
  - a. Not applicable. The OPCD only purchases small bags of salt for use in the wintertime and are left unopened until needed.
- 31) Amount of salt and sand used
  - a. Not Applicable. The OPCD only uses a small amount of salt in the wintertime to keep the 2 car customer parking lot and sidewalk cleared of ice. If it is desired, the number of bags used can be reported.
- 32) Amount of materials collected from catch basins and other BMP cleanings (Appendix F: MCM #6)
- 33) Amount of materials collected by street sweeping
  - a. Not Applicable. The OPCD does not have jurisdiction over the roads; they are in the County Right-of-Way.
- 34) Number and location of canine parks
  - a. Not Applicable. The OPCD does not operate or maintain any parks. There are four small parks maintained by the City of Jeffersonville, but none of them exist immediately adjacent to Lancassange Creek.

### **New Indicators**

- 1) Amount of educational materials distributed to residents and businesses (Appendix F: MCM #1)
- 2) Number of visitors, # of comments, and the number of citizen reports via email to the OPCD website (Appendix F: MCM #1)
- 3) Number of illegal dumping sites cleaned up, number of participants, and number of signs posted (Appendix F: MCM #3)
- 4) Number and hours of employees trained in IDDE (Appendix F: MCM #3,6)
- 5) Number of brochures distributed regarding IDDE (Appendix F: MCM 3)
- 6) Number of brochures distributed regarding Septic Tanks (Appendix F: MCM #3)
- 7) Number and hours of employees trained in Construction Site Run-Off (Appendix F: MCM #4,6)

- 8) Number and hours of employees trained in Good Housekeeping (Appendix F: MCM #6)

## **SECTION VI: BUDGET & FUNDING**

### **Budget**

The program budget is divided into each control measure (Appendix D). BMPs for each control measure are listed as follows from Section III. The main cost will be the Storm Water Coordinator's time to develop and implement the programs. There will be additional costs from printing and distribution of information, other people to help implement the programs, working with volunteers to gain input, doing training, maintaining the storm sewer system, and more. The yearly cost estimates are as follows:

- Year 1: \$23,692.50
- Year 2: \$68,116.50
- Year 3: \$81,087.50
- Year 4: \$99,027.50
- Year 5: \$92,375.00
- Total: \$364,299.00

### **Funding**

The OPCD receives its funding via property taxes from the members of the District. A certain percentage of those taxes that go to the OPCD go into the storm water department. I am not certain of the exact amount received (the District has yet to receive the monies due after the reassessment), but I know that the amount is adequate to run this program.