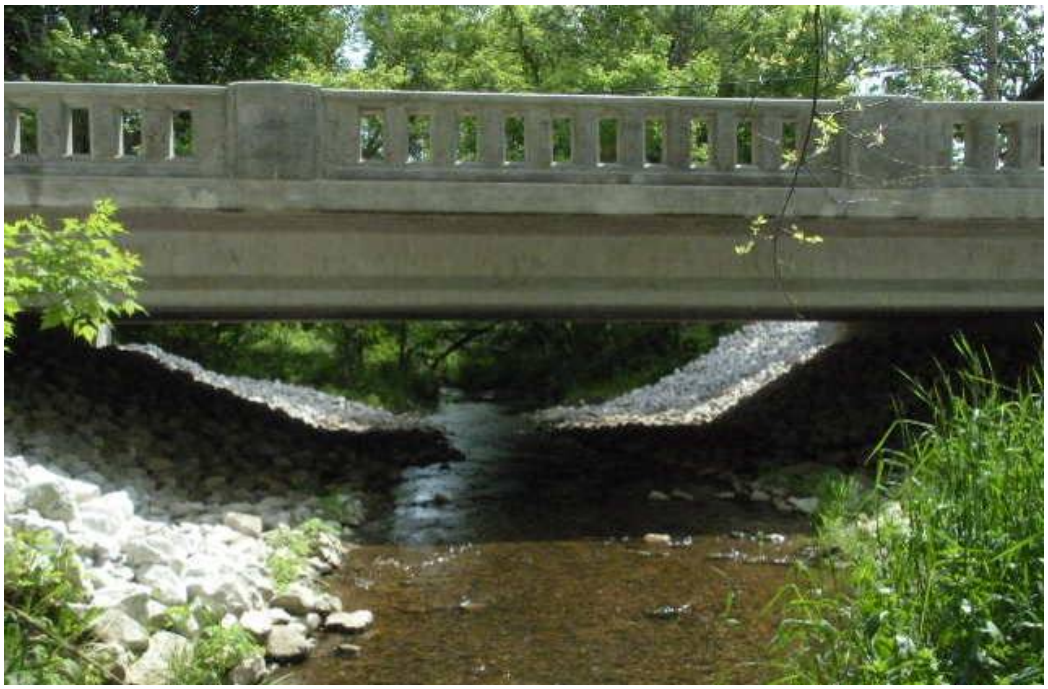
McHenry County Stormwater Management Program Plan



Alden Road Bridge - Alden, IL Photo by: Wynnyth Adair

LAST REVISED MAY 2013

COUNTY OF MCHENRY

MCHENRY COUNTY, ILLINOIS

Prepared with the assistance of
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Adapted from Lake County Stormwater Management Commission.

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Fox River – McHenry County, IL

Introduction

This Stormwater Management Program Plan (SMPP) was developed by County of McHenry to meet the minimum standards required by the United States Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES) Phase II program. Federal regulations through the USEPA require that all Municipal Separate Storm Sewer Systems (MS4s), partially or fully in urbanized areas based on the 2000 census, obtain stormwater permits for their discharges into receiving waters. There are many different types of MS4s including municipalities, park districts, drainage districts, township highway departments, counties and county and state transportation departments (MCDOT and IDOT). This SMPP is based off a SMPP template provided by the Lake County Stormwater Management Commission.

The SMPP describes the procedures and practices that will be implemented by County of McHenry toward the goal of reducing the discharge of pollutants within stormwater runoff in order to comply with Federal standards. Compliance with the plan is intended to protect water quality thus contributing to the following amenities:

- cleaner lakes and streams,
- improved recreational opportunities and tourism,
- flood damage reduction,
- better aesthetics and wildlife habitat, and
- a safer and healthier environment for citizens.

The SMPP addresses the primary program elements for all County of McHenry activities, including the manner in which the County:

- reviews, permits and inspects construction activity within its limit,
- manages the planning, design and construction of projects performed within its limits,
- maintains its facilities and performs its day-to-day operations,
- works toward protecting the receiving waters from illicit discharges,
- provides public education and outreach,
- trains its employees in carrying out and reporting program activities, and
- continually monitors and evaluates the program.

1.B State & Federal Regulations

Federal environmental regulations based on the 1972 Clean Water Act (CWA) require that MS4s, construction sites and industrial activities control polluted stormwater runoff from entering receiving bodies of water (including navigable streams and lakes). The NPDES permit process regulates the discharge from these sources based on amendments to CWA in 1987 and the subsequent 1990 and 1999 regulations by the U.S. Environmental Protection Agency (USEPA). In Illinois, the USEPA has delegated administration of the Federal NDPES program to the Illinois Environmental Protection Agency (IEPA). On December 20, 1999 the IEPA issued a general NPDES Phase II permit for all MS4s. The General Permit is included in Appendix 5.2. Under the General ILR 40 Permit each MS4 was required to submit a Notice of Intent (NOI) declaring compliance with the conditions of the permit by March 10, 2003. The original NOI describes the proposed activities and best management practices that occurred over the original 5-year period toward the ultimate goal of developing a compliant SMPP. At the end of the 5th year (March 1, 2008) the components of the SMPP were required to be implemented; per the ILR40 permit. The IEPA reissued the ILR 40 permit on April 1, 2009.

Additionally, under the General ILR10 permit also administered IEPA, all construction projects that disturb greater than 1 acre of total land area are required to obtain an NPDES permit from IEPA prior to the start of construction. Municipalities covered by the General ILR40 permit, are automatically covered under ILR10 thirty (30) days after the IEPA receives the NOI from the municipality.

1.C Countywide Approach to NPDES Compliance

The McHenry County Stormwater Committee (MCSC) is a countywide governmental agency created by county ordinance under the authority of Illinois Revised Statute 55/5-1062. MCSC's goals include the reduction of flood damage and water quality degradation. Another purpose of MCSC is to assure that new development addresses non-point source pollution, does not increase flood and drainage hazards to others, or create unstable conditions susceptible to erosion. To accomplish this, the MCSC works cooperatively with individuals, groups, and units of government as well as serving as the corporate enforcement authority for the McHenry County Stormwater Management Ordinance (MCSMO). MCSC enforces the SMO in non-certified communities on behalf of the municipality. The municipality is responsible for enforcing the SMO in Certified Communities. A municipality is considered a Certified Community after its petition is approved by MCSC. MCSC utilizes technical assistance, education programs and watershed planning to increase public awareness of natural resources and the impacts of urbanization on stormwater quality. In addition, MCSC provides solutions to problems related to stormwater and identifies effective ways of managing natural resources.

The General Permit allows for MS4s to take credit for activities being performed by a Qualifying Local Program (QLP) toward meeting its permit requirements. The County's NPDES program is a Qualifying Local Program for MS4s in McHenry County. As part of their ongoing services, the County performs some functions related to each of the six minimum control measures. McHenry County has been providing services under four of the six minimum control categories since it began implementing a comprehensive, countywide stormwater program in 2004. However, MS4s are required to provide additional services for each of the Minimum Control Measures with the greatest effort in the Illicit Discharge Detection and Elimination and Pollution Prevention/Good Housekeeping categories.

McHenry County sponsors informative workshops and roundtable discussions. Using the countywide approach, municipalities may take credit for the programs and ordinances developed by McHenry County as well as tailor specific local BMP programs for compliance with the Phase II rules.

As part of the countywide approach to comply with the NPDES Phase II program, McHenry County assists municipalities with the following:

- Supports NPDES II presentations to local boards,
- Develops model Notice of Intent (NOI),
- Provides countywide drainage system overview and receiving waters map,
- Provides general 5-year BMP Plan for NOI,

- Develops specific BMP Measurable Goals and program development tasks,
- Serves as a clearinghouse for all support information and acts as a liaison to IEPA and USEPA,
- Drafts a model of the Annual Performance Report and specific BMP Measurable Goals for the subsequent years,
- Provides model Illicit Discharge Ordinance language, and
- Provides SMPP Template.

McHenry County countywide services qualify for credit under four of the six Minimum Control Measures. Additionally, the County developed the SMPP template for revision/adoption by the MS4s. This template is intended to be reviewed, revised and accepted by MS4s within the county and describes a program intended to be in compliance with the ILR40 permit requirements. A general list below summarizes additional County services under the 6 minimum control categories:

1. **Public Education and Outreach**: McHenry County provides, through its Public Information Coordinator, various training workshops, homeowners workshops, brochures, training manuals, teacher/student education, videos, etc..

2. **Public Participation and Involvement**: McHenry County coordinates and participates in public meetings and committees, MCSC Board of Commissioners, Technical Advisory Committee (TAC), citizen watershed planning committees, and volunteer support.

3. **Construction Site Runoff Control**: MCSC adopted the countywide Stormwater Management Ordinance (SMO) in 2004, which establishes the minimum stormwater management requirements for development in McHenry County. The SMO, which is enforced by MCSC as well as by certified communities in the county, establishes the minimum standards for construction site runoff control.

4. **Post-Construction Runoff Control**: The SMO also establishes standards for post-construction runoff control.

1.D Organization of SMPP

The SMPP identifies best management practices to be implemented in six different categories. These categories are:

- Public Education and Outreach,
- Public Participation/Involvement,
- Construction Site Runoff Control,
- Post-Construction Runoff Control,
- Illicit Discharge Detection and Elimination, and
- Pollution Prevention/Good Housekeeping.

Chapter 1: Overview of the Stormwater Management Program Plan - discusses the format of the SMPP document and the regulations associated with NPDES II through county, state and federal agencies.

Chapter 2: Program Management - discusses the logistics of the Plan. This includes the organization, implementation and responsible parties necessary to achieve overall compliance with the SMPP and Permit. It also identifies how the County coordinates with other county and state agencies and discusses the legal authority that the MS4s have to implement the Plan components.

Chapter 3: The Program - addresses stormwater pollutant control measures implemented by the County per the six minimum control categories established by the USEPA:

- Public Education and Outreach,
- Public Participation/Involvement,
- Construction Site Runoff Control,
- Post-Construction Runoff Control,
- Illicit Discharge Detection and Elimination, and
- Pollution Prevention/Good Housekeeping.

Chapter 4: Monitoring, Program Evaluation and Reporting - describes the monitoring, evaluation and reporting procedures associated with the program. The SMPP is a guide created to protect the County receiving waters from pollution and resultant degradation. This Chapter assists in identifying best management practices and processes that may require improvement and refinement as the document becomes an effective tool.

Chapter 5: Appendices – including forms, references, exhibits and bibliography.

1.E Watersheds, Sub-Watersheds and Receiving Waters

Kishwaukee River – Photo by Rich Quigley

The County of McHenry is primarily located within the Fox River and Kishwaukee River Watersheds with six sub-watersheds, including: Coon Creek, Nippersink Creek, Kishwaukee

Creek, the Upper and Lower Fox River and Piscasaw Creek. Lakes and other on-stream bodies of water are also considered part of the receiving water system.

Watershed: The land area that contributes stormwater to one of the two major Rivers in McHenry County.

***Sub-Watershed*:** The land area that contributes stormwater to one of the receiving waters tributary to a major River.

Receiving Water: A natural or man-made system into which stormwater or treated wastewater is discharged, including the two major rivers in McHenry County, their tributary stream systems and other Waters of the U.S.

The major and sub-watersheds and receiving waters are presented on **Figure 1** ***Map of Major and Sub-watershed and Receiving Waters***. The following includes a description of the County watersheds including: Coon Creek, Nippersink Creek, Kishwaukee Creek, Piscasaw Creek, and the Upper and Lower Fox River.

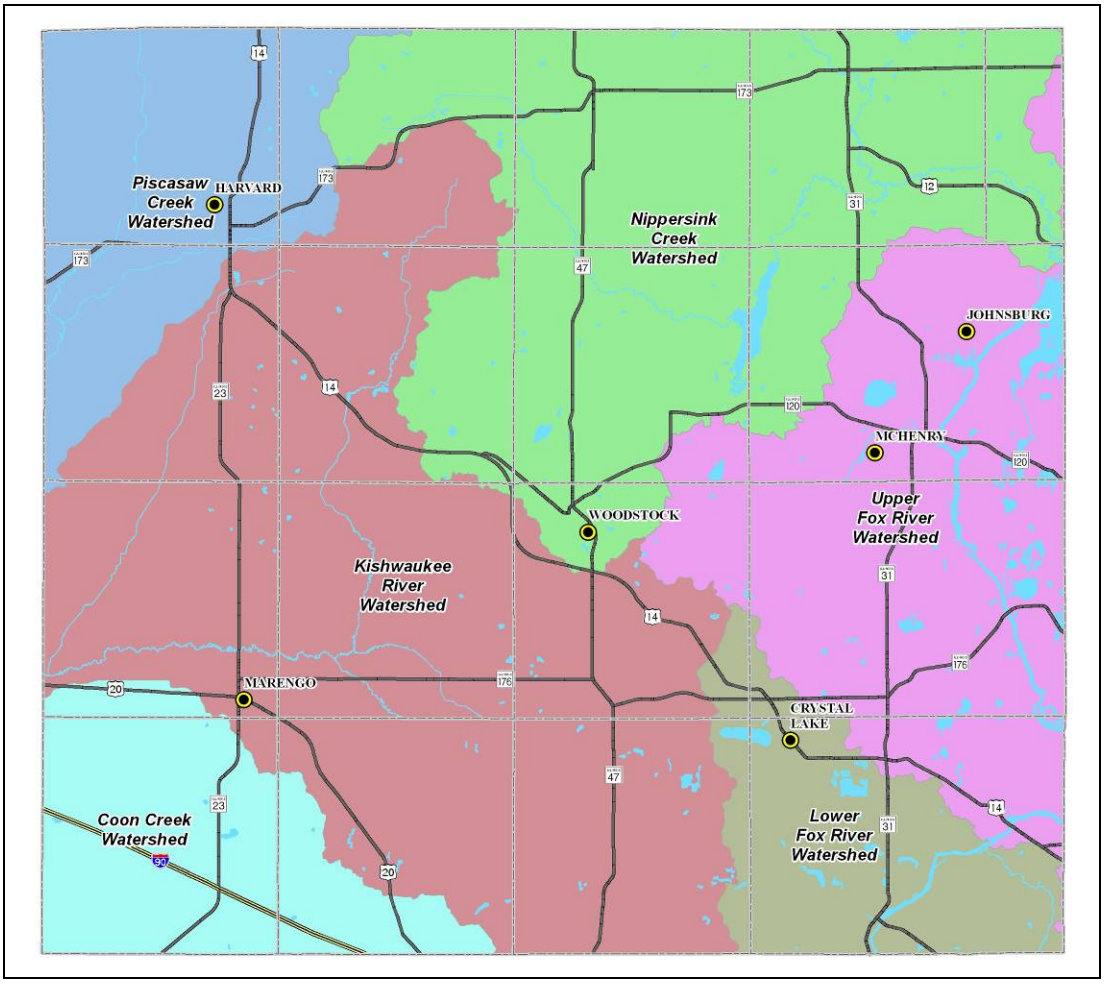


Figure 1 Map of Major and Sub-watershed and Receiving Waters

Coon Creek Watershed

Coon Creek flows north from Dekalb County, Illinois into the southwest corner of McHenry County. The stream continues flowing northeast from the Dekalb County-McHenry County line until it curves northwest and empties into the Kishwaukee River in Boone County to the west. Coon Creek is the second largest tributary of the Kishwaukee River behind only the South Branch Kishwaukee River. In McHenry County, Lower Coon Creek still maintains many of its natural features, such as pools and riffles, and is home to at least 34 different species of fish. Some of the species found in Coon Creek include: bluegill, black crappie, smallmouth bass, largemouth bass and northern pike. The Blacknose Shiner (Notropis heteropis) is an example of an endangered fish found in the creek. The creek is also home to the federally-threatened Blanding's Turtle (Emydoidea blandingii) and the snapping turtle. Coon Creek has several tributaries in McHenry County including: Riley Creek, Unnamed Tributary to Coon Creek, Spring Creek, and Williamson Creek.

Lower Coon Creek and its tributaries are characterized as moderate to low gradient sand and gravel bottom stream channels that were partly channelized (72%) in the early 20th century. There are countless field tile outlets into the main stem that stream from the adjacent agricultural fields. Hydric soils are thought to underlie approximately 30% of the watershed, although wetlands make up less than 3.3% of the watershed – a key indicator to the existence of presettlement wetlands. The National Wetlands Inventory (NWI) has identified 300 existing wetlands in the watershed, ranging in size from 0.001 acres to more than 73 acres, and account for 1,177 acres, or about 3.26% of the watershed land surface.

Lower Coon Creek is considered impaired under the IEPA guidelines. Though the creek is considered to be in "full support" of aquatic life, the stream is considered "non-Support" for swimming. An Ambient Water Quality Monitoring Network (AWQMN) station is located in the watershed on Harmony Road. The latest draft 303(d) report dated 3-29-10, lists Lower Coon Creek as being impaired by fecal coliform in the water. No specific source is known and at this point in time, no one can say for certain what is causing the pollution due to insufficient data.

Kishwaukee Creek Watershed

The Kishwaukee (Kish) River Watershed covers a total of 779,747 acres, originating in Woodstock in McHenry County, flowing from east to west direction to Boone County where it becomes a tributary to the Rock River. Much of the region around the Kish was shaped by glaciations. Several natural areas, quarry outcroppings and the Harvard West Geologic area in McHenry County have examples of pitted outwash plains and moraines protruding down through the valleys.

Rush Creek, originating near Harvard, Illinois is a tributary of the Kishwaukee River. It flows south through McHenry County and is 10 stream miles in length. Rush Creek is on the Nationwide River Inventory as a Class A stream known for its fishibility and other naturalistic qualities with potential to be rated for recreation.

For the Kishwaukee River, the headwaters segment IL_PQ-13 does not support aquatic life nor fish consumption. The next segment IL_PQ-07 from the confluence of the south branch into the main branch of the Kish to the county line does support aquatic life but not fish consumption. The primary causes of water quality problems are nutrients and organic enrichment (low dissolved oxygen) attributed to agriculture and municipal point source pollution. Other causes of water quality problems are siltation, suspended solids, noxious aquatic plants attributed to agriculture and municipal point sources, plus Polychlorinated biphenyls, contributing source unknown.

Nippersink Creek Watershed

The Nippersink Creek is a 23-mile long creek that flows from headwaters in Alden Township in northwestern McHenry County, through several municipalities including: Alden, Greenwood, Wonder Lake, Spring Grove, and Fox Lake. The main channel meanders southeast to fill the 830-surface acre reservoir located in Wonder Lake, before flowing back to the northeast and joining its north channel near Spring Grove. The 87,624-acre Nippersink Watershed empties into Pistakee Lake. Nippersink Creek, which is the largest tributary to the Fox River, is home to at least 21 animals and 30 plants listed as Illinois endangered or threatened species, and contain 46 McHenry County natural area inventory sites.

For the Nippersink Creek, the headwaters segment IL_DKT-06 which extends to Wonder Lake does not support aquatic life nor fish consumption. The next segment IL_DKT-04 from Wonder Lake to Pistakee Lake does support aquatic life but not fish consumption or primary contact. The primary causes of water quality problems for both segments are Aldrin which is a very poisonous insecticide used in the 1970's on corn and potato crops, Polychlorinated biphenyls (possible break down of Aldrin plus other sources), Nickel, Mercury, aquatic plants (macrophytes), and fecal coliform attributed to agriculture and municipal point source pollution.

As this stream is tributary to the Upper Fox Watershed, these contaminants are contributing to its growing water quality impairment as well.

Piscasaw Creek Watershed

The Piscasaw Watershed is a large, 67.1 square mile watershed that stretches from southern Wisconsin to the the Kishwaukee River in northwest McHenry County into Boone County. Piscasaw Creek is the receiving stream for several smaller subwatersheds including: West Branch Piscasaw Creek, Lawrence Creek, Mokeler Creek, Geryune Creek, and Little Beaver Creek. These subwatersheds account for an additional 61 square miles of drainage area, making the Piscasaw the fourth largest tributary to the Kishwaukee (behind South Branch Kish, Coon Creek, and Kilbuck Creek). The watershed is characterized as a rural area, dominated by row crops and rural grasslands.

Upstream of Chemung, Illinois, Piscasaw Creek, and its' tributaries, are almost entirely channelized, and the natural steam corridors have been heavily encroached upon by row crop agriculture. This region of the stream either was or currently is under the jurisdiction on the Chemung Drainage District, but the drainage district is inactive as of 2010. While Piscasaw

Creek is on the Nationwide River Inventory list as a Class A stream known for its fishibility and other naturalistic qualities with potential to be rated for recreation, Lawrence Creek is on the 303(d) list dated 3-29-10 listed as not able to support aquatic life, but it is the home to the Threatened and Endangered species the Blanding's Turtle. Downstream of Chemung, Mokeler Creek is also included on the 303(d) list as impaired, but considered to be in "full support" of aquatic life.

About 23% of the subwatershed soils are hydric in nature, but only 3% of the subwatersheds consist of wetlands. There are also currently eight recorded Federal and State threatened and endangered species of plants and animals.

Limited amount of water quality data is available for the watershed. The IEPA publishes water quality data collected for the subwatershed. The last Intensive Basin Survey (IBS), completed was in 1997. The Piscasaw Creek was not listed as impaired on the IEPA 303(d) list, although investigations by the USEPA in 1996 and 1997 revealed excessive nutrients in some reaches and noted violations of water quality standards in reaches downstream of point source discharges. Its standing on the Nationwide River Inventory as a Class A stream is tenuous.

Upper and Lower Fox River Watersheds

The Upper Fox River Watershed covers a total of 612 square miles. Several major streams which comprise the Upper Fox River Watershed flow through McHenry County, including: the Fox River, Boone Creek, and Nippersink Creek. Crystal Lake and Woods Creek are located in the Lower Fox River Watershed. The majority of these two watersheds are located in agricultural lands with expanding urban areas. Boone Creek, McCullom Lake and the Fox Chain O' Lakes; one of the top three recreational waterways in the nation, are all located in McHenry County and receive water from the Upper Fox River Watershed.

The primary causes of water quality problems in the Upper Fox Watershed in segment IL_DT-23 are modified channel and flow regimes, siltation, nutrients, and aquatic algae much attributed to construction and hydrologic/habitat modifications of Stratton Dam and other unspecified sources. **With the contaminants from the Nippersink Creek and other tributaries adding to this river segment, the Upper Fox Watershed is in Stage 2 of being studied for Total Maximum Daily Load (TMDL) requirements.**

The Lower Fox Watershed segment IL_DT-22 primary causes of water quality problems are an amalgamation and accumulation of all those listed for the Nippersink creek and Upper Fox Watersheds mostly attributed to agriculture, highway/bridge/road runoff, urban runoff, recreational activities, contaminated sediments, and dam/channel modifications.

Recommended Standards for Development in McHenry County Watersheds

The McHenry County Stormwater Ordinance (SMO) and Conservation Design Ordinance are plans that were adopted, and set forth minimum requirements for development, to provide a consistent level of protection to meet watershed specific needs including:

- Strengthening of tools for local governments to create economic development that protects natural resources and maintains quality of life,
- Improvement of intergovernmental coordination to achieve consistency of growth and resource management across the watershed,
- Creation of greater citizen awareness, appreciation and responsibility regarding resource protection,
- Protection of sensitive environmental features and preservation of open space,
- Preserve natural stream corridors and provide vegetation buffers,
- Manage municipal wastewater discharges to protect stream quality and aquatic habitat,
- Advocate sound land-management practices on agricultural lands to provide stream buffers, prevent erosion, and eliminate water pollution, and
- Recognize the attributes of hydric soils and groundwater recharge areas for water management, ecological restoration, and limitations on development.

2 Program Management

This chapter describes the organizational structures of the County and IEPA. It further discusses the roles and responsibilities of the various involved parties.

2.A Implementation of this SMPP

The SMPP includes detailed discussions on the types of tasks that are required to meet the permit conditions under the NPDES II program and how to perform these tasks. These tasks should be recorded and filed annually to track the progress of these tasks. At the end of the yearly reporting period (March 1 – February 28/29) the task information should be filed in a binder to document SMPP related activities to IEPA, or their authorized agent, in the case of an audit. It is anticipated that implementation of this SMPP constitutes compliance with the program. The SMPP must be posted on the County's NPDES website.

2.B Intra-Department Coordination

The County Board is the policy and budget setting authority for the County. The Department of Planning and Development, Division of Water Resources, and Division of Transportation and Department of Health work together to implement this SMPP. The Water Resources Manager and MCDOT Drainage Engineer have primary responsibility for managing the overall program.

2.B.1 Water Resources Manager

The Water Resources Manager is the NPDES coordinator responsible for the oversight and implementation of this SMPP. They have many different responsibilities, including:

- is the lead contact for coordination with the McHenry County Stormwater Committee, the Illinois Environmental Protection Agency, contractors, the development community and other external regulatory agencies;
- understands the requirements of ILR40, ensures that the SMPP meets the requirements of the permit and that the County effectively implements the SMPP;
- ensures, or assists the Enforcement Officer in ensuring, that the County complies with all minimum Stormwater Management Ordinance (SMO) provisions;
- ensures that the County Facilities comply with all minimum ILR40 permit requirements;
- is aware when a County Project is required to be authorized under the ILR10 permit. In these cases the Stormwater Coordinator should ensure that the NOI is received by IEPA at least 30 days prior to the start of construction;

- assists the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10 and SMO permit conditions; and
- should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges exiting an MS4's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction site, it may be necessary for both the applicant and the MS4 to file the ION form with IEPA.

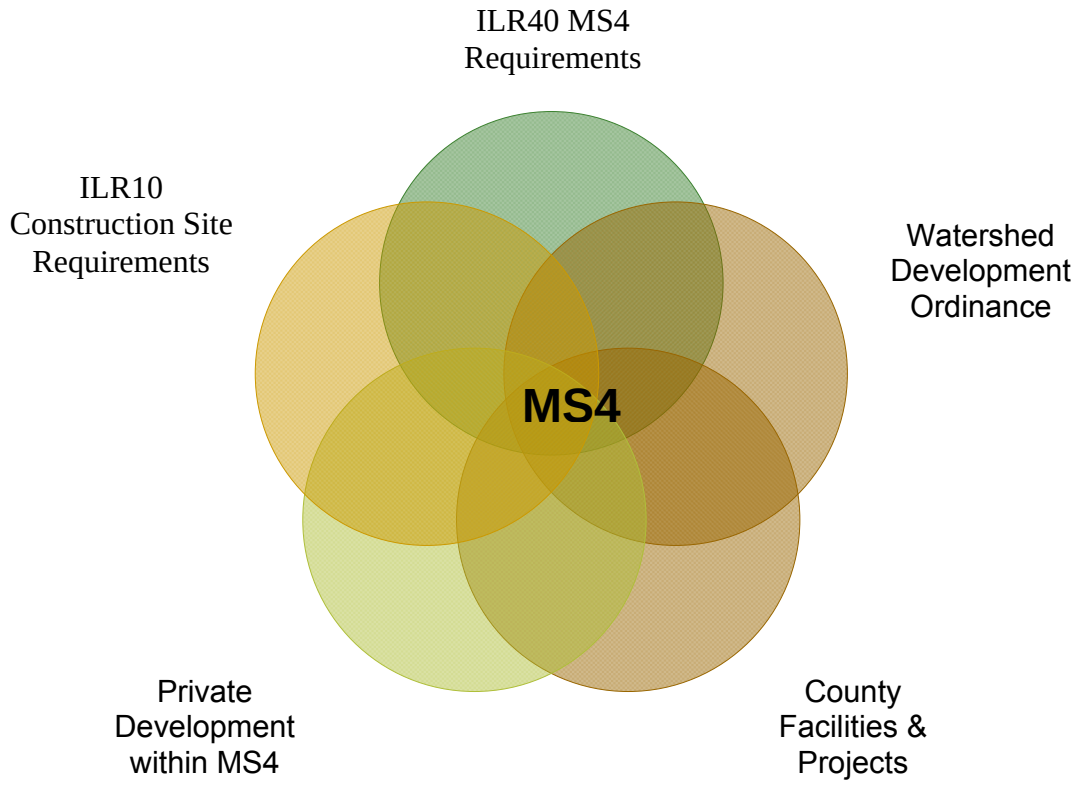


Figure 2: **Roles of MS4**
Provided by Gewalt Hamilton & Associates

2.B.2 Stormwater Department

Engineering personnel support the NPDES coordinators in obtaining compliance with both the NDPES and SMO programs.

For Certified Communities

The Village's Engineer or consultant is also the Enforcement Officer with respect to the administration and enforcement of the McHenry County Stormwater Management Ordinance (MCSMO). The design and construction of all public projects shall comply with the MCSMO. As the Enforcement Officer, the Village Engineer or consultant has the responsibility to concur that projects meet MCSMO standards prior to the issuance of permits, and oversee site inspections during construction. Refer to Chapter 3.D-3.F for additional information on this process.

For Non-Certified Communities/Unincorporated Areas

The McHenry County Chief Stormwater Engineer is the Enforcement Officer with respect to the administration and enforcement of the McHenry County Stormwater Management Ordinance (MCSMO). The Enforcement Officer has the responsibility to ensure that projects meet MCSMO standards prior to the issuance of permits, and oversee site inspections during construction. Refer to Chapter 3.D-3.F for additional information on this process.

2.B.3 Division of Transportation and Facilities Management

Infrastructure maintenance activities within the MS4 are carried out by the Division of Transportation (DOT) personnel. Various departments including the Department of Planning and Development – Division of Water Resources, Department of Health, Emergency Management Agency, and Facilities Management personnel are designated as the primary entities responsible for performing the duties specified under Chapter 3.C Illicit Discharge Detection and Elimination and Chapter 3.F Pollution Prevention and Good Housekeeping.

2.C Coordination between McHenry County Departments & Divisions

Coordination between the MS4 and McHenry County occurs through participation in the Stormwater Management Ordinance, the Stormwater Commission, the Stormwater Technical Advisory Committee, Water Resources Action Plan Task Force and Natural Hazards Mitigation Planning Group through the Certified Community Status under the McHenry County Stormwater Management Ordinance (SMO). The MS4's Chief Stormwater Engineer is the lead contact for the participation in the Stormwater Commission and the Stormwater Technical Advisory Committee. The Water Resources Manager is the lead contact for the Water Resources Action Plan Task Force and coordinates the NPDES program. The Director of the Emergency Management Agency is the lead contact for the Natural Hazards Mitigation Planning Group.

The Drainage Engineer at MCDOT is the lead contact for the County's drainage infrastructure concerns. If the MS4 is a Certified Community, the MS4's Enforcement Officer or consultant is responsible for enforcement of the SMO.

2.D Coordination of Contractors

The County may hire contracted services. The County also has a responsibility to hire contractors who are knowledgeable of the applicable requirements of the ILR40 and ILR10 permits. The County shall provide appropriate training, or require documentation that appropriate training has been attended, for all contractors responsible for municipal green infrastructure.

2.E Coordination with the Public

Coordination with the Public occurs on several levels. The Public Education and Outreach Program of this SMPP is discussed in Chapter 3.A. The Public Participation and Involvement Program of this SMPP is discussed in Chapter 3.B. The Public has the opportunity to comment on the NPDES program through contacting any of the program coordinators.

2.F Coordination with the IEPA

The County is required to complete annual reports which describe the status of compliance with the ILR40 permit conditions and other related information. The annual report must be posted on the County's NPDES website which can be found at the following link: (http://www.co.mchenry.il.us/departments/waterresources/Pages/NPDES.aspx) and submitted to the IEPA by the first day of June each year. Annual reporting to IEPA shall consist of "implemented SMPP" for all tasks completed in accordance with this SMPP. Additional information should be provided for areas of enhancement or tasks not completed.

Records regarding the completion and progress of the SMPP commitments must be kept by the County. The task information should be updated throughout the year. The compiled task informations in the appendices should be located in a binder with necessary supporting documentation. The binder must be available for inspection by both IEPA and the general public.

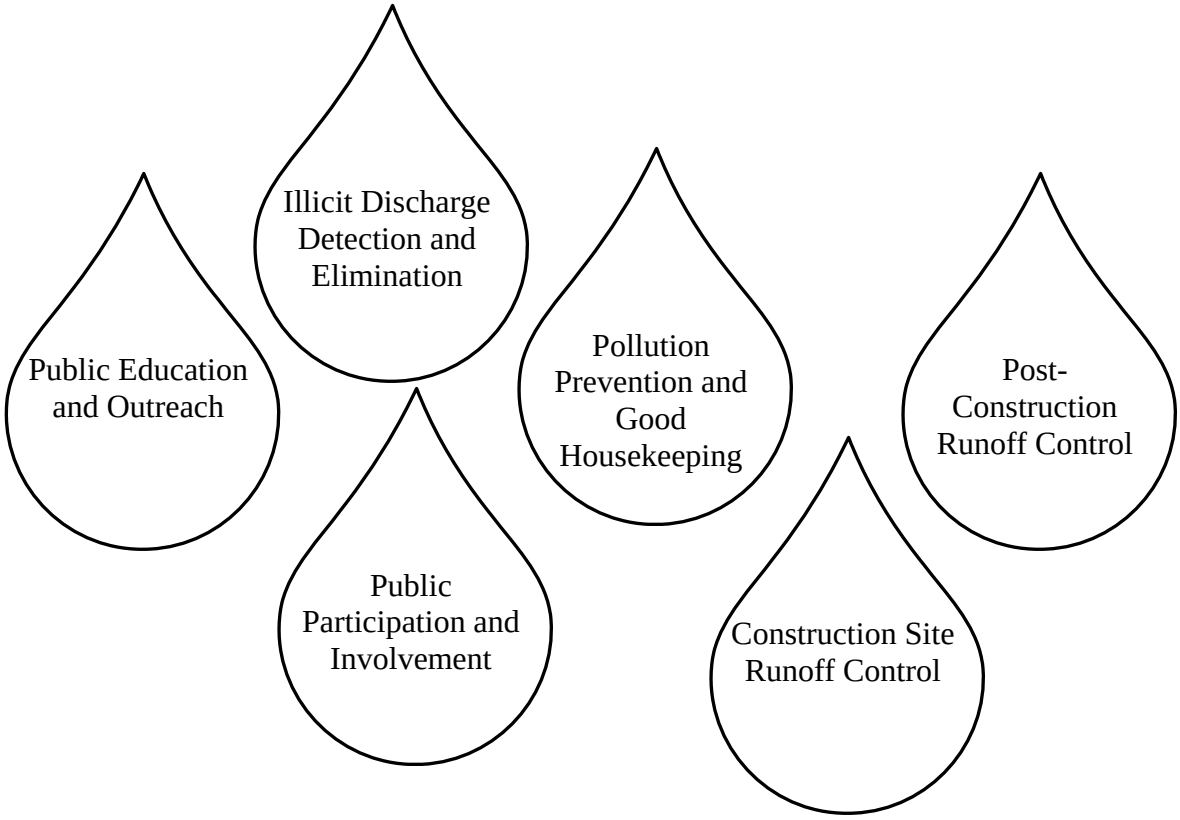
2.G Coordination with the Development Community

The County has a responsibility to assist the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10 and SMO permit conditions. The County should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA

for illicit discharges exiting an MS4's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction site, it may be necessary for both the applicant and the MS4 to file the ION form with IEPA.

Furthermore, the county has a responsibility to inform the development community that they are required to hire contractors which meet the qualifications necessary under the program, refer to Chapter 3.D.1.a for additional information on qualified personnel.

3 The Program



This Stormwater Management Program Plan includes six components, each of which is necessary in an effort to reduce/eliminate stormwater pollution in receiving water bodies. Chapter 3.A describes the efforts to educate the public about stormwater pollution and stormwater pollution prevention. The manner in which the County incorporates public participation and involvement into the SMPP is explained in Chapter 3.B. Chapter 3.C describes the approach to detecting and eliminating stormwater illicit discharges. Construction and post construction runoff control is addressed in Chapters 3.D and 3.E. Lastly, Chapter 3.F discusses responsibilities for the care and upkeep of its general facilities, associated maintenance yards, and county roads to minimize pollution. This chapter also discusses necessary training for employees on the implementation of the SMPP.

3.A Public Education and Outreach

The County conducts public education programs that inform the community of potential impacts to receiving waters and the contributions the public can make to reduce pollutants in stormwater runoff. The County targets public schools, public libraries, developers, contractors, homeowners, business owners, boaters, and the remaining general public as part of this Public Education and Outreach Program.

County of McHenry, in cooperation with the Qualifying Local Program (QLP), utilizes a variety of methods to educate and provide outreach to the public about the importance of managing pollutants that potentially could enter the stormwater system. The program includes the following activities which are discussed in greater detail in this chapter.

- Distribute information sheets and brochures regarding stormwater BMP, water quality BMP, and proper hazardous waste use and disposal.
- Maintain a water quality/stormwater section in the County online newsletter distributed by the County.
- Attend/sponsor outreach activities to homeowners / property owner associations, commercial / industrial facilities, schools, and other events.
- Publicize and participate in local fairs and expos.
- Maintain the County website which offers links to additional educational information, and ways to contact County personnel.

3.A.1 Distribution of Paper Materials

County of McHenry actively pursues the acquisition of educational sheets prepared by the IEPA, USEPA, Center for Watershed Protection, Chicago Metropolitan Agency for Planning "CMAP"(previously Northeastern Illinois Planning Commission "NIPC") and other agencies and organizations. The County maintains a list of available publications in the SMPP binder and on the web-site. The County lists the Division of Transportation and Division of Water Resources contact information on all County outreach publications to encourage residences to

contact the County with environmental concerns. See Appendix 5.3 for annual distributed paper material.

Publications are provided in the following manner:

- At take-a-away racks located McHenry County Division of Transportation, McHenry County Department of Planning and Development, McHenry County Department of Health,
- At outreach events,
- Through social media,
- The County online newsletter,
- At Earth Day/Green Day events held throughout the County, and
- At scheduled meetings with the general public. These meetings are on an as needed or as requested basis and may be with the affected residences, home owners associations, businesses, or local schools.

3.A.2 Speaking Engagements

Although this task is not included in the current NOI and annual year-end report, the County's Water Resources Manager and MCDOT Maintenance Superintendent have been involved in multiple speaking engagements throughout the year. See Appendix 5.4 for list of speaking engagements.

3.A.3 Public Service Announcements

The County of McHenry recognizes the importance of disseminating information to the public. McHenry County e-News letter is an electronic newsletter put out weekly. This newsletter includes County construction transportation projects, Department of Health activities, and Water Resources news. The County is proactive in promoting projects and water quality issues through Facebook and Twitter as well. The articles for 2012/2013 are in Appendix 5.5.

3.A.4 Community Event

Although this task is not included in the current NOI and annual year-end report, the Water Resources Manager has been involved in multiple community events throughout the year. When possible, the County attends and/or sponsors outreach events and scheduled meetings with the general public. These events are held on an as needed or as requested basis. Audiences may include the home owners associations, lake associations, businesses, and neighborhood groups.

The Solid Waste Manager for McHenry County continually creates partnerships with local government agencies, businesses, organizations, institutions and individuals to discuss, plan and implement economically viable and environmentally sound solid waste disposal alternatives for McHenry County. The County's Environmental Health Educator regularly conducts presentations for school children, organizations and individuals on a variety of Environmental Health topics including wastewater disposal, potable water, solid waste and pollution prevention.

3.A.5 Classroom Education Material

Although this task is not included in the current NOI and annual year-end report, the McHenry County Schools Environmental Education Program (MCSEEP) has been involved in multiple classroom events throughout the year. MCSEEP teaches lesson plans to 2nd and 8th grade students on the importance of water. Additionally, they have lesson plans that address pollution prevention for K-12 grades.

The County will continue to coordinate with MCSEEP on additional lesson plans detailing pollution prevention and water protection for greater educational outreach.

3.A.6 Other Public Education

Periodically, the County hosts or co-host workshops for the general public that focus on specific stormwater topics. These workshops typically discuss stormwater topics currently of interest within the County. They offer the opportunity to share information and facilitate a collective focus on potential solutions to the challenges faced by the County, Villages, and other stakeholders. The County publicizes these events at take-a-way racks and on the web-site.

The County's NPDES web site includes stormwater quality specific elements http://www.co.mchenry.il.us/departments/waterresources/Pages/NPDES.aspx. The website contains stormwater information, brochures, articles, volunteer programs, all NPDES reports, other agency newsletters, and agency links, refer to Chapter Appendices 5.3 for a more detailed description of the type of information to be posted. The web-site is updated by MCDOT and Planning and Development staff and tracked for hits. A significant amount of information is made available through links to other educational and informational sites.

This SMPP, the NPDES NOI, all MCDOT construction NOIs, and any previous annual reports must be posted on the County's website. Each year's annual report must be posted on the County's NPDES website and submitted to the IEPA by the first day of June each year.

The Division of Water Resources page and MCDOT page are both linked to the NPDES page. Additionally, the Water Resources page contains information on pollution prevention, stormwater, groundwater, green infrastructure, and more. The web link is www.mchenryh2o.com.

3.A.6.a Storm Drain Stenciling & Markers

With the intent of assisting in educating the public about stormwater runoff pollution, the MCDOT incorporates the messages "Dump No Waste" and "Drains to Waterways" on all open lid inlet frames and grates, if there is not room for this message on the grate, a plaque is to be placed in the curb adjacent to the frame and grate. The specifications for these messages are required and found either in the special provisions or a general note in the plan itself.

In the future, the County will consider supporting the efforts of private entities to stencil or apply stickers to inlets, and their purchase of factory stamped inlet grates in their own communities within McHenry County. These efforts may include applying messages at storm drain inlets.

3.A.6.b Household Hazardous Wastes (HHW)

The United States Environmental Protection Agency (USEPA) estimates that the average home can accumulate approximately 100 pounds of household hazardous waste (HHW) in the house, basement and garage. Household hazardous waste can include oil-based paints, stains, solvents, used motor oil, pesticides, medication and cleaning products. Improper disposal of HHW can be potentially harmful to human health and the environment.

McHenry County has participated in residential one-day HHW collections primarily funded by the Illinois Environmental Protection Agency; however, due to budgetary constraints, funding has been suspended at this time. The Lou Marchi Total Recycling Institute publishes a Green Guide for McHenry County annually that identifies businesses and locations in the area which accept a variety of waste streams (i.e. used motor oil, electronics, etc.) for recycling. The Green Guide is also available on the webpage for the McHenry County Department of Health. Several Township offices in the county provide drop off sites for their residents for paint, used motor oil and electronics. One pharmaceutical retailer offers a mail-back program for unused pharmaceuticals to their customers; and two (2) local law enforcement agencies provide drop off locations for disposal of expired, unused residential medications.

Numerous local law enforcement agencies participated in the Drug Enforcement Agency's National Take-Back Initiative for medication in 2012. The McHenry County Department of Health and several partners sponsored an electronics collection event in 2012 which resulted in the collection of approximately 200,000 pounds of electronics for recycling.

McHenry County does not have a permanent HHW drop-off site. Residents are encouraged to utilize four (4) Illinois HHW facilities in the area as follows:

- Fire Station #4: 1971 Brookdale Road, Naperville – Phone: 630-420-4190
- Rock River Reclamation District: 3333 Kishwaukee, Rockford – Phone: 815-987-5570\
- Household Chemicals and Computer Recycling Facility: 1150 N Branch on Goose Island, Chicago – Phone: 312-744-7672
- The Solid Waste Agency for McHenry County – Phone: 847-336-9340

Complaints of illicit discharges of hazardous waste are referred to the Illinois Environmental Protection Agency, which is the enforcement authority for hazardous waste issues in Illinois.

The Solid Waste Manager for McHenry County will continue to explore opportunities to increase residents' options for proper disposal of HHW.

3.A.6.c Maintenance of Onsite Wastewater Treatment Systems:

McHenry County Department of Health is the permitting and enforcement authority for onsite wastewater treatment systems throughout McHenry County. The county has a progressive and comprehensive Health Ordinance regulating the design, installation, and operation of onsite wastewater treatment systems. The Ordinance prohibits the discharge of any non-domestic, processing or industrial wastes into onsite wastewater treatment systems. Non-domestic wastewater must be discharged into a special waste holding tank or a municipal sanitary sewer. The Ordinance does not mandate specific maintenance for all systems; however, the Ordinance does require annual registration and inspection of special waste holding tanks and aeration units serving non-residential properties. The Ordinance also requires that owners of aeration units maintain service contracts with qualified contractors.

Department of Health staff responds to all complaints of malfunctioning onsite wastewater treatment systems. Complaints may be submitted in person, via telephone or via email (mcdh.info.) This is a high priority response for the Department of Health. The Department of Health also utilizes an answering service, so that key staff can be reached 24 hours a day, seven days a week for emergency situations. When violations are confirmed, property owners receive a formal Notice of Violation. When voluntary compliance cannot be achieved, the Department of Health pursues legal enforcement including court appearances for Ordinance violation and/or injunctive relief. On multiple occasions, in cases of economic hardship, the McHenry County Housing Authority has provided financial assistance for repair or replacement of malfunctioning onsite wastewater treatment systems.

A variety of educational materials are available for residents regarding the proper operation and maintenance of onsite wastewater treatment systems. Brochures are available at the Department

offices and also on the Department's webpage: mcdh.info. Residents may request a packet of materials specifically related to the proper maintenance of onsite systems. Staff in the Private Sewage Program also spend considerable time providing one on one consultations with property owners regarding the operation and maintenance of onsite systems. The Environmental Health Educator and Private Sewage Program Coordinator also provide presentations to homeowners' associations, realtors, individuals, and students upon request.

3.A.6.d Vehicle Fluid Maintenance

Dumping of automotive fluids into storm drains can cause major water quality problems, since only a few quarts of oil or a few gallons of antifreeze can severely degrade a small stream. Dumping delivers hydrocarbons, oil and grease, metals, xylene and other pollutants to streams, which can be toxic during dry-weather conditions when existing flow cannot dilute these discharges. The major culprit has been the backyard mechanic who changes his or her own automotive fluids. The public is encouraged to use best management practices in changing fluids and vehicle maintenance through the following:

- Outreach article and brochures on the County website
- Referencing BMPs included in the Green Guide provided by MCC and the Northwest Herald which is published annually
- Outreach materials distributed at auto parts store and service stations
- Community oil recycling centers
- Directories of used oil collection stations
- Pollution hotlines
- Fines and other enforcement actions

3.A.6.e Car Washing

Car washing is a common neighborhood behavior that can produce transitory discharges of sediment, nutrients and other pollutants to the curb, and ultimately the storm drain. The County supports the innovative outreach tools to promote environmentally safe car washing that municipalities use, including:

- Media campaigns
- Brochures promoting nozzles with shut off valves
- Storm drain plug and wet vac provisions for charity car wash events
- Water bill inserts promoting environmentally safe car washing products
- Discounted tickets for use at commercial car washes

Non-domestic waste may enter into storm drains and the storm drain system as a result of outdoor rinsing and cleanup. Outdoor commercial vehicle washing activities require an NPDES permit. The desired pollution prevention methods should include purchasing less toxic products that will be used for their intended purpose, using products per label instructions, and may include the installation of a 100% recycling carwash unit or if community sewer is not available and

accessible to the property, the installation of a permitted special waste holding tank meeting all requirements of Article X of the McHenry County Public Health Ordinance. Illicit non-domestic waste discharge issues will be referred to IEPA, who is the enforcement authority for these issues.

3.A.6.f Pool Dewatering

The County does not have an ordinance specifically addressing pool dewatering. However, the Countymakes the following recommendations:

Chlorinated water discharged to surface waters, roadways or storm sewers has an adverse impact on local stormwater quality. High concentrations of chlorine are toxic to wildlife, fish and aquatic plants. The pH of the water should be between 6.5 and 8.5. Algaecides such as copper or silver can interrupt the normal algal and plant growth in receiving waters and should not be present when draining. Prepare appropriately before draining down a pool. It is recommended that one of the following measures be used:

1) De-chlorinate the water in the pool prior to draining through mechanical or chemical means; these types of products are available at local stores.

2) De-chlorinate the water in the pool through natural means. Pool water must sit at least 2 days with a reasonable amount of sun, after the addition of chlorine or bromine. It is recommended that the chlorine level be tested after 2 days to ensure that concentrations are at a safe level (below 0.1-mg/l).

3) Drain the pool slowly over a several day period across the lawn; or drain directly into the sanitary sewer using the following additional guidelines:
   a) Avoid discharging suspended particles (e.g. foreign objects blown into the pool like leaves, seedlings, twigs etc) with pool water.
   b) When draining your pool, do not discharge directly onto other private properties or into public right-of-way including storm sewer inlets.

See Appendix 5.3 for Pool Dewatering Fact Sheet

3.B Public Participation and Involvement

The public participation and involvement program allows input from citizens during the development and implementation of the SMPP. The SMPP should be evaluated annually. Major highlights and deficiencies should be noted annually and the plan revised accordingly on a minimum 5-yr basis, or as necessary.

3.B.1 Public Panel and Public Accessibility

Although this task is not included in the current NOI and annual year-end report, the annual NPDES permit, NOI, and SMPP are available on the MCDOT NPDES website for the public's review.

3.B.2 Educational Volunteer

The McHenry County Adopt a Highway Program http://www.co.mchenry.il.us/departments/dot/Pages/AdoptAHighway.aspx is a volunteer effort directed at trash collection along sections of County highways. Volunteer groups adopt ½ to two mile sections of highway for a two-year period. As of 2011, there were 136 volunteer groups covering 145 lane miles out of 226 lane miles, resulting in 68% of MCDOT right-of-way being monitored. Participation meets the Program Policy and Safety Guidelines established by IDOT in a separate document. This program is a Qualifying Local Program (QLP) for this minimum control measure.

3.B.3 Watershed and Stakeholder Meetings

Although this task is not included in the current NOI and annual year-end report, the County has participated in Watershed events sponsored by outside organizations. In the future, the County may explore adopting and implementing relevant sections from Watershed Plans into existing county ordinances.

3.B.4 Public Hearing

Although this task is not included in the current NOI and annual year-end report, the County may consider instituting public hearings for NPDES related issues in the future.

3.B.5 Volunteer Monitoring

The McHenry County Adopt a Highway Program volunteers report any pollution violations or concerns that they observe during trash pickups. Concerns are transmitted to the planning liaison or maintenance supervisor of MCDOT which further sends information to the NPDES coordinator for follow-up. During 2011 no reports were received. This program is a QLP for Minimum Control Measure 3.B.

3.B.6 Program Coordination

The McHenry County Adopt a Highway program is used to fulfill this minimum control measure. This program has been in place and sponsored by MCDOT since 2004 and has been trending in a positive direction for more volunteer action and lane mile coverage per the MCDOT planning liaison who coordinates this program.

3.B.7 Other public involvement

The goal of this minimum control measure is to provide active citizen participation in detection of illicit discharges to the storm sewer system and problems with drainage infrastructure. The MCDOT uses Cartegraph software to improve the tracking, record keeping, and locating of citizen complaints. When phone calls to (815) 334-4960 and faxes to (815) 334-4989 or emails to MCDOT@co.mchenry.il.us are received, they are turned into Cartegraph work requests which notifies by email the appropriate maintenance, drainage, or construction personnel. General program related calls are directed to the NPDES Coordinator, or designee. Construction activity related telephone calls are directed to the MCDOT Construction Manager, or designee. Illicit discharge, storm sewer, and other related stormwater runoff concerns are directed to the MCDOT Drainage Engineer and/or the McHenry County Department of Health. The County maintains a website which provides contact information.

The McHenry County Department of Health responds to complaints of illicit discharges. Complaints may be submitted in person, via telephone to (815) 334-4585 or via email Health@co.mchenry.il.us at (mcdh.info.) This is a high priority response for the Department of Health. The Department of Health also utilizes an answering service so that key staff can be reached 24 hours a day, seven days a week for emergency situations. Complaints of illicit discharges which are outside the authority of the Department of Health are referred to the Illinois Environmental Protection Agency for action and follow up. The NPDES Coordinators should contact and coordinate with MCDOT and MCDH all reported incidents for the permit year and determine if additional outreach is necessary.

This set of procedures are a QLP for Minimum Control Measure B.7.

3.C Illicit Discharge Detection and Elimination[1]

Currently, illicit discharges (defined in 40 CFR 122.26(B)(2)) contribute considerable pollutant loads to receiving waters. There are two primary situations that constitute illicit discharges; these include non-stormwater runoff from contaminated sites and the deliberate discharge or dumping of non-stormwater. Illicit discharges can enter the storm sewer system as either an indirect or direct connection.

3.C.1 Storm Sewer Map Preparation

The outfall inventory was completed by the McHenry County Division of Transportation (MCDOT). This investigation was completed with a visual survey conducted by the Drainage Engineer and notes compiled on aerial exhibits of the entire MCDOT right-of-way. The outfall inventory was supplemented by data provided by McHenry County Soil and Water Conservation District. These two data sources were combined to create an ***Outfall Inventory Map***. This map is used in combination with the previously existing ***Storm Sewer Atlas*** to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular water bodies these flows may be affecting. The inlets and outfall locations have been numbered to facilitate detection and tracking of identified illicit discharges. The ***Storm Sewer Atlas and Outfall Inventory Map*** can be obtained in ArcMAP from McHenry County Division of Transportation and is referenced in Appendix 5.13. The outfall map should be revised annually to incorporate permitted outfalls associated with new developments. An outfall inventory should be updated as necessary (***Outfall Inventory Map***).

3.C.1.a Understanding Outfalls and Illicit Discharges

Understanding the potential locations and the nature of illicit discharges in urban watersheds is essential to find, fix and prevent them.

3.C.1.b Identifying Outfalls and Receiving Waters

An Outfall (is defined at 40 CFR 122.26(B)(9)) means a point source (as defined by 40 CFR 122.2) at the point where a municipal separate storm sewer discharges into a waters of the United States "receiving water". Open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the United States are not considered Outfalls. For the purposes of this manual the following definitions shall be used:

[1] Section 3.C is a revision of the Lake Michigan Watershed Stormwater Outfall Screening Program Training Program (April 1994 by SMC), and incorporates material from the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (October 2004 by the Center for Watershed Protection and Robert Pitt, University of Alabama).

Outfall: Storm sewer outlet, or other open conveyance point discharge location, that discharges into a Waters of the U.S, receiving water or another MS4.

Regulated systems include the conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, gutters, ditches, swales, manmade channels or storm sewers.

3.C.2 Regulatory Control Program

In McHenry County, McHenry County Department of Health investigates complaints of illicit discharges under the authority of the McHenry County Public Health Ordinance. Complaints of illicit discharges which are outside the authority of the Department of Health are referred to the Illinois Environmental Protection Agency for action and follow up. McHenry County Planning and Development maintains a suite of codes and ordinances with staff and an enforcement officer to investigate possible illegal discharges in unincorporated areas of McHenry County. State and local law effectively prohibit through regulatory mechanism all non-stormwater discharges into the County's area covered by the MS4 permit. These regulatory controls are McHenry County's qualifying local program for fulfilling this minimum control measure.

3.C.2.a Regulatory Authority

Effective implementation of an Illicit Discharge Detection and Elimination (IDDE) program requires adequate legal authority to remove illicit discharges and prohibit future illicit discharges. State and local law effectively prohibit all non-storm water discharges into the County's MS4. The McHenry County Public Health Ordinance prohibits the discharge of non-domestic waste into an onsite wastewater treatment system or onto the ground surface. IEPA has regulatory authority to control pollutant discharges and can take the necessary steps to correct or remove an inappropriate discharge over and above MS4 jurisdiction.

3.C.2.b Illicit Discharge Ordinance

At this point in time, the County regulates illicit discharges utilizing different mechanisms.

3.C.3 Detection/Elimination Prioritization Plan

The McHenry County Department of Health receives complaints of suspected illicit discharges countywide. If determined to be an issue, the responsible party or property owner will hire an environmental engineering consultant to perform testing and/or enforce property owner responsibility and referring the issue to the appropriate agency (i.e. IEPA) for follow-up and resolution.

McHenry County Division of Transportation employees conducts visual outfall screenings to minimize and eliminate illicit discharges in the County Right-of-Way according to the established guidelines below. These guidelines are McHenry County's qualifying local program for fulfilling this minimum control measure.

3.C.3.a Program Planning

The program planning component is primarily office work related to assembling the necessary information and equipment for efficiently conducting outfall-screening activities. This component of the program addresses the following issues (see **Figure 3).**

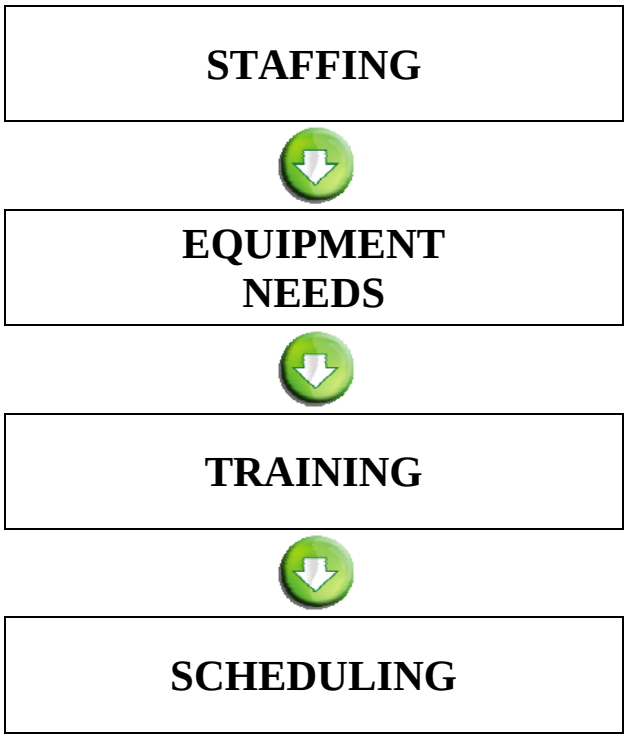


Figure 3: Program Elements

STAFFING

Personnel for an outfall inspection screening program are required for program administration, effort for conducting the outfall screening, and any follow-up investigations. Typically, a person with a camera is required for the outfall screening and follow-up portions of the program. Based on the number of identified outfalls and program goals, it is anticipated that McHenry County personnel will be required to perform inspections as specified in the NOI.

EQUIPMENT NEEDS

General field equipment for outfall screening are required for IDDE programs. The method of collecting and managing inspection screening data is driven by available technology. Inspection personnel carry basic safety items, such as cell phones, cameras, and first aid kits, along with the inspection forms.

TRAINING

Inspection personnel should have attended the culvert inspection seminar offered through IDOT's T^2 program to be able to identify stormwater outfalls. Review of the ***Stormwater Outfall Inspection Form*** (**Appendix 5.6**) should be accomplished before going into the field for adequate preparation.

SCHEDULING

Scheduling for pre-screening or outfall inspections is dependent on staff availability and weather. Pre-screening generally takes place during the late summer or fall months, ideally in August, September, or October, although other summer or fall months may be acceptable, depending on weather conditions. This time period is generally warm, which improves field efficiency as well as reliability and consistency of field-testing. This time period is also more likely to have extended dry periods with little or no precipitation, which is required for the inspection activities.

3.C.3.b Outfall Inspection Procedure

OUTFALL INSPECTION SETUP AND PRECAUTIONS

Of particular concern in daily setup is whether any safety issues will be associated with the day's screening activities. For example, does traffic need to be controlled or is access to the outfall difficult. Before leaving an outfall inspection location, field crews must ensure that all necessary equipment is available, operable, and calibrated (as appropriate).

Safety is the primary consideration while inspecting outfalls. In general, the rule "*if in doubt, **don't***" is followed. A first aid kit is included in each vehicle to treat minor injuries. Obtain medical help for major injuries as soon as possible. Report all injuries, minor and major to appropriate persons.

ACCESS TO PRIVATE PROPERTY

If an illicit discharge is reported on private property and poses a health concern, the McHenry County Department of Health will follow internal procedures to investigate the complaint, then refer to the appropriate agency for assistance. The McHenry County Division of Transportation only inspection outfall points on County ROW.

TRAFFIC

All traffic control measures are to be in accordance with the requirements of the *Manual on Uniform Traffic Control Devices* and other internal Policies and Procedures as set forth by the MCDOT.

In general, the following additional policies are applicable. County personnel generally work on streets only during the hours of 7 a.m. to 4 p.m. except in emergency situations. All field crews are required to wear Personal Protection Equipment (PPE) in accordance with Standard Operating Procedures set forth by the MCDOT procedures manual.

CONFINED SPACE ENTRY

Confined space entry for this program would include climbing into or inserting one's head into a pipe, manhole, or catch basin. In general, do not cross the vertical plane defining an outfall pipe or the horizontal plane defining a manhole, unless properly prepared for confined space entry. **IN NO CASE SHALL FIELD CREW MEMBERS ATTEMPT TO ENTER CONFINED SPACES.**

OTHER HAZARDS

Table 1: Other Outfall Inspection Hazards

Hazard	Prevention
Access	Avoid steep slopes, dense brush and deep water. Report unsafe locations and move on to next location.
Stuck	Avoid wading where bottom sediments are easily disturbed or depths are unknown.
Strong Gas/Solvent Odor	Do not select manhole for sampling
Bodily Harm From Manhole Covers	Use manhole hook and watch for pinch points
Slip	Proper Foot Gear and Use of Rope If Warranted
Falls	Use extended sample collection device; don't cross horizontal or vertical plane at end of outfall
Heat and Dehydration	Adequate Water Intake; Avoid Excessive Exertion on Hot Days
Sunburn	Sunscreen and Appropriate Clothing
Poisonous Plants/Animals	Identify and Avoid
Vicious Dogs	Avoid; Use Animal Repellent if necessary
Water Bodies	Flotation Devices
Ticks	Check Entire Body at End of Each Day
Mosquitoes	Apply Repellent

OUTFALL INSPECTION

An outfall inspection is required for outfalls on a routine basis. Upon arriving at an outfall, the inspection personnel inspect the outfall by approaching the outfall on foot to a proximity that allows visual observations to be made.

Outfalls are assessed to determine which one of the three following conditions applies:

(1) The outfall is dry or damp with no observed flow,
(2) Flowing discharges are observed from the outfall, or
(3) The outfall is partially or completely submerged with no observed flow or is inaccessible.

Scenario 1: No Observed Flow. Under Scenario 1, the field crew should photograph the outfall and complete the ***Stormwater Outfall Inspection Form (*Appendix 5.6).**

Scenario 2: Observed Flow. Under Scenario 2, the field crew photographs the outfall and completes the ***Stormwater Outfall Inspection Form (*Appendix 5.6).** If a flow from the outlet is a suspected illicit discharge, the IEPA is notified for further investigation, testing, and resolution.

Scenario 3: Submerged or Inaccessible Outfall. Under Scenario 3, if standing water is present in an outfall or if it is inaccessible, then complete the appropriate sections of the ***Stormwater Outfall Inspection Form (*Appendix 5.6)**, with remark in the last section of being submerged and to put on a follow up inspection list to be inspected during a dryer period in the year. Otherwise, locate the next upstream access point and evaluate for illicit discharges.

Locating an upstream access point may be required if any of the following conditions exist at an outfall:

- The outfall discharge is submerged or partially submerged due to backwater conditions,
- Site access and safety considerations prevent visual inspection,
- The outfall is from a facility providing water quality treatment (for example, detention basin outlet), or
- Other special considerations.

Determine the upstream access point using the MCDOT's storm sewer atlas. Manholes, catch basins, or culvert crossings can be used for upstream access. Make reasonable efforts to locate upstream access points that are easily accessible and exhibit flow. If inaccessible, reschedule the outlet during a dryer period in the year.

 Submerged: More than ½ below water	 Partially submerged: Bottom is below water	 Fully submerged: Can't see outfall
 Outfall fully submerged by debris	 Fully submerged from downstream trees trapping debris	 Partially submerged by leaf debris "back water"
 Trickle Flow: Very narrow stream of water	 Moderate Flow: Steady stream, but very shallow depth	 Significant flow (Source is a fire hydrant discharge)

Figure 4: Characterizing Submersion and Flow
Center for Watershed Protection

OUTFALL ASSESSMENT AND DOCUMENTATION

Complete the ***Stormwater Outfall Inspection Form (*****Appendix 5.6**) for all outfall inspections. All completed forms must be dated, legible, and contain accurate documentation of each outfall inspection. Include pictures in the file for the outlet for comparison. A separate data form must be completed for each outfall. It is recommended that non-smearing pens be used to complete the forms and that all data be objective and factual. Once completed, these data forms are considered accountable documents and are maintained as part of the MCDOT's files. In addition to standard information, the data form is used to record other information that is noted at the time the outfall inspection is conducted (e.g. observations of dead or dying plants, fish kills, algal blooms (excessive algae growth), construction activities, and other activities that might provide information regarding the potential for illicit connections or inappropriate discharges).

OFFICE CLOSEOUT

In the office, file copies of completed data forms with pictures. Also, update Cartegraph database with results from outfall screening. Schedule and plan the next screening activities.

3.C.3.c Follow Up Investigation and Program Evaluation

Follow up investigation is required for all outfalls with positive indicators for pollutant discharges. The outfall assessment results are reviewed to determine the magnitude of the dry-weather pollution problem and to determine the necessary steps to identify and remove the sources of any detected pollutants. **Figure 5** provides a flow chart to aid in follow-up investigations of potential illicit discharges.

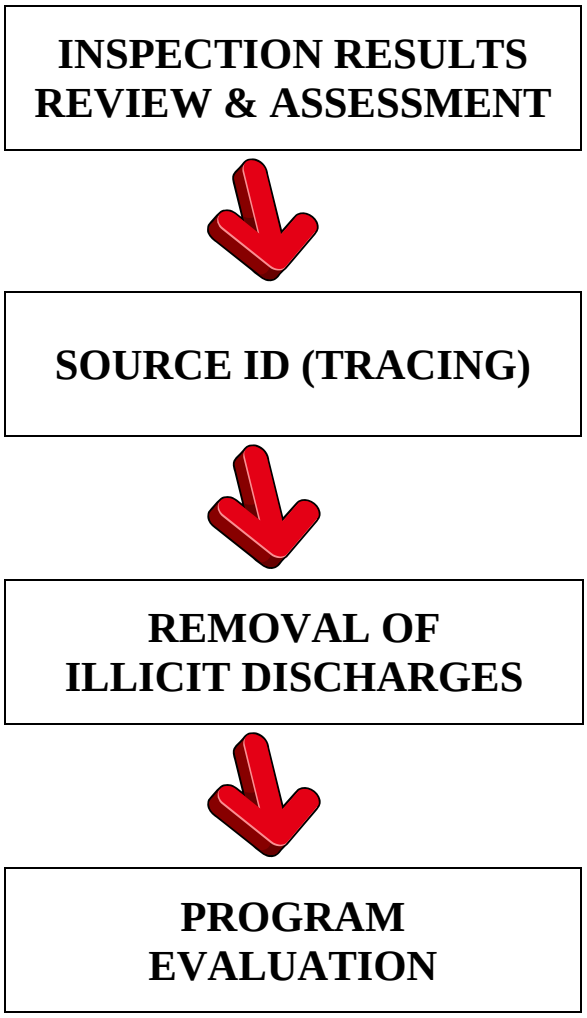
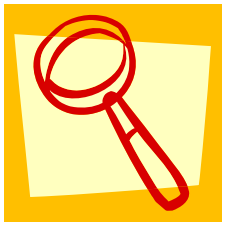


Figure 5: Follow Up Procedure

OUTFALL SCREENING RESULTS REVIEW AND ASSESSMENT

Detailed investigations of the storm sewer system may be required upstream of the outfalls to locate sources of illicit discharges or improper disposal. The need for detailed investigations is based on evaluation of the data from the initial outfall inspection. This element of the program serves to detect and remove pollutant sources. This is accomplished by reviewing the questionable ***Stormwater Outfall Inspection Form (*Appendix 5.6**) to determine if there are outfalls that require a follow up investigation, target sewer system areas for detailed investigation and then conducting intensive field investigations upstream of the polluted outfall to identify potential sources.

SOURCE IDENTIFICATION



Follow up investigation is required for all outfalls with positive indicators for pollutant discharges during the inspection efforts. The procedure for detailed storm sewer investigation and source identification has three major components: 1) mapping and evaluation, 2) storm sewer investigation, and 3) tracing.

MAPPING AND EVALUATION

For each outfall to be investigated, a large-scale working map should be obtained (digitally or in paper form) that includes the entire upstream storm sewer network, outfall locations and parcel boundaries indicated. This map product is based on information from the storm sewer atlas and outfall map and can be obtained from the MCDOT. Land use information is evaluated to determine the types of residential, commercial, and industrial areas that might contribute the type of pollution identified at the outfall.

If the contributing area is determined to be non-residential, the available Industrial/Business information should also be reviewed. All business types with "Reportable Quantities" of specific materials are logged into CAMEO, a system of software applications used widely to plan for and respond to chemical emergencies, which is used by McHenry County Emergency Management Agency.

Business Types, at the time of the SMPP creation, include:

- Assembly,
- Automotive,
- Bank-Loans,
- Car Wash,
- Church,
- Contractor,
- Food Processing (Pet, Candy),
- Government/School,
- Grocery Store,
- Health Club/Gym,

- Landscaping/Nursery,
- Laundromat/Dry Cleaning,
- Manufacturing,
- Meat Packing,
- Medical/Dental/Pharmaceutical,
- Office,
- Printing/Photography,
- Recreations/Park District,
- Residential (Single and Multi-Family),
- Restaurants/Bars,
- Retail,
- Salon/Barber Shop,
- Utility, and
- Warehouse/Distribution.

Make attempts to match detected indicators with upstream activities.

STORM SEWER INVESTIGATION

After conducting the mapping evaluation, a manhole-by-manhole inspection is conducted to pinpoint the location of the inappropriate discharge, into the storm sewer / conveyance system. This inspection requires a field crew to revisit the outfall where the polluted dry-weather discharge was detected. The field crew should be equipped with the same testing and safety equipment and follow similar procedures as used during the outfall inspection.

After confirming that dry-weather flow is present at the outfall, the field crew continues moving to the next upstream manhole or access point investigating for dry weather flow. In cases where more than one source of dry-weather discharge enters a manhole, the field crew records this information on the screening form and then tracks each source separately. All sources are tracked upstream, manhole-by-manhole, until the dry-weather discharge is no longer detected. Finally, the last manhole where dry-weather flow is present is identified and potential sources to that manhole are accessed. This data is important for source identification.

The field crew should also determine whether there has been a significant change in the flow rate between manholes. If the flow rate appears to have changed between two manholes in the system, the illicit connection likely occurs between the two manholes. Changes in the concentration of pollutant parameters could also aid in confirming the presence of an illicit connection between the two manholes.

3.C.3.d Potential Sources of Illicit Discharges

Table 2 shows that direct connections to storm sewer systems most likely originate from commercial/industrial facilities. Thus, the focus on Chapter 3.C is on the identification of illicit discharges from commercial/industrial facilities.

Table 2: **Potential Sources of Illicit Discharges to Storm Sewers**

Potential Sources	Storm Sewer Entry		Flow Characteristics	
	Direct	Indirect	Continuous	Intermittent
Residential Sources				
Sanitary Wastewater	√	X	√	X
Septic Tank Effluent	-	√	√	X
Household Chemicals	X	√	-	√
Laundry Wastewater	√	-	-	√
Excess Landscaping Watering	-	√	-	√
Leaking Potable Water Pipes	-	√	√	-
Commercial Sources				
Gasoline Filling Stations	√	X	-	√
Vehicle Maint./Repair Facilities	√	X	-	√
Laundry Wastewater	√	-	√	X
Construction Site Dewatering	-	√	√	X
Sanitary Wastewater	√	X	√	-
Industrial Sources				
Leaking Tanks and Pipes	X	√	√	X
Misc. Process Waters	√	X	√	X

√: Most likely condition. X: May Occur -: Not very likely

Source: *Adapted From: USEPA. January 1993. Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems: A User's Guide. Cincinnati, Ohio.*

3.C.3.e USEPA Exclusions

It is noted that not all dry-weather flows are considered inappropriate discharges. Under certain conditions, the following discharges are not considered inappropriate by USEPA:

- Water line flushing,
- Landscaping irrigation,
- Diverted stream flows,
- Rising ground waters,
- Uncontaminated groundwater infiltration,
- Uncontaminated pumped groundwater,
- Discharges from potable water sources,
- Flows from foundation drains,
- Air conditioning condensation,
- Irrigation water,
- Springs,
- Water from crawl spaces,

- Lawn watering,
- Individual car washing,
- Flows from riparian habitats and wetlands,
- Dechlorinated swimming pool water, and
- Street wash water.

3.C.3.f Pollutant Indicators

PHYSICAL INDICATORS

> *Adapted from New Hampshire Estuaries Project and the IDDE Guidance Manual by the Center for Watershed Protection.*

Odor

Water is a neutral medium and does not produce odor; however, most organic and some inorganic chemicals contribute odor to water. Odor in water may originate from municipal and industrial waste discharges, from natural sources such as decomposition of vegetative matter, or from associated microbial activity.

Table 3: Odor or Potential Illicit Discharges (adapted from CWP)

Odor	**Possible Cause**
Sewage	Wastewater treatment facilities, domestic waste connected into storm drain, failing septic system
Sulfide (rotten eggs)	Decaying organic waste from industries such as meat packers, dairies and canneries
Rancid/sour	Many chemicals, including pesticides and fertilizers, emit powerful odors that may produce irritation or stinging sensations.
Petroleum/gas	Industry associated with vehicle maintenance or petroleum product storage; gas stations
Laundry	Laundromat, dry cleaning, household laundry

Color

Color is a numeric computation of the color observed in a water quality sample, as measured in cobalt-platinum units. Both industrial liquid wastes and sewage tend to have elevated color values. Unfortunately, some "clean" flow types can also have high color values. A color value higher than 500 units may indicate an industrial discharge.

Table 4: Color of Potential Illicit Discharges (adapted from CWP)

Water Color	Possible Cause	Images
Brown Water – water ranging in color from light-tea to chocolate milk; it may have a rotten egg odor.	Human causes may be eroded, disturbed soils from constr. sites, animal enclosures, destabilized stream banks and lake shore erosion due to boat traffic.	
Yellow –	Human causes may include textile facilities, chemical plants or pollen.	
Gray Water – water appears milky and may have a rotten egg smell and/or soap odor. There may also be an appearance of cottony slime.	Human causes may be illicit connections of domestic wastewater; untreated septic system discharge; illegal boat discharge; and parking lot runoff.	
Green Water – ranging from blue green to bright green color and may impart odor. Conditions typically occur from May to October.	Human causes may be over-fertilizing lawns, boat discharges, septic systems, agriculture operations, or discharging poorly treated wastewater.	
Orange/Red -	Human causes may include meat packing facilities or dyes.	
Green Flecks – resembling floating blue-green paint chips or grass clippings. These *Blooms* and are potentially toxic.	Human cause is excessive nutrients. Fertilizers used on lawns can contaminate surface and ground water.	

Table 4 (continued)

Water Color	Possible Cause	Images
Green Hair-Like Strands - bright or dark green, resembling cotton candy and often in floating mats.	Human causes are excessive nutrients from fertilizers or failed on-shore septic systems.	
Multi-Color Water – various or uniform color, other than brown, green or gray. For rainbow sheen see floatables.	Human causes include oil or hazardous waste spill, paint and paint equipment rinsed into storm drains or into failing septic systems.	

Turbidity

Turbidity is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water.

Turbidity and color are related terms but are not the same. Remember, turbidity is a measure of how easily light can penetrate through the sample bottle, whereas color is defined by the tint or intensity of the color observed.

Figure 6
Turbidity Severity Examples
(adapted from CWP)


Turbidity
Severity 1


Turbidity
Severity 2


Turbidity
Severity 3

Floatables

The presence of sewage, floating scum, foam, oil sheen, or other materials can be obvious indicators of an illicit discharge. However, trash originating from areas adjacent to the outfall is this section.

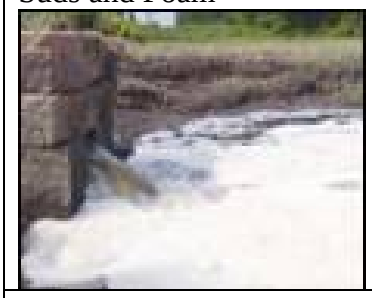
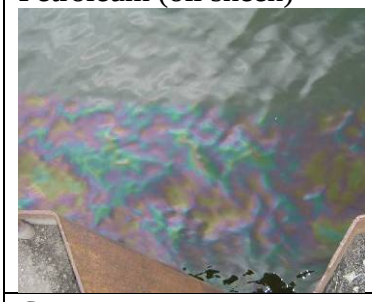
- If you think the floatable is sewage, you should automatically assign it a severity score of three since no other source looks quite like it.
- Suds are rated based on their foaminess and staying power. A severity score of three is designated for thick foam that travels many feet before breaking up. Natural foam breaks apart easily, can be brown, black or yellowish and may smell fishy or musty.
- Surface oil sheens are ranked based on their thickness and coverage. In some cases, surface sheens may not be from oil discharges, but instead created by in-stream processes. A petroleum sheens doesn't break apart and quickly flows back together.

Figure 7
Natural Sheen versus Synthetic
(adapted from CWP)

Sheen from natural bacteria forms a swirl-like film that cracks if disturbed

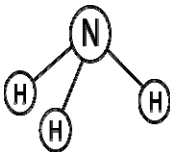
Synthetic oil forms a swirling pattern

Table 5: Floatables in Potential Illicit Discharges (adapted from CWP)

Floatables	
Sewage 	Human causes include connection of domestic wastewater, leaking sanitary sewers or failing septic systems.
Suds and Foam – 	Common human causes of unnatural foam include leaking sewer lines, boat discharges, improper sewer connections to storm sewers and detergents from car washing activities.
Petroleum (oil sheen) 	Human causes may include leaking underground storage tank or illegal dumping.
Grease 	Common human causes include overflow from sanitary systems (due to clogging from grease) and illegal dumping.

TESTING INDICATORS

Ammonia

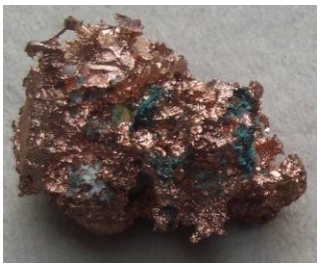


Ammonia is a good indicator of sewage, since its concentration is much higher there than in groundwater or tap water. High ammonia concentrations (>50 mg/l) may also indicate liquid wastes from some industrial sites. Ammonia is relatively simple and safe to analyze. Some challenges include the potential generation of wastes from non-human sources, such as pets or wildlife.

Chlorine

Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic materials can cause chlorine levels to drop below detection levels. Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

Copper



Concentrations of copper in dry-weather flows can be a result of corrosion of water pipes or automotive sources (for example, radiators, brake lines, and electrical equipment). The occurrence of copper in dry-weather flows could also be caused by inappropriate discharges from facilities that either use or manufacture copper-based products. A copper value of >0.025-mg/L indicates an industrial discharge is present.

Industrial sources of copper include the following:

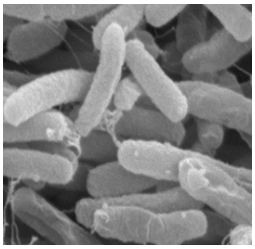
- Copper manufacturing (smelting),
- Copper metal processing/scrap remelting,
- Metal plating,
- Chemicals manufacturing,
- Analytical laboratories,
- Power plants,
- Electronics,
- Wood preserving, and
- Copper wire production.

In each of these industries, wastes containing copper would normally be discharged to a treatment facility. Sludge from the waste treatment facility, whether on-site (including lagoons) or publicly operated treatment facilities, would contain copper. If the sludge (or the treatment process) is not managed properly, copper could enter the storm sewer system.

Detergents

Most illicit discharges have elevated concentration of detergents. Sewage and washwater discharges contain detergents used to clean clothes or dishes, whereas liquid wastes contain detergents from industrial or commercial cleansers. The nearly universal presence of detergents in illicit discharges, combined with their absence in natural waters or tap water, makes them an excellent indicator. Research has revealed three indicator parameters that measure the level of detergent or its components-- surfactants, fluorescence, and surface tension. Surfactants have been the most widely applied and transferable of the three indicators. Fluorescence and surface tension show promise, but only limited field testing has been performed on these more experimental parameters; therefore these are not tested. Refer to Boron and Surfactants descriptions.

E. coli, Enterococci and Total Coliform

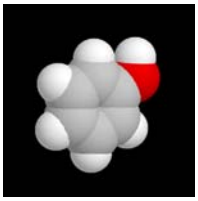


Each of these bacteria is found at very high concentrations in sewage compared to other flow types, and is a good indicator of sewage or seepage discharges, unless pet or wildlife sources exist in the subwatershed. Overall, bacteria are good supplemental indicators and can be used to find "problem" streams or outfalls that exceed public health standards.

Fluoride

Fluoride, at a concentration of two parts per million, is added to drinking water supplies in most communities to improve dental health. Consequently, fluoride is an excellent conservative indicator of tap water discharges or leaks from water supply pipes that end up in the storm drain. Fluoride is obviously not a good indicator in communities that do not fluorinate drinking water, or where individual wells provide drinking water. Flouride levels greater than 0.6-mg/L indicate a potable water source is connected to the stormwater system.

Phenol



Phenol is a very commonly occurring chemical and can be found in foods, medicines, and cleaning products, as well as industrial products and by-products. Generally, the appearance of phenols in stormwater would indicate a misconnected industrial sewer to a storm drain or ditch. Exceptions would include runoff from treated wood storage yards (for example, treated lumber and telephone poles) and improper disposal (flash dumping) of cleaning products. A phenol value greater than 0.1-mg/L indicate an illicit discharge is present.

Industrial sources of phenol include the following:

- Chemical manufacturing (organic),
- Textile manufacturing,
- Paint and coatings manufacturing,
- Metal coating,
- Resin manufacturing,
- Tire manufacturing,
- Plastics fabricating,
- Electronics,
- Oil refining and re-refining,
- Naval stores (turpentine and other wood treatment chemicals),
- Pharmaceutical manufacturing,
- Paint stripping (for example, automotive and aircraft),
- Military installations (rework and repair facilities),
- Coke manufacturing,
- Iron production, and
- Ferro-alloy manufacturing.

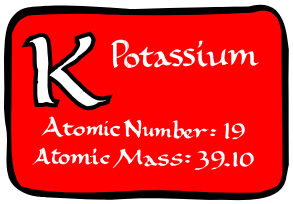
Other sources of phenol include improper handling and disposal of cleaning compounds by institutions such as hospitals and nursing homes.

pH

Potential ID Range: <6.5 and > 8.5

Most discharge flow types are neutral, having a pH value around 7, although groundwater concentrations can be somewhat variable. pH is a reasonably good indicator for liquid wastes from industries, which can have very high or low pH (ranging from 3 to 12). The pH of residential wash water tends to be rather basic (pH of 8 or 9). The pH of a discharge is very simple to monitor in the field with low cost test strips or probes. Although pH data is often not conclusive by itself, it can identify problem outfalls that merit follow-up investigations using more effective indicators.

Potassium



Potassium is found at relatively high concentrations in sewage, and extremely high concentrations in many industrial process waters. Consequently, potassium can act as a good first screen for industrial wastes, and can also be used in combination with ammonia to distinguish wash waters from sanitary wastes. An ammonium to potassium ratio of >1 or <1indicate waste water or wash water discharge respectively. A potassium value of >20-mg/l is a good indicator for industrial discharges.

Surfactants

Surfactants are the active ingredients in most commercial detergents, and are typically measured as Methyl Blue Active Substances (or MBAS). They are a synthetic replacement for soap, which builds up deposits on clothing over time. Since surfactants are not found in nature, but are always present in detergents, they are excellent indicators of sewage and wash waters. The presence of surfactants in cleansers, emulsifiers and lubricants also makes them an excellent indicator of industrial or commercial liquid wastes. A surfactant value of > 0.25-mg/L within residential areas indicates that either a sewage or washwater is present in the stormwater; a value of >5-mg/L within non-residential areas indicates that there is an industrial discharge (refer to Table 46 from the Illicit Discharge Detection and Elimination manual by the Center for Watershed Protection for use in determining industrial flow types).

3.C.3.g Indirect Connection Program

Indirect connections are subtle connections, such as dumping or spillage of materials into storm sewer drains. Flash dumping is a common type of indirect connection. Generally, indirect modes of entry produce intermittent or transitory discharges, with the exception of groundwater seepage. There are five main modes of indirect entry for discharges.

Groundwater Seepage

Seepage discharges can be either continuous or intermittent, depending on the depth of the water table and the season. Groundwater seepage usually consists of relatively clean water that is not an illicit discharge by itself, but can mask other illicit discharges. If storm drains are located close to sanitary sewers, groundwater seepage may intermingle with diluted sewage. Addressing seepage that is observed during the outfall screening process is described in more detail in this Chapter.

Spills

These transitory discharges occur when a spill travels across an impervious surface and enters a storm drain inlet. Spills can occur at many industrial, commercial and transport-related sites. A very common example is an oil or gas spill from an accident that then travels across the road and into the storm drain system. The Spill Response Plan is described in Chapter 3.F.6.c.

Dumping

Dumping a liquid into a storm drain inlet:
This type of transitory discharge is created when liquid wastes such as oil, grease, paint, solvents, and various automotive fluids are dumped into the storm drain. Liquid dumping occurs intermittently at sites that improperly dispose of rinse water and wash water during maintenance and cleanup operations. A common example is cleaning deep fryers in the parking lot of fast food operations. The Storm Drain Stenciling, Household Hazardous Wastes, and Vehicle Fluid Maintenance are designed to minimize dumping; these programs are described in Chapter 3.6.a, b, d, and f. Additionally, complaints can be made to the Department of Health.

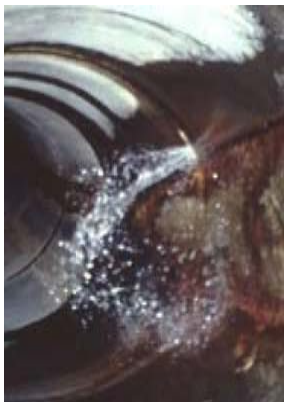
Outdoor washing activities

Outdoor washing may or may not be an illicit discharge, depending on the nature of the generating site that produces the wash water. For example, hosing off individual sidewalks and driveways may not generate significant flows or pollutant loads. On the other hand, routine washing of fueling areas, outdoor storage areas, and parking lots (power washing), and construction equipment cleanouts may result in unacceptable pollutant loads. Individual washing activities are addressed through the Public Education and Outreach Program in Chapter 3.A.6.d whereas observed/documented routine washing activities should be addressed through the Removal of Illicit Discharges Procedure in Chapter 3.C.5.a.

Non-target irrigation from landscaping or lawns

Irrigation can produce intermittent discharges from over-watering or misdirected sprinklers that send tap water over impervious areas. In some instances, non-target irrigation can produce unacceptable loads of nutrients, organic matter or pesticides. The most common example is a discharge from commercial landscaping areas adjacent to parking lots connected to the storm drain system. This type of discharge is addressed by the Public Education and Outreach Program in Chapter 3.A.

3.C.3.h Direct Connection Illicit Discharge Program



Direct connections enter through direct piping connections to the storm sewer system, and since direct connections exist regardless of whether or not a stormwater event (e.g. rain or melting snow) is occurring, they are most easily detected during dry-weather periods. Inspection of stormwater outfalls during dry-weather conditions reveals whether non-stormwater flows exist. If non-stormwater flows are observed, they can be screened and tested to determine whether pollutants are present. If the presence of pollutants is indicated, the detective work of identifying the source of the discharge can begin. Once the source is identified, it can then be corrected. A direct connection illicit discharge program consists of three principal components: 1) program planning, 2) outfall screening, and 3) follow-up investigation and program evaluation.

1. ***Program Planning*** involves the office work, planning, and organization required to conduct the subsequent outfall screening and follow-up investigative activities of the program. Program planning identifies the regulatory authority to remove directly connected illicit discharges and

the identification of the outfalls and receiving waters in the municipality (both discussed earlier in this chapter). Program planning for the direct connection portion of the overall program also includes the identification of the staffing and equipment needed to conduct the outfall screening, and scheduling of the outfall screening activities (Chapter 3.C.3).

2. ***Outfall Screening*** consists of pre-screening to determine whether dry-weather flows are present and outfall inspection to determine whether pollutants are present in any observed dry-weather flows (Chapter 3.C.3.b).

3. ***Follow-Up Investigation and Program Evaluation*** are the steps necessary to determine the source of any identified pollutant flows and eliminate them. The major follow-up investigation and program evaluation components include:

- reviewing and assessing outfall inspection results,
- internal coordination,
- conducting detailed storm sewer investigations to identify pollutant sources (*tracing*),
- exercising the appropriate legal means to achieve enforcement of the program objective (*removal of pollutants at the source),* and evaluating the program to determine whether subsequent screening activities are necessary.

3.C.4 Illicit Discharge Tracing Procedures

The McHenry Division of Transportation use the tracing methods below as the qualifying local program (QLP) for fulfilling Minimum Control Measure C.4

Tracing

Once the manhole inspection has identified the reach area, between two manholes suspected of containing an inappropriate discharge, testing may be necessary. If there is only one possible source to this section of the storm sewer system in the area, source identification and follow-up for corrective action is straightforward. Multiple sources, or non-definitive sources, may require additional evaluation and testing in order to identify the contributing source. Potential testing methods include dye testing, smoke testing, and/or remote video inspections. Once identified, clearly log the contributing source.

3.C.5 Illicit Source Removal Procedures

The McHenry County Department of Health (MCDH) is responsible for overseeing this process per the steps below. These steps are the qualifying local program for fulfilling Minimum Control Measure C – IDDE.

Removal of Illicit Discharges

Removal of illicit discharge connections is required at all identified contributing sources. Six steps are taken to definitively identify and remove an inappropriate discharge to the storm sewer system. These steps are as follows:

Step 1. Complaint is evaluated and forwarded to the appropriate agency for further investigation. If the discharge is septic in nature, it is forwarded to MCDH. Non-septic system discharges are not regulated by the MCDH. These types of suspected illegal discharges are address by notifying the regional IEPA office and coordinating with their investigation.

Step 2: MCDH inspects the problem location.

Step 3: MCDH and conducts dye testing and/or collect water samples for analysis.

Step 4: Conduct an internal meeting with appropriate personnel to discuss inspection and testing results and remedial procedures. Determine if discharge is illicit in nature. *If not, no further action required.* If the discharge is illegal, the MCDH shall send a 10-day notification letter to the owner/operator of the property/site suspected of discharging a pollutant to correct the deficiency.

Step 5: A follow-up inspection is conducted. *If the deficiency is corrected, no further action is required.* If not, the MCDH sends a final notification to correct the deficiency with a timely manner.

Step 6: Another follow-up inspection is conducted. *If the deficiency is corrected, no further action is required.* If the owner remains in non-compliance the case is then turned over to the State's Attorney, who then pursues legal action to enforce remediation of the illegal discharge.

3.C.6 Program Evaluation and Assessment

Although this task is not included in the current NOI and annual year-end report, the County intends to incorporate this step into the future NPDES permit program.

Program Evaluation

Review the results of the screening program to examine whether any trends can be identified that relate the incidence of dry-weather flow observations to the age or land use of a developed area. Experience gained from the USEPA NPDES program indicates a lower chance of observing polluted dry-weather flows in residential and newer development areas, while older and industrial land use areas having a higher incidence of observed dry-weather flows. See **Table 6** for areas that may be more likely to exhibit dry-weather flows. Examine the screening results to determine whether any such obvious conclusions can be made. If so, these conclusions may guide future outfall screening activities.

Outfalls with positive indicators of potential pollution are investigated to identify upstream pollutant sources. Identified illicit direct connections must be eliminated. However, new sources may appear in the future as a result of mistaken cross connections from redevelopment, new-development or remodeling. Indirect or subtle discharges such as flash dumping are difficult to trace to their sources and can only be remedied through public education and reporting. Therefore, it is expected that to some degree they will continue although at a reduced magnitude and frequency. Although the outfall screening program will be successful in identifying and eliminating most pollutants in dry-weather discharges, the continued existence of dry-weather flows and associated pollutants will require an ongoing commitment to continue the outfall screening program.

The annual inspection screening will determine the effectiveness of the program on a long-term basis and show ongoing improvement through a reduced number of outfalls having positive indicators of potential pollutants. It is logical to assume that after several years of annual screening, the majority of the dry-weather pollution sources will be eliminated.

While this minimum control measure was never specified in the County's NOI, it is an integral part of the IDDE screening process from above.

Table 6: NPDES-Identified Industrial Facilities

SIC Code	Description
	Facilities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards that are exempted).
1000-1400	Mineral industry, including active and inactive mining operations, with exceptions, and certain oil and gas exploration, production, processing, or treatment operations or transmission facilities.
2400	Lumber and wood products except furniture (except 2434-wood kitchen cabinets)
2600	Paper and allied products (except 2650-paperboard containers and boxes from purchased paperboard and 2670-converted paper and paperboard products)
2800	Chemicals and allied products (except 2830-drugs)
2900	Petroleum refining and related industries (except discharges subject to 40 CFR 419)
3110	Leather tanning and finishing
3200	Stone, clay, glass, and concrete products (except discharges subject to 40 CFR 419)
3300	Primary metal industries
3441	Fabricated structural metal
3730	Ship and boat building and repair
	Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA
	Landfills, land application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under Subtitle D of RCRA
	Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including, but not limited to, those classified as SIC codes 5015 (used motor vehicle parts) and 5093 (scrap and waste materials).
	Stream electric power generating facilities including coal handling sites
	Transportation facilities with vehicle maintenance shops, equipment cleaning operations, or airport deicing operations (except facilities with SIC codes 4221 through 4225) (only those portions of the station that are either involved in vehicle maintenance including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified as an industrial station.
	Construction activity including clearing, grading, and excavation activities except: operations that result in the disturbance of less than 5 acres of total land that are not part of a larger common plan of development or sale
THE FOLLOWING CODES REQUIRE A NPDES PERMIT IF CERTAIN ACTIVITIES ARE EXPOSED TO SW	
2000	Food and kindred products manufacturing or processing
2100	Tobacco products
2200	Textile mill products
2300	Apparel and other finished products made from fabrics and similar materials
2434	Wood kitchen cabinets
2500	Furniture and fixtures
2650	Paperboard containers and boxes
2670	Converted paper and paperboard products
2700	Printing, publishing, and allied industries
2830	Drugs
2850	Paperboard containers and boxes
3000	Rubber and miscellaneous products
3100	Leather and leather products (except 3110-leather tanning and finishing)
3230	Glass products, made of purchased glass
3400	Fabricated metal products, except machinery and transportation equipment (except 3441-fabricated structural metal)
3500	Industrial and commercial machinery and computer equipment
3600	Electronic and other electrical equipment and components, except computer equipment
3700	Transportation equipment (except 3730-ship and boat building and repairing)
3800	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks
3900	Miscellaneous manufacturing industries
4221-25	Farm products warehousing and storage, refrigerated warehousing and storage, general warehousing and storage

3.C.7 Pollutant Field Testing

This minimum control measure (MCM) is not presently identified in our permit program; however, the McHenry County Department of Health (MCDH) does annual sampling of all public beaches in McHenry County.

To ensure residents enjoy a safe and healthy swimming season, MCDH tests the County's 35 beaches at least every 2 weeks, from Memorial Day to Labor Day. Samples are taken from both shallow and deep areas, tested for bacterial levels and compared to acceptable limits set by the State Health Department. Results are posted regularly and can include a swimmer's advisory or closure of the beach, if elevated E. coli levels are found. Check online for beach results at www.mcdh.info, link to Environmental Health, "public beaches".

Additional sampling data will be incorporated into future SMPPs.

3.C.8 Public Notification

This minimum control measure (MCM) is not presently included in our permit program. This MCM will be reevaluated at a later date for possible inclusion.

3.C.9 Other Illicit Discharge Controls

This minimum control measure (MCM) is not presently included in our permit program. This MCM will be reevaluated at a later date for possible inclusion.

3.D Construction Site Runoff Control

The goal of the McHenry County Stormwater Management Ordinance (MCSMO) is to ensure that new development does not increase existing stormwater problems or create new ones. The MCSMO establishes countywide standards for runoff maintenance, detention sites, soil erosion and sediment control, water quality, wetlands and floodplains. These provisions are only applicable for regulated development activities as defined by the MCSMO. Applicants that hydrologically disturb greater than 1-acre are also required to seek coverage under the statewide construction general permit by filing a Notice of Intent (NOI) with IEPA.

The MCSMO is implemented at the County and municipal level. Currently there are fifteen "Certified Communities;" however this number is subject to change at any time. The designation allows those communities to enforce MCSMO standards within their own jurisdictions. The McHenry County Stormwater Division administers the MCSMO and issues permits for the developments within unincorporated McHenry County and the Non-Certified Communities.

3.D.1 Regulatory Program

The McHenry County Stormwater Management Ordinance (MCSMO), as well as the amendments that enhance construction/post construction stormwater management which were adopted February 2008, fulfills the minimum control measure D.1 as its qualifying local program. All McHenry County facilities adhere to the MCSMO for all internal development construction projects as well.

Applicants are directed to the Department of Planning and Development for information pertaining to the permitting process. Developments that exceed the MCSMO minimum thresholds are provided with a McHenry County Stormwater Permit application form. Applicants submit the completed form and supporting documentation to the Department of Planning and Development for review and comment. After the Department of Planning and Development concurs that the applicable provisions of the MCSMO have been addressed, a permit is issued. Each permit lists any additional conditions that are applicable to the development.

Ordinance provisions include but are not limited, to the following:

- Grading, soil erosion and sediment control plan. The plan must:

- Prevent discharge of sediment from the site through the implementation of soil erosion control practices, primarily, and sediment control secondarily, and
- Protect receiving waters, natural areas and adjacent properties from damage which may result from the proposed grading.

- Water Quality;
- Established inspection duties for the applicant and procedures for inspections;
- Record keeping and reporting procedures;
- Security deposits to ensure faithful performance for subdivision developments, gravel pit reclamation plans and certain building demolition projects;
- Enforcement measures to achieve compliance; and
- One year warranty period, for applicable developments.

The McHenry County Technical Reference Manual and the Illinois Urban Manual 2002, or as amended, include detailed guidance on selection and implementation on related best management practices.

As part of the permit review process, applicants that hydrologically disturb greater than 1-acre are also required to seek coverage under the statewide construction general permit by filing a Notice of Intent (NOI) with IEPA. During construction, applicants are required to submit to IEPA Incidence of Noncompliance (ION) forms, as necessary. After the site is substantially stabilized, the applicant is required to submit a Notice of Termination (NOT). All forms are filed with the construction project itself.

3.D.1.a Responsible Parties

APPLICANT

The applicant is ultimately responsible for ensuring compliant soil erosion and sediment control measures on-site during construction. General contractors, sub-contractors and other hired employees of the applicant can assist the applicant in maintaining a compliant site; however the applicant remains the responsible party. The applicant is also responsible for obtaining all other required state and federal permits, including an NOI with IEPA and upholding all permit conditions (including completing inspection logs).

ENFORCEMENT OFFICER

The Enforcement Officer is responsible for administration and enforcement of the provisions of the MCSMO. Additionally, the Enforcement Officer is responsible for performing spot inspections of development. Review and inspection efforts can be performed by personnel under his/her direct supervision. A full description of the EO responsibilities is included in Article III , Section D of the MCSMO. The EO follows established procedures for notifying applicants of deficiencies and obtaining site compliance (i.e. enforcement).

It is also both the right and the responsibility of the Enforcement Officer to ensure that all incidences of non-compliance received from an inspector or complainant are resolved.

3.D.2 Erosion and Sediment Control BMPs

All McHenry County unincorporated areas, non-certified communities, certified communities, McHenry Division of Transportation and other facilities adhere to the following:

- McHenry County Stormwater Management Ordinance (MCSMO)
- the amendments that enhance construction/post construction stormwater management which were adopted February 2008,
- IEPA,
- Army Corps of Engineers,
- Illinois Urban Manual and
- McHenry County Soil & Water Conservation District soil and erosion control standards.

See Appendix 5.7 for these standards which fulfill this minimum control measure.

3.D.3 Other Waste Control Program

3.D.3.a Construction Site Waste Control

The MCSMO includes several provisions that address illicit discharges generated by construction sites. The applicant is required to prohibit the dumping, depositing, dropping, throwing, discarding or leaving of litter and construction material and all other illicit discharges from entering the stormwater management system. Although this minimum control measure is not included in the County's NOI, the County enforces these requirements already.

3.D.3.b Development Tracking

If the MCSC tracks development utilizing Devnet, a database program that tracks permitting and development permits.

3.D.3.c Pavement Projects

Pavement resurfacing and maintenance projects are determined through pavement evaluation studies that take place approximately every 5 years. Project work shall follow IDOT Standard Specifications and applicable provisions of the MCSMO. At a minimum, protect drainage structures with inlet filter bags during construction activities.

3.D.4 Site Plan Review Procedure

Minimum Construction Site Practices

A site plan is required to comply with minimum prescribed practice requirements set forth in the MCSMO. The MCSMO also allows for the County to require additional measures, above and beyond minimum control measures, to prevent the discharge pollutants from construction sites.

Design and implementation guidance is available in the McHenry County Technical Reference Manual (TRM) and other reference materials identified in **Appendix 5.7** of the SMPP.
Some minimum control measures include the following:

- Construction site sequencing and phasing,
- Preservation of existing vegetation and natural resources (through the runoff volume reduction hierarchy provisions),
- Stormwater conveyance systems (including concentrated flows, diversions, etc.),
- Stockpile management,
- Soil erosion control measures (including blanket and seeding),
- Stabilized construction entrances/exits and haul routes,
- Sediment Control (including silt fence, inlet/outlet protection, ditch checks, sediment traps, sediment basins etc.),
- Wind and Dust control measures,
- Non-stormwater management (including dewatering practices, waste management practices, spill prevention and control practices etc.),
- Construction Buffers, and
- Construction Details.

3.D.5 Public Information Handling Procedures

Although the County didn't include this minimum control measure in its current NOI, all departments have procedures in place for this MCM. Various ways include speaking engagements, interviews, website and newsletter updates.

3.D.6 Site Inspection/Enforcement Procedures

The McHenry County Stormwater Management Ordinance (MCSMO) Article V, Section E.4 & E.5 mandate periodic inspections of erosion and sediment control measures in D.6. These sections are used as the qualifying local program.

Representatives of the County are authorized to enter upon any land or water to inspect development activity and to verify the existing conditions of a development site that is under permit review.

The County may inspect site development at any stage in the construction process. For major developments, the McHenry County Soil and Water Conservation District, on behalf of the County, shall conduct site inspections, at a minimum, at the end of the construction stages 1 and 7 listed below. Appendix 5.10 includes a listing of major development projects that have been inspected by McHenry Soil and Water Conservation District. Construction plans approved by the Enforcement Officer shall be maintained at the site during progress of the work. Recommended inspection intervals are listed below:

1. Upon completion of installation of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading,
2. After stripping and clearing,
3. After rough grading,
4. After final grading,

5. After seeding and landscaping deadlines,
6. After every seven (7) calendar days or storm event with greater then 0.5-inches of rainfall,
7. After final stabilization and landscaping, prior to removal of sediment controls.

MCDOT Site Inspection Process:

Per IDOT Construction Memorandum 03-07, the owner/contractor must attend pre-construction meetings for all transportation projects. The McHenry County Division of Transportation attends the pre-construction meeting on all County owned transportation projects. During the pre-construction meeting the ***Storm Water Pollution Prevention Plan Erosion Control Inspection Report*** **(**see example in **Appendix 5.8)** is reviewed by all parties for needs and compliance. Also, before the project breaks ground, the MCDOT holds another pre-sediment and erosion control meeting with MCSWCD who inspects for MCP&D and USACE when the project is in their jurisdiction.

Site Inspection Process:

The McHenry County Planning and Development Department who oversees the MCSMO strongly recommends preconstruction meetings with the developer. The developer is required to notify the County at various stages of work.

The recommended site inspection process is outlined below:

- The applicant notifies the appropriate County department when initial sediment and runoff controls measures have been installed.
- The County representative inspects the initial sediment and runoff control measures and authorizes the start of general construction.
- The County representative inspects the stormwater management system and authorizes additional site improvement activities.
- The County representative performs site inspections at the recommended intervals listed above and completes the ***SE/SC Inspection Form*** **(Appendix 5.8).**
- The appropriate County department requires as-built documentation of the stormwater management system after final site stabilization. Tags of the seed mixes are kept by the developer and/or contractor for inspection and approval.

3.D.6.a Complaints

The County frequently receives phone calls regarding a development, either during the review or construction phase. Both site design and construction related phone calls are directed to the County's Enforcement Officer or designee and/or MCDOT Construction department, and logged. Site design comments are handled on a case by case basis. Construction related calls are typically addressed by performing a site inspection.

3.D.6.b Performance Guarantees

Pre-construction meeting – No deposit required.

Performance Guarantee (surety) is required for new subdivision improvement (i.e. sewer, water, right-of-way work), stormwater management system and landscaping. The Engineers Opinion of Probable Construction Cost (EOPCC) is provided to the enforcement officer for their

review/approval. The required surety amount shall be 150% of the approved EOPCC. In cases where the MCSC requires a surety the MS4 will only hold a surety for the portions of the EOPCC that is not being held by MCSC. Alternatively, the MS4 will provide MCSC with a letter indicating that the MS4 will hold the surety and not reduce the surety amount until SMC approval has been obtained.

Refer to the Subdivision Ordinance for information regarding the surety requirements.

3.D.7 Other Construction Site Runoff Controls

The McHenry County Stormwater Management Ordinance (MCSMO) fulfils the minimum control measure D.7 as its qualifying local program. The MCSMO requires the following notifications:

"To facilitate inspections by the enforcement officer and to ensure compliance with the approved erosion and sediment control plan, the grading or building permit, and this Ordinance, the permitee shall notify the enforcement officer within two (2) working days of the completion of the construction stages specified below: For Intermediate and Major Development:
a. Upon completion of installation of sediment and runoff control (controls and diversions), prior to proceeding with any other earth disturbance or grading,
b. After stripping and clearing,
c. After rough grading,
d. After final grading,
e. After seeding and landscaping deadlines, and
f. After final stabilization and landscaping, prior to removal of sediment controls. ARTICLE V.E.4

If stripping, clearing, grading and/or landscaping are to be done in phases or areas, the permitee shall give notice at the completion of each of the above work stages in each phase or area. For Minor Development only a, c, and f of the above requirements shall apply."

3.D.7.a Violation Notification Procedures

REQUEST FOR SERVICE-VIOLATIONS

A Request for Service (RFS) is when a person makes a complaint about Stormwater related issues via phone calls, letters and in person. All complaints are allowed to be anonymous. Once a complaint is made it must be investigated by either a stormwater representative or one of the inspectors who are assigned to that area of the County. This section addresses the initial complaint and how to locate an RFS file (already created).

1) Once a call is received regarding a potential violation, an RFS form is completed. RFS forms are located in the applications/checklists drawer at the counter. Once it is filled out, it is placed in the inspection drawer for the next day.
2) When the inspectors complete an RFS form with their findings, the form and photos are given to administrative assistants to log in, and then to the Code Enforcement Officer to start an RFS file. The file is then given to the SW division to determine by looking at the photos and through research on the property if there is a stormwater violation.

3) If it is determined that there is not a violation, the file will be closed. The SW division is responsible for calling back the complainant, if requested, to notify them of the results.
4) If it is determined that there is a violation, a 14-day letter will be written to the property owner explaining the reason for the violation. The SW Enforcement Officer signs the 14-day letter. The date the 14-day letter was sent is noted on the front of the file and given back to Code Enforcement Officer to file.
5) If the property owner has not responded to the letter within the 14-day time period, either by phone or by applying for a SW permit, a 10-day letter is sent. The Stormwater Manager signs the 10-day letter. The 10-day letter is sent via certified mail. The date the letter was sent is noted on the file and in Devnet and is given back to Code Enforcement Officer to file.
6) If the owner responds to the letter, discuss with the owner what needs to be done to address the violation. A note on the RFS file cover of what was discussed, and log to Devnet. Establish a day/date that application or further contact will be made. Note this on the file as well. This will be used as a recheck status day/date.
7) If application is made, review and log the permit as if a typical application. Note the RFS file number on the new permit file and note the date and applied permit number on the cover of the RFS file.
8) If the owner applies, but does not provide any information after two weeks, a call is made to the owner to find out the status. A time is provided to the owner to either get the County the information or remove the violation. In two weeks if no information has been received, send a ten-day letter. If no information has been received by established date and the violation has not been removed (photos taken by enforcement officer), one courtesy call is provided before court papers are sent. The file containing the signed court papers are given to the Code Enforcement Officer who files the court papers with the State's Attorney's Office. The Stormwater Manager and Code Enforcement Officer attend weekly court proceedings (Monday morning), in order to get the property owner to comply.
9) The timing of each of these steps depends on the time of year. A wetland delineation can only be performed during the growing season (typically May 1 through October 31 – there are exceptions), and obtaining a wetland consultant to hire and perform the work could take two to three weeks. A topographic survey can be difficult to do with snow on the ground (there are exceptions), and it could take an engineer or surveyor six weeks from the date of hire to completion of the first submittal. If the violation has taken place during a portion of the season that makes it impossible for the owner to promptly provide the necessary plans and reports, the SW department will work out a reasonable schedule and timeline for completion with the property owner.
10) If an engineer or consultant is required, the property owner will be responsible for providing the County with a letter from the engineer or consultant stating that they have been hired to perform the work, and a timeline explaining when the work will be performed.
11) Projects that will need inspections, review and permits from ACOE and IDNR could take several months. During the time we are waiting to hear from these government agencies, the SW division will request continuous communication on the status of the project with the agencies and the property owner.

12) If the property owner does not submit the required information according to the established timeline, the SW department will call one time and request an updated timeline. If a second deadline is missed, or if an updated timeline is not provided promptly, the SW department will continue with the next enforcement action.
13) If a permit is issued, the violation is closed. If a permit is issued but the violation has not been removed, the SW file will remain open with special conditions provided to the property owner and established inspections per the SW Enforcement Officer.

3.E Post Construction Runoff Control

The County complies with NDPES permit requirements by incorporating Ordinance and BMP standards to minimize the discharge of pollutants of development and transportation projects. This chapter describes how the compliance with stormwater discharge permit requirements for long-term post-construction practices that protect water quality and control runoff flow is achieved.

This SMPP creates and references extensive policies and procedures for regulating design and construction activities for protecting receiving waters. The design and construction site practices selected and implemented by the responsible party for a given site are expected to meet BMP measures described in the McHenry County Technical Reference Manual and IEPA's Program recommendations. All proposed permanent stormwater treatment practices must be reviewed and approved by the designated County representative.

3.E.1 Community Control Strategy

McHenry County has not included this minimum control measure in its permit program. We will review and consider inclusion in future permits.

3.E.2 Regulatory Program

McHenry County has adopted and enforces a Stormwater Management Ordinance (MCSMO) which regulates construction site and post-development stormwater runoff. The county's Planning and Development Department enforces this stormwater program in Unincorporated areas of the County as well as non-certified communities who do not have the in-house resources to administer and enforce the Ordinances. Amendments to the MCSMO by McHenry County Planning and Development Department to enhance "construction/post construction stormwater management" low impact design will be recommended and submitted to County Board late February 2008, to be adopted thereafter. The County's Division of Transportation (MCDOT) enforces these ordinances for their internal construction projects. MCDOT will continue to comply with the BMPs set forth for permanent erosion and sediment control standards specified by the IEPA, Army Corps of Engineers, Illinois Urban Manual, and MCSWCD and other county ordinances. This program is the QLP for BMP E.2.

The MCSMO includes numerous performance standards on Grading, Stormwater and Soil Erosion/Sediment Control that must be met for all parties undertaking construction. The McHenry County Technical Reference Manual is a guidance tool that describes BMP and implementation procedures for enforcing the MCSMO.

3.E.2.a Runoff Volume Reduction Hierarchy

The McHenry County Stormwater Commission and Technical Advisory Committee are currently working on developing a Runoff Volume Reduction Hierarchy that will require that the site plan include a combination of structural and/or non-structural BMPs that will reduce the discharge of pollutants, the volume and velocity of storm water flow to the maximum extent practicable. Once complete, the amendments will go before County Board to be adopted, thereby the permittee should ensure that the development plan addresses these provisions during the plan review process.

3.E.2.b Green Infrastructure

Each permittee should adopt strategies that incorporate storm water infiltration of *good quality water*, reuse and evapotranspiration of storm water into the project to the maximum extent practicable. Site plan design and review should ensure that the development plan incorporates green infrastructure and/or low impact design techniques when possible. Types of techniques include green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells (with appropriate pre-treatment) and permeable pavement. This subject is recommended by the EPA under the most recent general permit ILR40.

3.E.3 Long Term Operation and Maintenance Procedures

Intermediate and Major classifications of development must have a long term operation and maintenance plan. This plan is enforced by MCP&D and MCDOT. The MCSMO Article III.D.5 gives the MCP&D Enforcement Officer the right to require deed restrictions, performance bonds or sureties, as-built certification, or maintenance guarantees as stipulated in the Ordinance to assure projects are built and maintained according to permitted plans.

The MCDOT Access Management Ordinance (AMO) Section 4.4.4 requires a maintenance guarantee for a 1-year minimum maintenance period from the developer before the MCDOT accepts maintenance responsibilities for road improvements.

3.E.4 Pre-Construction Review of BMP Designs

Projects are reviewed with respect to stormwater by MCP&D and MCDOT depending upon jurisdiction, but all projects (development or road infrastructure) will receive a thorough review. All regulated development in Unincorporated McHenry County and in non-certified communities is reviewed by MCP&D to ensure adherence to the MCSMO.

On all road projects by McHenry County and all development projects fronting a County Route, the MCDOT Drainage Engineer is responsible in reviewing all stormwater structural and non-structural BMP’s used within the road right-of-way.

These review processes are the QLP for BMP E.4.

3.E.5 Site Inspections During Construction

The McHenry County Stormwater Management Ordinance (MCSMO) Article V, Section E.4 & E.5 mandate periodic inspections of erosion and sediment control for minimum control measure D.6 in the SMPP. These sections are used as the qualifying local program.

Additionally, the IDOT Construction Memorandum No. 03-07 requires the owner/contractor to attend a pre-construction meeting for all County road projects, while the MCSMO Article V.E.3 requires periodic soil erosion and sediment control inspections during construction for both development and County road projects.

The inspection program for its general facilities is discussed in detail in Chapter 3.F.2. The inspection procedure for site inspections related to construction activities is discussed in detail in Chapter 3.E.5.

3.E.6 Post-Construction Inspection

The following ordinances and State standard act as the qualifying program for this minimum control measure. The MCSMO Article V.E.4 requires a final inspection by an appropriate County Representative for all development projects in Unincorporated areas. For any developments that also have a MCDOT Major Access Highway Permit, the MCDOT Access Management Ordinance 5.8 requires a final inspection by the MCDOT for all associated road work. With respect to County road projects, the IDOT Standard Specifications for Road and Bridge Construction Article 105-13 requires a final inspection upon completion of construction

3.E.7 Other Post-Control Runoff Controls

Although this minimum control measure is not included in the County's NOI, the County enforces these requirements already per the MCSMO.

3.F Pollution Prevention and Good Housekeeping

The County is responsible for the care and upkeep of the general facilities, county roads, and associated maintenance yards. Many maintenance activities are most regularly performed directly by staff; however, from time to time contractors are employed to perform specific activities. This chapter describes how the compliance with permit requirements is achieved by incorporating pollution prevention and good housekeeping stormwater quality management into day-to-day operations. On-going education and training is provided to ensure that all of its employees have the knowledge and skills necessary to perform their functions effectively and efficiently.

3.F.1 Employee Training

The County's practice is to provide education and training to all of its employees to ensure that they have the knowledge and skills necessary to perform their functions effectively and efficiently. Within the County, the separate departments train their employees on procedures and policies which incorporate best management practices for pollution prevention and stormwater.

3.F.1.a Training Approach

Employees are encouraged to attend all relevant training sessions offered by the QLP and other entities on topics related to the goals/objectives of the SMPP. Additionally, the County will develop employee training with curricula and materials tailored to specific functional groups. Refer to **Table 7**. The materials focus on pollution prevention measures and practices involved in routine activities carried out by the various functional groups. Training materials primarily focus on revisions to the various programs (that were in place prior to the acceptance of the SMPP).

Table 7: Department Responsibilities

Department	Area of Responsibility	Training
Planning and Development	Stormwater Construction/waste disposal Pollution Prevention Sediment and Erosion Control Water Resources Inspections	Attend workshops and conferences Attend webinars Internal employee training
Department of Health	Illicit Discharge, Detection and Elimination Waste Disposal	Attend workshops and internal trainings
MCDOT	Pollution Prevention Stormwater Salting Construction Waste Disposal Spill Response	Winter Snow and Ice Workshop Snow and Ice Road-eo Attend workshops, webinars, conferences and seminars
Facilities Management	Pollution Prevention Waste Disposal Grounds maintenance and landscaping Valley Hi	Attend workshops and internal trainings
Emergency Management Agency	Hazardous Materials & Spill Response Reporting	Attend workshops and internal trainings
Sheriff	Spill response Ammunition Storage and Handling Narcotic Disposal	Attend workshops and internal trainings
Animal Control	Waste disposal Medication Disposal	Attend workshops and internal trainings
Coroner	Narcotic Disposal	Attend workshops and internal trainings

*Please refer to Appendix 5.9 for a detailed list of department training.

3.F.1.b Training Schedule and Frequency

Ongoing training is sought to meet the needs of the departments and NPDES permit. Digital and hard copies of the training materials will be kept and shared with applicable new employees as part of their job introduction. Revisions/enhancements to the SMPP will be approved by the NPDES Coordinators and then shared with applicable departments and employees. The NPDES Coordinators will monitor the potential need for overall refresher material distributions and offer additional training as necessary.

Employees are encouraged to share information with other employees via email or other formats. Information may include:

- updates and news which might enhance pollution control activities,
- feedback from field implementation of best management practices, or
- new product information.

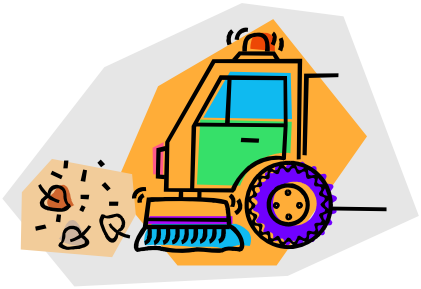
3.F.2 Inspection and Maintenance Program

Each department maintains inspection and maintenance programs according to internal procedures relevant to their specific responsibilities. In the County's annual permit, the County has focused on inspection of all stormwater outfalls, detention/retention facilities, and stream channels which fall under the jurisdiction of the County. The specified County personnel within each department are responsible for inspecting and overseeing the maintenance of related stormwater facilities and activities.

A master list of ponds, detention/retention facilities, stream channel outfalls, and storm drainage outfalls are listed and associated stormwater outfall inspection forms filed in Appendix 5.6.

3.F.3 Municipal Operations Storm Water Control

3.F.3.a Street Sweeping



Street sweeping has a direct beneficial impact on water quality. Street sweeping operations are performed to reduce potential illicit discharges and to provide a clean environment. The McHenry County Division of Transportation maintains approximately 23 miles of curb line.

The curb lines of all streets are cleaned on a rotating basis. The rotation maybe changed or interrupted if heavy rain occurs, the sweeper is out of order due to mechanical problems, or the DOT maintenance crew experiences heavy workload. Each street is typically swept/cleaned approximately 2 to 4 times per year. See Appendix 5.11 for the street sweeping map.

Sweeper waste is collected and put in a contained area to drain and dry, then disposed of in the waste dumpster to be hauled to an appropriate landfill.

MCDOT Sweeper Truck operator submits daily operation reports detailing location and debris amount. Evaluation of cleaning frequency is ongoing.

3.F.3.b Drainageways

Drainageways include any river, stream, creek, brook, branch, natural or artificial depression, ponded area, lakes, flowage, slough, ditch, conduit, culvert, gully, ravine, swale, wash, or natural or man-made drainageway, in or into which surface or groundwater flows, either perennially or intermittently. Primary drainage ways are listed in Appendix 5.12 and on the annual NOI report. Minor drainage ways include roadside and side yard swales, overland flow paths, pond outlets, etc. Detention/retention ponds are part of the Storm Sewer Atlas and Outfall Map (refer to Appendix 5.6).

POND OUTLETS

The ***Detention/Retention Pond Checklist*** is part of the ***Storm Sewer Atlas and Outfall Map*** (**that can be requested),** and is used to determine inspection locations. Structures are added to the checklist after new facilities are approved and accepted. Locations identified on the checklists are to be inspected every three years. Ponds are inspected and evaluated for a low, medium and high level of flood height according to the following classifications.

Flood Height Classification

- Low – Normal Water Level (NWL)
- Medium – NWL to top of grate
- High – Top of Grate and above

Condition

- Good – outlet is unimpaired, not blocked
- Fair –outlet obstructions observed although outlet is discharging
- Poor – outlet is blocked or obstructed

Comments

- Note structural defects or other observances.
- If obstructions are observed, a maintenance request is submitted to clear and remove debris. If water levels are too high, a follow-up inspection will take place when water recedes.

BOX CULVERTS AND BRIDGES

Box Culverts & Bridges are listed on the ***Storm Sewer Atlas and Outfall Map*** (**that can be requested)**. Structures are added to the map after new facilities are approved and accepted. Locations identified on the map are inspected every three years as well. Inspection procedures follow the Pond Outlet discussion above.

DRIVEWAY CULVERTS

Maintenance and replacement of driveway culverts is the property owner's responsibility. A minimum 15" diameter culvert is required per County Standards. Permits are required for culvert replacement; a soil erosion and sediment control plan may be required as part of the permit. The MCDOT inspects the culvert when it is set to grade and prior to backfilling. They also may rod/clean culverts on an as needed basis.

CATCH BASINS

Catch basin locations are identified on the **Storm Sewer Survey**. The spoil waste obtained from catch basin cleaning is disposed of properly. Locations of cleaned catch basins are tracked.

Catch basins found to have structural deficiencies and need remedial actions are reported to and completed by the MCDOT Maintenance Department. If maintenance cannot remediate, then repairs will be incorporated into a capital improvement project. Catch basins that have been cleaned are tracked on the GIS data base using a color coded system.

STORM SEWERS

If catch basin debris is at the invert elevation of the downstream pipe (i.e. has completely filled the sump area), then the downstream storm sewer system is also cleaned. Likewise, if a water main break or other heavy flow occurs that flushes potential illicit discharges into the storm sewer system, the receiving storm sewer lines are inspected and then cleaned as necessary.

OTHER INLET AND GRATE CLEANING

Cleaning of these areas occurs on an as-needed basis (e.g. complaints, incidences, standing water, etc). Spoil waste that is obtained from inlet and grate cleaning or vacuuming is disposed of properly.

DITCH/SWALES AND OVERLAND FLOW PATHS

Right-of-way Drainage Swales: The MCDOT documents observed or reported erosion or sediment accumulation. Areas of significant concern are incorporated into a maintenance program.

3.F.3.c Landscape Maintenance

The County of McHenry maintains care and upkeep of its general facilities, County roads and right-of-way and associated maintenance yards. County staff is responsible for weed management. The County annually selects and contracts with a landscape contractor for County facilities. This contractor is responsible for the landscape maintenance program under the supervision of the Facilities Management. The contractor provides weed control and fertilizing two times per year, with pest control provided on an as needed basis.

Along County right-of-way, The MCDOT oversees noxious weed vegetation control along specific locations within the county system. Additionally, the MCDOT maintains approximately 12 miles of guardrail along County highways. The use of herbicides for broadleaf weed control along guardrail is limited to locations of guardrail in the county and the time of year. The DOT contracts this work, which is performed from mid-April to mid-May. The contractor uses herbicides having low toxicity to aquatic life. BMP's reflected in the County's maintenance activities include triple rinsing of herbicide containers and application of the rinsate to the area being treated, spill prevention during storage, use minimization, application by licensed operators, and careful selection of pesticide materials to minimize any potential adverse water quality impact.

The County is responsible for ensuring that their landscape contractors are aware of the NPDES requirements to ensure that they adhere to the County's SMPP. Additionally, the County retains copies of contractor permits for the application of herbicides and pesticides.

LITTER AND DEBRIS

The County's litter control and waste programs serve to protect water quality and enhance the visual aesthetics of the County. Litter and debris can accumulate on County property and roadway right-of-ways and should be removed. Each County facility is responsible for the clean-up of their respective facilities.

Despite effort committed to public education, litter removal, street sweeping, dumping of trash along public right-of-ways, and litter from other sources still enters the stormwater system. The MCDOT performs a cleanup of all public right of ways once a year in spring to augment the Adopt-A-Highway Program (see 3.B.2.) This clean up consists of all maintenance personnel walking and collecting all garbage along the road-side. After the clean-up is performed, maintenance crews continue to perform weekly checks of the right-of-ways and pick up any large garbage that is found.

PRIVATE RESIDENCE YARD WASTE

The disposal of landscape waste is regulated by the McHenry County Public Health Ordinance. The Ordinance establishes the minimum standards for the county; however, multiple

municipalities have more stringent requirements. The Solid Waste Manager actively promotes waste reduction and beneficial reuse of residential landscape waste as follows:

- Mulching and grass recycling
- Backyard composting
- Native landscaping

Information regarding these options is available on the Department of Health webpage: mcdh.info; and the Department offers multiple brochures on this topic at the Department offices.

All licensed municipal waste haulers operating in McHenry County are required to offer landscape removal services to their customers. Residents who choose to have the landscape waste removed from their property may use a licensed waste hauler, landscaping service, or take their landscape waste to two (2) local IEPA permitted composting facilities that offer drop off options for residents.

Enforcement to address accumulations of landscape waste or open dumping of landscape waste is pursued under the authority of the Public Health Ordinance or Environmental Protection Act.

The Solid Waste Manager, Environmental Health Educator and Community Information Coordinator provide ongoing education outreach through traditional and social media outlets, on the Department's webpage, as part of field enforcement activities, and through one on one consultations with the general public.

FERTILIZERS

The annual landscape contractor is required to be a licensed applicator for fertilizers. Weed killer and fertilizers are typically scheduled two and four times per season, respectively. Contractor specifications incorporate low impact products. The use of pesticides and fertilizers shall be managed in a way that minimizes the volume of storm water runoff and pollutants per Illinois General Permit 87 (See Appendix 5.14).

3.F.3.d Snow Removal and Ice Control

The McHenry County Division of Transportation (MCDOT) continues to maintain a "bare pavement" policy as soon as possible after a storm event has ended. During snow removal and ice control activities, salt, de-icing chemicals, abrasives and snow melt may pollute stormwater runoff. The need for deicing materials continues to grow with potential deleterious effects on water quality. To address these potential pollutants, the MCDOT has internal policies and procedures that they follow. The MCDOT policies for snow removal and the MCDOT procedures for snow removal are available and can be obtained

through the MCDOT maintenance department. In brief, the following procedures for the "winter season" are implemented.

ROADWAY ICE CONTROL

Use the minimal amount of salt, de-icing chemicals and additives necessary for effective control. Prior to winter season, preparation work to obtain seasonal readiness is completed. These tasks include: inspecting and re-conditioning of spreaders and spinners, install these items onto snow removal vehicles, performing test operations, calibrating distribution rates per National Salt Institution Application Guidelines, and conducting better driver training. The completion of these preparatory tasks helps to ensure that only the necessary level of salt is applied.

The MCDOT monitors weather conditions to determine when they need to initiate anti-icing and snow removal operations. They follow the guidelines established within the Snow and Ice Policy and Procedures manual.

SALT DELIVERY AND STORAGE

Steps are taken to ensure that the delivery, storage and distribution of salt does not pollute stormwater runoff from the MCDOT facility. The MCDOT has a salt dome where all runoff from the dome, parking-lots, and loading area drain to stormwater detention basins that are designed to capture and settle pollutants.

All building floor drains in the vehicle storage facility and mechanic shop lead to an inline oil/water separator before being pumped to a county owned sewage treatment facility. There are no floor drains in the salt dome. The floor of the salt storage building and adjacent receiving/unloading area are constructed of asphalt or concrete. Delivered salt is unloaded onto a conveyor system that directs the salt into the dome. The limits of the salt pile are pushed back from the door opening to minimize potential illicit runoff. In the event that there is runoff from the salt storage building or unloading area, it drains to the stormwater detention basins.

SNOW PLOWING

Facilities Maintenance – Parking Lots
Snow plow/removal activities include snow removal and deicing of all county facilities, sidewalks and parking lots. Facilities management deices the county owned sidewalks and parking lot; however, they contract out snow plowing/removal.

McHenry County Department of Transportation – Roadways
Snow plowing activities direct snow away from the lanes of travel. This activity reduces the amount of salt, chemical additives, abrasives or other pollutants that go directly into the drainage system. Refer to the Snow and Ice Policy and Procedures Manual for additional operations information.

3.F.3.e Vehicle and Equipment Operations

Vehicle and equipment fueling and maintenance procedures and practices are designed to minimize or eliminate the discharge of pollutants to the stormwater management system, including receiving waters.

VEHICLE FUELING

Sheriff
The vehicle fueling area two tanks and two fuel pumps. These tanks are monitored by an electronic leak detection system. Leaking is constantly monitored by the system, whereas the system itself is tested weekly. Surface runoff, in the vicinity of the tank farm, sheet flows to a field south of the facility.

MCDOT
The vehicle fueling area contains two tanks and two fuel pumps. These tanks are monitored by an electronic leak detection system. Leak tests are performed annually. Surface runoff, in the vicinity of the tank farm, is directed to the stormwater detention ponds to the west of the facility. Any spills on the refueling pad or parking lot are immediately contained with oil dry or kitty litter, then swept up and properly disposed.

VEHICLE MAINTENANCE
This chapter includes proper handling and disposal of vehicle maintenance by-products such as waste oil, antifreeze, batteries and tires. See below.

Sheriff
Vehicle maintenance procedures and practices are designed to minimize or eliminate the discharge of petroleum based pollutants to the stormwater management system, including receiving waters. All building, maintenance shop and truck storage floor drains lead to an inline triple catchbasin oil/water separator. The trapped oil and sediments are pumped dry once a year by a hazardous waste vendor. All water after the settling process flow to the sanitary sewer system.

MCDOT
Vehicle maintenance procedures and practices are designed to minimize or eliminate the discharge of petroleum based pollutants to the stormwater management system, including receiving waters. All building, maintenance shop and truck storage floor drains lead to an inline oil/water separator. The trapped oil and sediments are pumped dry twice a year by a hazardous waste vendor. All water after the settling process is then pumped to a county owned sewage treatment facility.

WASTE OIL, ANTIFREEZE, BATTERIES, TIRES AND OTHER

Sheriff
Used fluids, including motor oil, transmission fluids, gear lubes, brake fluids and other vehicle fluids (except antifreeze) are collected and stored inside the facility. Typically, the waste oil tank is emptied and the contents removed for recycling.

Used antifreeze is stored inside separetly in two-55 gallon drums. When 1 drum is full, a special waste hauler is contacted for collection and disposal.

Used batteries are stored on top of a receiver pan inside the facility in case of leakage. Typically, the batteries are collected weekly a local vendor.

Used tires are transported to a local vendor for recycling. Tires are stored inside the facility until enough are collected for a disposal run. Additionally, tires are stored in a manner preventing stagnant water conditions and vector mosquitoes.

Facilities Maintenance
Private certified companies perform all air-conditioning related work; therefore, the disposal of freon is not handled directly by the County. Cleaning fluids and solvents are contained within an enclosed area and maintained by a private licensed special waste company.

MCDOT
Used fluids, including: motor oil, transmission fluids, gear lubes, brake fluids and other vehicle fluids (except antifreeze) are collected and stored in a designated room in the maintenance shop. Typically, the waste oil tank is emptied and the contents removed for recycling on a bi-monthly schedule.

Procedures are in place for: waste oil storage tanks, used oil filters, and lead batteries awaiting pick-up for recycling to be located inside the vehicle shop in a room with containment and a drain leading to the triple catchbasin oil/water separator as a safety measure. All used oil and antifreeze are periodically picked-up for offsite reclamation by a waste oil service. There are no "significant" materials that are exposed to stormwater.

Used batteries are stored in an enclosed covered container at the maintenance shop. Typically, the batteries are collected by a local vendor periodically as new batteries are brought to the MCDOT.

Used truck tires are disposed of as new tires are purchased. Tires collected from County ROW are stored outside on a rack away from the building until the MCDOT Maintenance department transports them to a local tire vendor for proper disposal. Additionally, tires are stored in a manner preventing stagnant water conditions and vector mosquitoes.

3.F.3.f Pet Waste

McHenry County does operate an Animal Control and Adoption Center in Crystal Lake. Staff utilize established procedures to

prevent any negative public health or environmental impact from the animal waste. Solid animal waste on the outside premises is routinely picked up by staff and disposed of with the municipal solid waste. Animal waste on the inside of the building is routinely collected and disposed of with the municipal solid waste (i.e. cat litter, etc.) or washed into drains which discharge into the sanitary sewer (kennels.)

The McHenry County Public Health Ordinance regulates the handling and disposal of animal waste to prevent nuisance, public health or environmental concerns. Department of Health staff responds to complaints of accumulations of animal waste on private or public properties and follows its normal enforcement process to achieve compliance.

A brochure on the proper handling of pet waste has been developed by the Water Resources Manager and is available on the Water Resources webpage at mchenryh2o.com (Appendix 5.3).

3.F.3.g Animal Nuisance Control

The MCDOT, upon receiving notification or visible inspection, collects "road kill" from right-of-way areas. The carcasses are disposed of in an appropriate manner.

All policies, procedures, and maintenance activities in this section serve as the QLP for BMP F.3.

3.F.4 Municipal Operations - Waste Disposal

3.F.4.a Waste Management

Waste Management consists of implementing procedural and structural practices for handling, storing and disposing of wastes generated by a maintenance activity. This helps prevent the release of waste materials into the stormwater management system including receiving waters. Waste management practices include removal of materials such as asphalt and concrete maintenance by-products, excess earth excavation, contaminated soil, hazardous wastes, sanitary waste and material from within the triple basins. While this minimum control measures are not presently acknowledged in our permit program, the County does apply BMP's for this minimum control measure. At a later date, we will review current policies and procedures and consider including this minimum control measure in our five year program plan.

CONTAMINATED SOIL MANAGEMENT

Collect or manage contaminated soil/sediment generated during an emergency response or identified during construction activities for treatment or disposal. In the event of an emergency, the County contacts an environmental remediation contractor to clean up the spill and associated

contaminated soils. If the MCDOT encounters contaminated soils during roadway construction, the County follows IDOT procedures for handling and clean-up.

HAZARDOUS WASTE

Store all hazardous wastes in sealed containers constructed of compatible material and labeled. The containers are located in non-flammable storage cabinets or on a containment pallet. These items include paint, aerosol cans, gasoline, solvents and other hazardous wastes. Please refer to chapter 3.F.3.e for vehicle related hazardous wastes. Do not overfill containers. Paint brushes and equipment used for water and oil-based paints are cleaned within the designated cleaning area. Contain associated waste and other cleaning fluids within an enclosed tank, the tank is maintained by a private licensed special waste company.

SANITARY WASTE

Discharge sanitary waste into a sanitary sewer or managed by a licensed waste hauler.

TRIPLE BASINS

McHenry County has 4 locations of triple basins, including: MCDOT Facility, Animal Control facility, Sheriff's garage and Jail. Floor drains in the garage bay floor area of the 4 previous locations are directed to an underground Triple Basin. The triple basins are contracted by each Facility for pumping and removing solids by a licensed waste hauler.

AMMUNITION STORAGE AND HANDLING

Ammunition is stored and handled in accordance with the manufacturer's specifications. Standards are governed by CALEA, ACA, and OSHA, in addition to the EPA requirements for outdoor ranges. The McHenry County Sheriff's Office uses EPA 902-b-01-001 "Best Management Practices for Lead at Outdoor Shooting Ranges" to protect surface and groundwater from lead contamination.

3.F.5 Flood Management/Assessment Guidelines

This minimum control measure (MCM) is not presently included in our permit program. This MCM will be reevaluated at a later date for possible inclusion.

3.F.6 Other Municipal Operations Controls

While this minimum control measure (MCM) is not presently acknowledged in our permit program, the County does apply BMP's for this MCM. At a later date, we will review current policies and procedures and consider including this minimum control measure in our five year program plan.

3.F.6.a Water Conservation & Irrigation

Water conservation practices minimize water use and help to avoid erosion and/or the transport of pollutants into the

stormwater management system. McHenry County has two facilities that have underground irrigation: Valley Hi Nursing Home and Administration Building. Each building has a soil moisture gauge for operations. Section III: Water Conservation of the Water Resources Action Plan can be found at www.mchenryh2o.com.

3.F.6.b Green Infrastructure

McHenry County completed the replacement of HVAC motors with higher efficiency motors, installation of a 15.4 KWH solar panels on the Administration building, retrofitted lighting at MCDOT and new skylights. Installation of new windows, demand control ventilation for the Courtrooms, and lighting occupancy sensors in all County facilities by beginning of 2011. Equipment is added to the Facilities Management computerized maintenance system for preventive and corrective maintenance schedules as recommended per manufacturer.

In summer of 2011, McHenry County added a rain garden and xeriscape garden in the front of the Administration building as a demonstration project for the rest of the county.

3.F.6.c Spill Response Plan

Spill prevention and control procedures are implemented wherever non-hazardous chemicals and/or hazardous substances are stored or used. These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents discharge to the stormwater management system and receiving waters. The following general guidelines are implemented, when cleanup activities and safety are not compromised, regardless of the location of the spill:

- Cover and protect spills from stormwater run-on and rainfall, until they are removed,
- Dry cleanup methods are used whenever possible,
- Dispose of used cleanup materials, contaminated materials and recovered spill material in accordance with the Hazardous Waste Management practices or the Solid Waste Management practices of this plan,
- Contaminated water used for cleaning and decontamination shall not be allowed to enter the stormwater management system,

- Keep waste storage areas clean, well organized and equipped with appropriate cleanup supplies, and
- Maintain perimeter controls, containment structures, covers and liners to ensure proper function.

3.F.6.d Non-Hazardous Spills/Dumping

Non-hazardous spills typically consistent of an illicit discharge of household material(s) into the street or stormwater management system. Upon notification or observance of a non-hazardous illicit discharge, County personnel implement the following procedure:

- Sand bag the receiving inlet to prevent additional discharge into the storm sewer system, as necessary. It may be necessary to sand bag the next downstream inlet.
- Check structures (immediate and downstream). If possible, materials are vacuumed out. The structure(s) are then jetted to dilute and flush the remaining unrecoverable illicit discharge.
- Clean up may consist of applying "Oil Dry" or sand and then sweeping up the remnant material.
- After the spill on County right-of-way has been mitigated, all correspondence between departments is filed appropriately.
- If a person is observed causing an illicit discharge, Health Department is notified and appropriate citations issued.

3.F.6.e Hazardous Spills

Upon notification or observance of a hazardous illicit discharge, the County follows the procedure below:

- Call 911, explain the incident. The Fire Department responds;
- The Sherriff or local police department provides emergency traffic control, as necessary;
- The Fire Department evaluates the situation and applies "No Flash" or "Oil Dry" as necessary;
- The Fire Department's existing emergency response procedure, for hazardous spill containment clean-up activities, is followed; and
- The Sherriff or the local fire department documents the location, type of spill and action taken submits directly to the IEPA.

4 Program and Performance Monitoring, Evaluation and Reporting

The SMPP represents an organized approach to achieving compliance with the stormwater expectations of the NPDES Phase II program for both private and public activities within the County. Land development, redevelopment and transportation improvement projects were required to comply with the provisions of the MCSMO prior to acceptance of the SMPP. Additionally, the County had numerous written and unwritten procedures for various tasks. This SMPP documents and organizes previously existing procedures and incorporates the objectives of the MCSMO and other procedure and policy manuals to create one cohesive program addressing pre-development, construction, post-development activities and municipal operations.

This chapter describes how the County will monitor and evaluate the proposed stormwater pollution prevention plan based on the above stated objective. As part of the stormwater management program, the County:

- reviews its activities,
- inspects its facilities,
- oversees, guides, and trains its personnel, and
- evaluates the allocation of resources available to implement stormwater quality efforts.

This chapter describes how program monitoring, evaluation and reporting will be accomplished.

4.A Performance Milestones

Previously established ordinances and programs implement many of the anticipated tasks. The following schedule describes general performance expectations.

- Training regarding the implementation of the SMPP is ongoing.
- Support public education, outreach and involvement.
- Update the sewer maps to reflect changes.
- Keep updated maps and forms.
- Support training by all departments.

- Perform all inspections within our commitments according to the set schedule.

4.B Program Monitoring and Research

Currently water quality sampling/monitoring is not required under the NPDES Phase II program. Therefore, monitoring efforts focus on qualitative, not quantitative, examination of the stormwater practices. It is anticipated that the USEPA and IEPA programs will evolve to require water quality monitoring and sampling. Future efforts may involve collecting information on the characterization of discharges from outfalls, identifying other sources of pollutants, characterizing the receiving waters, sampling construction site discharges, identifying the performance of existing and potential enhanced stormwater pollution control measures. The County will comply with future federal and state mandates.

The Stormwater Coordinator will monitor research conducted by others regarding the effectiveness of various alternative stormwater practices, procedures and technologies. The County will continue to seek innovative stormwater practices and technologies. Information and guidance obtained through the Stormwater TAC meetings and other sources will be incorporated into this SMPP as practical. This information will be used to provide insight into how the program may need to evolve.

4.C Program Evaluation

The primary mechanism for evaluating the program and ensuring that the field staff has adequate knowledge is the responsibility of the NPDES coordinators. The coordinators include the Drainage Engineer and the Water Resources Manager. Planning and Development and DOT Departments support tasks include observing and evaluating design, construction and field personnel as they implement the requirements of the MCSMO which are cross-referenced in the SMPP on both municipal and private projects, and maintenance personnel as they conduct their assigned activities. These responsibilities were outlined in detail in Chapter 2: Program Management.

The following types of questions/answers need to be discussed in the future between the NPDES Coordinators and County Administration.

- Are proper stormwater management practices integrated into planning, designing and constructing both County and private projects?
- Are efforts to incorporate stormwater practices into maintenance activities effective and efficient?
- Is the training program sufficient?
- Is the SMPP sufficient?
- Are the procedures for implementing the SMPP adequate?

Summary

Through education and outreach, the Water Resources Manager of P&D, Maintenance Superintendent of MCDOT, MCSEEP educational lesson plans, and Health Department targets a variety of different age and education levels of audiences. However, it is very hard to make a direct correlation of their impact on McHenry County waters.

The best tell tale sign of our program's effectiveness is the health and quality of our streams. Those McHenry County streams on the Nationwide Rivers Inventory (NRI) have not lost their place on this list. Rush Creek and Piscasaw Creek are noted for their fishibility and other naturalistic qualities with potential to be rated for recreation. The Fox River from Elgin to the West Dundee Dam has a high recreational value as well on this list. Since this section is downstream of McHenry County's entire eastern developed area and has not been downgraded, it is a testament to the efficacy of our stormwater and construction ordinances, in conjunction with our sweeping program and educational outreach efforts.

McHenry County is looking to partner with watershed groups and MCCD in the future to add more monitoring data to our program to continue to monitor the health of our major receiving waters; however, that coordination has not been initiated as of yet.

5 Appendices

5.1 List of Acronyms

BMP	Best Management Practices
CWA	Clean Water Act
DECI	Designated Erosion Control Inspector
EO	Enforcement Officer (McHenry County SMO)
HHW	Household Hazardous Waste
ID	Identification
IDDE	Illicit Discharge Detection and Elimination
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
ION	Incidence of Non-compliance (with IEPA)
IUM	Illinois Urban Manual
MCDOT	McHenry County Division of Transportation
LOC	Letter of Credit (surety)
MS4	Municipal Separate Storm Sewer Systems
NOI	Notice of Intent
NOT	Notice of Termination (with IEPA)
NPDES	National Pollutant Discharge Elimination System
PPE	Personal Protection Equipment
QLP	Qualify Local Program
SE/SC	Soil Erosion and Sediment Control
SMO	Stormwater Management Ordinance
SMPP	Stormwater Management Program Plan
TAC	Technical Advisory Committee
TRM	Technical Reference Manual
USEPA	United States Environmental Protection Agency

5.2 General Permit ILR40

5.3 Distributed Paper Material

- Informational sheets/pamphlets regarding storm water best management practices,
    - "The Solution to Stormwater Pollution" USEPA – Division of Transportation brochure,
    - "After the Storm" USEPA - Division of Transportation brochure,
    - "Floodplains" County of McHenry – Dept. of Planning and Development brochure,
    - "Wetlands" County of McHenry – Dept. Planning and Development brochure,
    - "After the Flood" County of McHenry – Health Dept. brochure
    - "After the Flood" County of McHenry – Emergency Management Agency Brochure
    - "Flash floods and floods… the Awesome Power!" Emergency Management Agency Brochure
    - "Stormwater Management Permit" - Dept. Planning and Development brochure

- Informational sheets/pamphlets regarding water quality best management practices,
    - "Residential Deicing" County of McHenry – Division of Water Resources brochure,
    - "Coal Tar" County of McHenry – Division of Water Resources,
    - "Phosphorus" County of McHenry – Division of Water Resources,
    - "So You Are Applying for a Septic Permit" – Department of Health,
    - "How to Disinfect a Private Water Supply" – Department of Health,
    - "Everything You Wanted To Know About Your Septic System" – Department of Health,
    - "Everything You Wanted To Know About Your Private Well System" – Department of Health,
    - "West Nile Virus" – Department of Health,
    - "Trees and Septics" – Department of Health,
    - "Pool Dewatering" – Division of Water Resources.

- Informational sheets/pamphlets regarding construction site activities (soil erosion and sediment control best management practices),
    - Stormwater Management Ordinance Technical Reference Manual – Department of Planning and Development.

- Informational sheets/pamphlets regarding the hazards associated with illegal discharges and improper disposal of waste and the manner in which to report such discharges.
    - "Unused and Expired Medications" County of McHenry – Division of Water Resources brochure,
    - "How to dispose of Medicines Properly" County of McHenry – Division of Water Resources brochure,
    - "Proper Disposal of Animal Waste" County of McHenry – Division of Water Resources brochure,
    - "Household Hazardous Waste" County of McHenry – Division of Water Resources brochure.

5.3 Distributed Paper Material (cont.)

- Informational sheets/pamphlets regarding green infrastructure strategies such as green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells and permeable pavement.
    - "Water Friendly Landscaping Alternatives" County of McHenry – Division of Water Resources brochure,
    - "Lawn Care" County of McHenry – Division of Water Resources brochure,
    - "Conservation Design" County of McHenry – Division of Water Resources brochure,

- A water quality/storm water section in the County online newsletter.

- Informational booklet on pollution prevention
    - "2004 Emergency Response Guidebook" Emergency Management Agency Brochure

- Other educational information distributed
    - "Water Conservation" County of McHenry – Division of Water Resources brochure.

5.4 Speaking Engagements

Stormwater Division

- *Agricultural Drainage Workshop March 27, 2012*
- *Homeowners Association Workshop April 11, 2012*
- *Lawn Care Workshop, April 2013*
- *July 11, 2012 Drought Summit*
- *August 29, 2012 Youth Groundwater Festival*
- *October 18/19, 2012 Winter Snow and Ice Workshop*
- *March 27, 2013 Soil Erosion and Sediment Control Workshop*
- *Drainage and the SMO,* Woodstock, IL March 25, 2011
- *2011 Stormwater and NPDES Presentation,* Woodstock, IL, December 15, 2011
- *"McHenry County's Streamlined Permitting Process"* 2012 IAFSM Conference. March 14, 2012

Water Resources Division

- *Stormwater Management and NPDES Workshop*. County of McHenry. Woodstock, IL.
- *The State of Groundwater Science: What Planners and Policy Makers Have to Work With*? Chicago Metropolitan Agency for Planning. Chicago, IL.
- *McHenry County Water Resources Action Plan.* Land Use Council 16 Water Workshop. Sycamore, IL.
- *Groundwater and the Environment*. Pizzo's Anniversary Celebration. Leland, IL
- *Sustainability in the Face of Development*. 2011 ISAWWA Water Conference. Springfield, IL
- *Environmental Impacts of Winter Snow and Ice Operations*. 2011 ISAWWA Water Conference. Springfield, IL
- *Rising Chlorides and What to do about it?* Health Board of Directors, Woodstock, IL.
- *Transportation and the Environment*. Delta Institute, Chicago, IL
- *Dangers of Sodium Contamination*. Illinois Rural Water Association, Freeport, IL
- *Watershed Planning*. Chicago Metropolitan Agency for Planning. Chicago, IL
- *Drought Planning*. Groundwater Task Force. Woodstock, IL.
- *Low Impact Development and Water Conservation*. Groundwater Task Force. Algonquin, IL.
- *Impacts of Asphalt Seal Coating Agents: Coal Tar & PAH's*. Groundwater Task Force. Woodstock, IL.
- *Integrating Science into Water Supply Planning.* Governor's Conference on Illinois River System. Peoria, IL.
- *Integrating Science into Water Supply Planning.* National Groundwater Association Virtual Conference.
- *McHenry County Groundwater Projects.* Illinois Groundwater Association. Utica, IL.
- *Water Resources Action Plan.* McHenry County Board. Woodstock, IL.
- *Significance of Water Training*. County of McHenry – Department of Health. Woodstock, IL.
- *Coal Tar and PAH's.* Illinois Lakes Management Association. DeKalb, IL
- *2011 Stormwater and NPDES Workshop (45 participants – ½ Day)*
- *2011 Groundwater Protection Workshop (90 participants – Full Day)*
- *2011 Youth Groundwater Field Day (75 H.S. Students – ½ Day)*
- *2011 Winter Snow and Ice Training and Certification Workshop (trained 500 operators)*

Division of Transportation

- *Winter maintenance updates and sustainability updates. APWA Transportation Committee mtg 3/28-3/30. Washington DC*
- *Regulatory Requirements Tomorrow & Sustainability in winter maintenance -going green when it's white. Illinois Conference On Asphalt and Transportation, Peoria Il, April 5 & 6 - Environmental Impacts Today*
- *APWA certificate class (8 hour course, 212 certified) & The_Evolution_of_Salt_Brine_6104 & THE WORLD OF WINTER MAINTENANCE 6020 & Winter Maintenance Survival 101. APWA North American Snow Conference, April9-14, Spokane Washington –*
- *Use of Chemicals and Abrasives & New Technology in Winter Maintenance. Leadership Class for Iowa State University, 5/18 – Ames IA*
- *New Technology in Winter Maintenance. APWA Mid- America Conference, Kansas City 5/19 - 5/22*
- *Sustainability in winter maintenance -going green when it's white. APWA Sustainability Conference, Portland Or. 6/27 – 6/30*
- *APWA updates and Sustainability in winter maintenance -going green when it's white. AASHTO meetings in Louisville Ky., 7/15 – 7/20*
- *Sustainable Winter practices. Township Officials of Illinois, Peoria, 7/31 – 8/2*
- *McHenry County Culvert lining program. Fox Valley Culvert workshop, Saint Charles, Il*
- *Using social media in winter maintenance. FHWA Clarus Stakeholders meeting Albuquerque, NM, 9/6 – 9/9*
- *Private Contractor training, sustainable winter practices. Tovar, Chicago Illinois 9/16*
- *Hodne Sustainability in winter maintenance. APWA Congress in Denver Co, 9/17 – 9/20*
- *New technologies in winter maintenance & group leader for Grand Challenges in winter maintenance. FHWA/AASHTO Peer exchange meetings in Bozeman Montana 9/21 – 9/23*
- *Tailoring the Approach to the Storm & The world of winter maintenance. APWA Western snow conference in Estes Park, Co., 9/27 – 10/4*
- *Private Contractor training, sustainable winter practices. Tovar, Chicago Illinois 10/5*
- *Sustainable winter practices. National association of Procurement Officials, Saint Charles Il, 10/6*
- *Winter maintenance national issues. DuPage River Salt Creek Workgroup, DuPage County, IL*
- *Certificate program, best practices. (8 hour class. 95 operators certified) Illinois heartland certificate program Peoria Il, 10/27 – 10/28*
- *MCDOT winter operations, fundamentals, best practices & policies. MCDOT Maintenance Winter Operations Training 11/28 & 11/29*
- *MCDOT winter operations and winter sustainability issues. Flip program Jan 21, 2012 - High school group from Chicago for a presentation and tour*
- *Liquid use in winter operations, new technology in winter maintenance & sustainability in winter maintenance. Europe, Feb 1 – Feb 14 – Lincoln Uk, Manchester Uk, Glasgow Scotland, Edinburgh Scotland, Oslo Norway, Stockholm Sweden, London UK*
- *Sustainable practices in winter maintenance. Salt Institute Board of Directors meeting in California – March 7 – 14*

Department of Health

Emergency Management Division

Animal Control

Sheriff

5.5 Articles

Division of Transportation

- Supervisor Training – Be the best of the best - APWA Reporter
- McHenry County's Living Snow Fence Project – APWA Reporter
- Tailoring the Approach to the Storm – APWA Reporter
- Technical News - Spotlights, Sustainable, Certificate, Sub-Committee – APWA Reporter
- What's new in Winter Maintenance? – Road and Bridges Mag
- HEART OF ILLINOIS WINTER SNOW AND ICE OPERATOR'S WORKSHOP – Road and Bridges Mag

Division of Water Resources

- Every Drop Counts. Northwest Herald. February 2012.
- These Resolutions Save you money and help the planet. Northwest Herald. December 2011.
- Water Conservation Would Be A Great New Holiday Tradition. Northwest Herald. December 2011.
- Protect Water Supply When Removing Snow and Ice this Winter. Northwest Herald. November 2011.
- County Offers Workshop on Snow and Ice Control. Northwest Herald. October 2011.
- Saving Water Means Saving Energy. Northwest Herald. June 2011.
- County Mulls Sealant Ban. Northwest Herald. Northwest Herald. May 2011.
- Groundwater Protection Event Planned. Northwest Herald. May 2011.
- Learn to Conserve on World Water Day. Northwest Herald. March 2011.

Department of Health

Emergency Management Division

Animal Control

Sheriff

5.6 Master List of Ponds, Detention/Retention Facilities, Stream Channel Outfalls, and Storm Drainage Outfalls and Stormwater Outfall Inspection Form

1. Algonquin Road over Gravel Pit Creek Str # 056-3166
2. Algonquin Road over Crystal Creek Str # 056-3165
3. Algonquin Road over Woods Creek (east of Randall Road) Str # 056-3164
4. Algonquin Road over Woods Creek (west of Randall Road) Str # 056-3172
5. Randall Road over Woods Creek Str # 056-3204
6. Randall Road over Tributary to Woods Creek Str # 056-3206
7. Rakow Road over Crystal Creek Str # 056-3157
8. Lakewood Road over South Branch Kishwaukee Creek
9. Main Street over South Branch Kishwaukee River Str # 056-3018
10. Marengo Road over South Branch Kishwaukee River
11. Harmony Road over Tributary to Coon Creek Str # 056-3170
12. Maple Street over Tributary to Coon Creek Str # 056-3027
13. Harmony Road over Coon Creek Str # 056-3138
14. Genoa Road over Tributary to Spring Creek
15. Coral Road over Tributary to Riley Creek
16. South Union Road over Tributary to West Branch Union Creek
17. Marengo Road over West Branch Union Creek East
18. Marengo Road over Tributary to West Branch Union Creek East Str # 056-3160
19. Marengo Road over East Branch Union Creek East
20. South Union Road over the South Branch Kishwaukee River Str # 056-3178
21. Franklinville Road over Kishwaukee River Str # 056-3017
22. Franklinville Road over Franklinville Creek Str # 056-3016
23. North Union Road over Kishwaukee River Str # 056-3026
24. Garden Valley Road over North Branch Kishwaukee River Str # 056-3028
25. Mill Stream Road over Kishwaukee River Str # 056-3022
26. Mill Stream Road over South Branch Kishwaukee River Str # 056-3023
27. Deerpass Road over Kishwaukee River Main Channel Str # 056-3030
28. Deerpass Road over Kishwaukee River Auxiliary Channel Str # 056-3029
29. Kishwaukee Valley Road over Mud Creek Str # 056-3203
30. Kishwaukee Valley Road over Rush Creek Str # 056-3150
31. Kishwaukee Valley Road over Tributary to Rush Creek Str # 056-3202
32. Kishwaukee Valley Road over North Branch Kishwaukee River Str # 056-3177
33. Dunham Road over North Branch Kishwaukee River Str # 056-3179
34. McGuire Road over Tributary to Rush Creek
35. McGuire Road over Rush Creek Str # 056-3008
36. Flat Iron Road over Mokeler Creek Str # 056-3019
37. Hunter Road over Little Beaver Creek Str # 056-3034
38. Lawrence Road over Tributary to Lawrence Creek Str # 056-3012
39. Lawrence Road over Lawrence Creek Str # 056-3181
40. Lawrence Road over Piscasaw Creek Str # 056-3010
41. Lawrence Road over West Branch Piscasaw Creek Str # 056-3020
42. Lawrence Road over West Branch Piscasaw Creek (No STR #)

5.6 Master List of Ponds, Detention/Retention Facilities, Stream Channel Outfalls, and Storm Drainage Outfalls and Stormwater Outfall Inspection Form (cont.)

43. Alden Road over Tributary to Nippersink Creek
44. Oak Grove Road over Tributary to Nippersink Creek (headwaters west of Reece Road)
45. Oak Grove Road over Tributary to Nippersink Creek (east of Wright Road)
46. Alden Road over Nippersink Creek Str # 056-3174
47. Altenburg Road over North Branch Kishwaukee River
48. Durkee Road over Tributary to North Branch Kishwaukee River
49. Johnson Road over Nippersink Creek Str # 056-3128
50. Alden Road over Tributary to North Branch Kishwaukee River
51. McGuire Road over North Branch Kishwaukee River Str # 056-3161
52. Alden Road over Headwaters of Slough Creek
53. Nelson Road over Slough Creek Str # 056-3201
54. Charles Road over Slough Creek Str # 056-3006
55. Charles Road over Silver Creek Str # 056-3211
56. Greenwood Road over Nippersink Creek Str # 056-3155
57. Tryon Grove Road over Tributary to Nippersink Creek
58. Keystone Road over Tributary to North Branch Nippersink Creek
59. Tryon Grove over Tributary to Nippersink Creek
60. Tryon Grove over Tributary to Nippersink Creek (just east of #63)
61. Blivin Street over Nippersink Creek Str # 056-3191
62. Wilmot Road over Nippersink Creek Str # 056-3001
63. Johnsburg Road over Dutch Creek Str # 056-3159
64. Johnsburg Road over Tributary to Dutch Creek
65. Chapel Hill Rd over Fox River Str # 056-3134
66. Bay Road over Lily Lake Drain Str # 056-3106
67. Bull Valley Road over Tributary to Fox River
68. Charles Miller Road over Fox River Str # 056-3149
69. River Road over Defiance Lake Stream Str # 056-3000
70. River Road over Tributary to Fox River
71. River Road over Griswold Lake Stream
72. Roberts Road over Tributary to Fox River
73. Walkup Road over Sleepy Hollow Creek

A. Algonquin Road Pond at SE corner Hanson Road
B. Algonquin Road (3 ponds in series) east of Church Street
C. Algonquin Road pond west of Church Street
D. Rakow Road pond on NW corner McHenry Avenue
E. Rakow Road pond on NE corner Pyott Road
F. Animal Control Facility pond
G. Charles Miller Road pond west of Green Street
H. Charles Miller Road pond 500’ east of Green Street
I. Walkup Road Pond east side south of Anvil Drive
J. Walkup Road Pond east side south of Raintree Drive

5.6 Master List of Ponds, Detention/Retention Facilities, Stream Channel Outfalls, and Storm Drainage Outfalls and Stormwater Outfall Inspection Form (cont.)

K. Walkup Road Pond east side north of Mason Hill Road
L. Walkup Road Pond east side south of Patriot Estates
M. County Administration Building Pond south side of building
N. County Administration Building 2 ponds on north side of building parking area
O. County Court Facility pond fronting IL 47
P. Health Department inline detention pond east along entire parking lot
Q. Health Department pond southwest of entrance
R. County Records Storage facility fronting Nelson Road
S. Valley Hi Nursing Home pond
T. McHenry County Division of Transportation west pond
U. McHenry County Division of Transportation south ponds

5.7 Design and Implementation Guidelines above and beyond the MCM4 minimum control measures

Design standards by the following agencies:

- US Army Corps of Engineers,
- Illinois Environmental Protection Agency,
- Illinois Department of Natural Resources,
- Illinois Department of Transportation Standards,
- Illinois Urban Manual,
- McHenry-Lake County Soil and Water Conservation District, and
- McHenry County Planning & Development Department.

Reference information includes, but is not limited to, the following sources:

- Native Plant Guide,
- McHenry County Planning & Development's Technical Reference Manual,
- Illinois Urban Manual,
- MCP&D's and/or MCDOT's
    - soil erosion and sediment checklist,
    - soil erosion and sediment control notes,
    - typical construction sequencing,
- Chicago Metropolitan Agency for Planning (previously Northeastern Illinois Planning Commission) Course Manuals,
- IDOT manuals,
- Center for Watershed Protection documents, and
- IEPA and USEPA publications.

5.8 Stormwater Pollution Prevention Plan / Soil Erosion and Sediment Control Inspection Form Example

Field Observation Report

SMO Permit #	PERMIT #	**USACE Reference #**	USACE Permit #	**NPDES Permit #**	NPDES Permit #
SMO Permit Issued To	SMO Permitte	**Inspection Log Compliant**	☐Yes ☐No	**SWPPP Compliant**	☐Yes ☐No
Community Name	Community Name	**Enforcement Officer**	E.O. Name	**Observer:**	Name of Inspector
Permitted Plan Information	Permitted Plan Set – date, title, # of sheets, etc.				
Date & Time of Inspection	Date & Time of Inspection	**Weather Conditions**	Weather & Temperature	**24hr Rainfall**	Inches of Rain
Reason for Inspection	☐ **Weekly** ☐ **Rain** ☐ **Other** (explain)		**Stage of Construction**	Pre-Construction	

Project Name	Project Name	**Enforcement Officer Information**	Enforcement Officer Name/Phone/Email
Address/Location	Address/Location of the project site and the nearest intersection		
Field Contact Information	Field contact name and phone/Email	**SE/SC Contractor Information**	Primary SE/SC Contractor contact information
DECI Information	Designated Erosion Control Inspector contact information		
In Attendance	Who attended Inspection		

Disturbed Area	Area of Disturbance	**Disturbed Area Permitted**	Overall Permitted Disturbance	**Site Area**	Size of Site
Floodplain/Floodway On Site	☐Yes ☐ No	**IWLC On Site/Adjacent**	☐Yes ☐ No	**WOUS On Site/Adjacent**	☐Yes ☐No
Floodplain/Floodway Impact	☐Yes ☐ No ☐ N/A	**IWLC Impacted**	☐Yes ☐ No ☐ N/A	**WOUS Impacted**	☐Yes ☐No ☐N/A
Violation Correction Time	☐ 1 day ☐ 3 day ☐ 7 day ☐ 10 day ☐ 30 day ☐ _____		**Violation Rating**	0 - No Violation	☐ Notify E.O.
Water Sample NTU Reading	____ NTUs ☐ N/A	**Photos Taken**	☐Yes ☐ No	**Next Site Visit**	Days until next Inspection

Follow up Needed	Note follow up needed, ie; violation,E.O. notification, etc. - & who is responsible	**Compliant** ☐	**Non-Compliant** ☐
Copy Report To:	Note who should receive an email copy of this report		

Concrete Washout	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Construction Entrance/Pavement**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Construction Sequencing	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Detention/Sediment Basin**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Dewatering Facility	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Ditch Checks**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Dust Control	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**ECB/TRM Installation**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Inlet Protection	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Offsite Tracking/Offsite Impacts**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Perforated Riser	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Polyacrylamide Application**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
SE/SC Installation	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**SE/SC Maintenance**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Soil Stockpile Stabilized/Protected	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Stabilization Measures**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Stormwater System (sewer, swale, etc.)	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Turbidity Curtain**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Vegetative Cover	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Wetland Buffers Protected**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A
Wetland/Waters Protection	☐ Satisfactory ☐ Unsatisfactory ☐ N/A	**Other (not listed)**	☐ Satisfactory ☐ Unsatisfactory ☐ N/A

Observations:

Concrete Washout	☐ Yes ☐ No ☐N/A
• Is there an available on site concrete washout?	☐ Yes ☐ No ☐N/A
• Is the concrete washout self-contained?	☐ Yes ☐ No ☐N/A
• Is the concrete washout well maintained and functional?	☐ Yes ☐ No ☐N/A
Construction Entrance/Pavement	
• Are all ingress and egress points covered by a temporary construction entrance?	☐ Yes ☐ No ☐N/A
• Is the entrance constructed with 3" coarse aggregate?	☐ Yes ☐ No ☐N/A
• Has an appropriate geotextile material been installed underneath the stone?	☐ Yes ☐ No ☐N/A
• Is the entrance appropriately sized, both in width and length?	☐ Yes ☐ No ☐N/A
• Is the entrance adequately preventing tracking of dirt, mud, and sediment onto roadways?	☐ Yes ☐ No ☐N/A
Construction Sequencing	
• Is the project in step with the approved/permitted construction sequencing?	☐ Yes ☐ No ☐N/A
• Does the construction sequencing best utilize SE/SC performance?	☐ Yes ☐ No ☐N/A
• Is the stormwater management system for the project installed and functional?	☐ Yes ☐ No ☐N/A
Detention/Sediment Basin	
• Is the basin installed?	☐ Yes ☐ No ☐N/A
• Is the basin adequately stabilized?	☐ Yes ☐ No ☐N/A
• Is there evidence of sufficient coverage of native vegetation?	☐ Yes ☐ No ☐N/A
• Is the emergency overflow constructed with the required materials?	☐ Yes ☐ No ☐N/A
Dewatering Facility	
• Is dewatering directly entering a waterway or wetland?	☐ Yes ☐ No ☐N/A
• Are dewatering activities conveying sediment laden water?	☐ Yes ☐ No ☐N/A
• Are appropriate dewatering BMP's in place and functioning effectively?	☐ Yes ☐ No ☐N/A
• If a sediment bag is being used, is it capturing sediment effectively?	☐ Yes ☐ No ☐N/A
Ditch Checks	
• Are ditch checks installed at all required locations, as needed?	☐ Yes ☐ No ☐N/A
• Are ditch checks installed correctly?	☐ Yes ☐ No ☐N/A
• Are ditch checks being maintained/cleaned routinely?	☐ Yes ☐ No ☐N/A
Dust Control – sweeping, vacuuming, spraying, etc.	
• Are dust control measures being used as needed?	☐ Yes ☐ No ☐N/A
• Is dust observed moving offsite due to wind?	☐ Yes ☐ No ☐N/A
• Are roadways being swept or swept and vacuumed when needed?	☐ Yes ☐ No ☐N/A
ECB/TRM Installation	
• Are all Erosion Control Blanket or Turf-Reinforcement Mats installed per plan?	
• Are all ECB/TRM installed with the correct staple pattern?	☐ Yes ☐ No ☐N/A
• Are all ECB/TRM properly trenched in where necessary?	☐ Yes ☐ No ☐N/A
• Are all ECB/TRM installed perpendicular to the slope?	☐ Yes ☐ No ☐N/A
Inlet Protection – Catch-All basket, filter, silt fence, silt dike, straw bales, gravel dam, etc.	
• Are all storm sewer inlets that are or will be functional during construction protected?	☐ Yes ☐ No ☐N/A
• Is the inlet protection installed correctly to protect the entire inlet?	☐ Yes ☐ No ☐N/A
• Is the inlet protection being maintained?	☐ Yes ☐ No ☐N/A

Offsite Tracking/Offsite Impacts	
• Are all permitted overland flow routes constructed?	☐ Yes ☐ No ☐N/A
• Are all permitted overland flow routes free from obstruction?	☐ Yes ☐ No ☐N/A
• Are all permitted overland flow routes stabilized?	☐ Yes ☐ No ☐N/A
• Are all pre-construction overland flow routes protected?	☐ Yes ☐ No ☐ N/A
• Are all pre-construction overland flow routes free from obstruction?	☐ Yes ☐ No ☐ N/A
• Are all points of offsite drainage (i.e. water leaving the site) stabilized?	☐ Yes ☐ No ☐ N/A
• Are all points of offsite drainage protected from erosion and sedimentation?	☐ Yes ☐ No ☐ N/A
• Are all offsite access points free from erosion and/or sedimentation?	☐ Yes ☐ No ☐ N/A
Perforated Riser	
• Is the perforated riser installed at the outlet?	☐ Yes ☐ No ☐N/A
• Is the perforated riser sized correctly (one pipe size smaller than the outlet pipe)?	☐ Yes ☐ No ☐ N/A
• Is the perforated riser wrapped in hardware cloth or chicken wire, and filter fabric?	☐ Yes ☐ No ☐ N/A
• Is the perforated riser adequately mortared in?	☐ Yes ☐ No ☐ N/A
• Is there an adequate amount of stone at the base of the riser?	☐ Yes ☐ No ☐ N/A
Polyacrylamide Application	
• Are polyacrylamides (PAMs) being used per plan?	☐ Yes ☐ No ☐ N/A
• Are PAMs being appropriately contained and are flocculated sediments being captured?	☐ Yes ☐ No ☐ N/A
• Are PAMs systems being properly maintained?	☐ Yes ☐ No ☐ N/A
SE/SC Installation	
• Are all perimeter soil erosion/sediment controls in place and maintained?	☐ Yes ☐ No ☐ N/A
• Are adjacent wetlands/waters/properties being impacted by SE/SC failures?	☐ Yes ☐ No ☐ N/A
• Are all site SE/SC controls installed correctly?	☐ Yes ☐ No ☐ N/A
• Does the silt fence meet the AASHTO 288-00 Standard?	☐ Yes ☐ No ☐ N/A
SE/SC Maintenance	
• Is silt fence maintained and kept free of sediment buildup?	☐ Yes ☐ No ☐N/A
• Are ditch checks maintained and cleaned?	☐ Yes ☐ No ☐N/A
• Is the perforated riser fabric clear of sediment blinding and functional?	☐ Yes ☐ No ☐N/A
• Is the construction entrance clean and functional?	☐ Yes ☐ No ☐N/A
Soil Stockpile Stabilized/Protected	
• Is the soil stockpile located in an approved location (ie. not in floodplain or wetland)?	☐ Yes ☐ No ☐N/A
• Is the soil stockpile adequately stabilized?	☐ Yes ☐ No ☐N/A
• Is the soil stockpile properly enclosed with silt fence?	☐ Yes ☐ No ☐N/A
Stabilization Measures	
• Have all disturbed areas been stabilized with temporary or permanent measures within 14 days of the end of active hydrologic disturbance?	☐ Yes ☐ No ☐N/A ☐ Yes ☐ No ☐N/A
• Are stabilization measures effective?	☐ Yes ☐ No ☐N/A
• Are there areas of disturbance that need additional stabilization measures?	☐ Yes ☐ No ☐N/A
Stormwater System (sewer, swale, etc.)	
• Is the stormwater management system installed and functional, prior to building construction?	☐ Yes ☐ No ☐N/A
• Are all points of concentrated discharge appropriately installed for energy dissipation?	☐ Yes ☐ No ☐N/A
• Are all inlets and catch basins adequately protected from sediment conveyance into the system?	☐ Yes ☐ No ☐N/A
• Is hydrocarbon removal technology in place, functional and maintained where needed?	☐ Yes ☐ No ☐N/A

Turbidity Curtain	
• Is the turbidity curtain installed per plan, in the correct location?	☐ Yes ☐ No ☐N/A
• Is the turbidity curtain maintained clear of debris?	☐ Yes ☐ No ☐N/A
• Is the turbidity curtain properly and securely anchored?	☐ Yes ☐ No ☐N/A
• Is the turbidity curtain holding/floating above the water surface?	☐ Yes ☐ No ☐N/A
Vegetative Cover	
• Is vegetative cover adequate, based on application, species, and time of year?	☐ Yes ☐ No ☐N/A
Wetland Buffers Protected	
• Are all required wetland buffers protected?	☐ Yes ☐ No ☐N/A
• Are all required wetland buffers free of erosion and/or sedimentation?	☐ Yes ☐ No ☐N/A
• Are all required wetland buffers free of unpermitted disturbance?	☐ Yes ☐ No ☐N/A
Wetlands/Waters Protection	
• Are all delineated wetlands on site protected by 4' IDOT Standard Construction Fencing?	☐ Yes ☐ No ☐N/A
• Are all adjacent offsite wetlands protected from impact?	☐ Yes ☐ No ☐N/A
• Are illicit discharges into wetlands or bodies of water being prevented?	☐ Yes ☐ No ☐N/A
• Are wetland buffers protected?	☐ Yes ☐ No ☐N/A
Other	
• Other SE/SC concerns or issues (please explain in the text box on page one, or below)	☐ Yes ☐ No ☐N/A
Explain:	

Inspector's Signature _____ **Date of Inspection** _____

5.9 Department Training

Stormwater Division [Educational Event (Attendance)]

- March 14-15, 2012 Illinois Association for floodplain and Stormwater Management Seminar (3)
- March 21-23, 2012 Hazard Mitigation Training on HMGP (1)
- September 26, 2012 Lake County Enforcement Officer Training (2)
- October 18-19 Winter Snow and Ice Operations Training
- October 20, 2012 EMA Response Training
- March 6-7, 2013 Illinois Association for floodplain and Stormwater Management Seminar (4)
- March 11-15, 2013 Emergency Management Institute Program Specific Training (1)
- Illinois Association for floodplain and Stormwater Management Seminar (3)
- Certified Professional in Erosion and Sediment Control Seminar (1)
- Everything you've always wanted to know about agricultural drain tiles (1)
- Groundwater protection in the face of development (3)

Water Resources Division

- Drainage Workshop by MCSWCD – March 25, 2011
- Retrofit this – A Guide to Retrofitting the world webinar – February 29, 2011

Facilities Management [Educational Event (Attendance)]

- Winter Snow and Ice Workshop (4)
- In-house training on recycle pick-up and disposal procedures.

Division of Transportation [Educational Event (Attendance)]

- NPDES Phase II: The Public Element Webinar – March 8, 2011(1)
- Drainage Workshop by MCSWCD – March 25, 2011 (1)
- Groundwater Workshop by Cassandra McKinney – May 2, 2011 (1)
- "Nitrogen & Phosphorus: Tools for Developing State Nitrogen and Phosphorus Pollution Reduction Strategies" webinar – November 30, 2011 (1)
- "Retrofit This – A Guide to Retrofitting the World?" webinar – February 29, 2012 (1)

<u>MCDOT Management</u>

- Green Infrastructure Plan – August 17, 2011

<u>MCDOT Maintenance Department</u>

- Snow Roadeo – Nov 2011
- Winter Snow and Ice Workshop (New personnel only) – October 13 & 14, 2011

Department of Health [Educational Event (Attendance)]

- Northern Illinois Onsite Wastewater Conference and Tradeshow (7)
- 2 credit hours McHenry County Ground Water Resource Projects Updates (14)
- WI Chapter SWCS Annual Conference on Ground Water (2)
- IDPH New Sanitarian Conference (1)
- IMVCA Annual Training (1)
- Will County Annual Fall Training (2)
- NSF Greywater, Residential and Commercial Reuse Systems Webinar (3)
- McHenry County Department of Health Internal Sewage 1 ½ Hour Training (10)

- McHenry County Department of Health Internal Sewage 1 ½ Hour Training (6)
- McHenry County Department of Health Internal Sewage 3 Hour Training (2)
- 3 credit hours - NEHA Sewage Online CEU's (1)
- McHenry County Planning and Development Workshop on Stormwater Management and NPDES (3)
- Delta, ISGS, USGS Ground Water Protection; Sustainability in the Face of Development Seminar/Workshop (1)
- McHenry County Winter Snow and Ice Control Training and Calibration Clinic (1)

Sheriff's Garage

- Upon hire, all new employees are trained on departmental policies and procedures.

Emergency Management Division

- Pipeline Annual Meeting 3/21/11
- Hazard Mitigation Annual Meeting 11/10/11
- Water Resource Meetings

Animal Control

- Proper waste disposal and medical disposal.

Sheriff's Office

- All operational staff from Corrections and Merited ranks are required to maintain current certification in Blood Borne Pathogens. Training is provided biennially for certification, and several times during the year in roll call settings. Non-operational staff is trained according to their assignments or on a voluntary basis.
- The Evidence Division is responsible for the handling and destruction of Narcotics. The Narcotics are stored in a humidity/temperature controlled environment inside the property of the Sheriff's Office. The disposal of narcotics is done through the utilization of the State Police crime lab, the Coroner's Office, and incineration.

Coroner

- The Evidence Division is responsible for the handling and destruction of Narcotics. The Narcotics are stored in a humidity/temperature controlled environment inside the property of the Sheriff's Office. The disposal of narcotics is done through the utilization of the State Police crime lab, the Coroner's Office, and incineration.

5.10 SWCD Soil and Sediment Erosion Control Inspections

12-048-054 (SW2011- 0120)Jude Schmidt Horse Barn – Oja
12- 049- 055 (SW12-0007) Paul Morrison Single Family residence - Weskerna
12- 050- 056 (SW12-0019) Victoria Development - Weskerna
12-051-057 (SW2011-0086) Tomlin Rd Horse Stables - Weskerna
12-052-058 (J-2749) Book Farms grain bins - Oja
12-053-059 (SW12-0063) Marc Gordon Horse Stable - Weskerna
12-055-061 (J-2735) MCCD Boone Creek Conservation Area - Weskerna
12-056-062 (J-3243) Anzelc single family residence - Weskerna
12-057-063 (no permit number assigned) Nicor Gas pipeline Rt 14 – project on hold
12-058-064 (SW12-0028/RFS 10-0288/RFS 11-0166) Jeff Hackman
12-059-065 (J-3202) Commercial Storage - Weskerna
12-060-066 (SW12-0131) Building demo Selke - Weskerna
12-061-067 (SW12-0075) Lueth farms - Weskerna
13-062-068 (no number) John White Stables – Weskerna –not started

Not sure if these MCCD and McDOT projects required a County Stormwater permit, they were filed with us under an ACOE permit.
MCCD Coral Woods wetland restoration
MCCD Barber Fen field tile removal
MCCD Queen Ann Rd field tile removal
MCCD Konopasek dam removal

McDOT Lawrence Rd bridge over Piscasaw
McDOT Hill Rd over Nippersink.

10-035-041 **SW10-0139** Royal Oaks Septic - Tom Mattingly
11-038-044 **SW10-0121** Hebron Township - Bob Oja
11-042-048 **SW11-0040** G&H Developers-FRG Plaza II - Tom Mattingly
11-043-049 **J2206** Valley Hi Demolition - Tom Mattingly
11-046-052 **J2028** Jude Schmidt - 602 Menge Rd. - Tom Mattingly
8603 Crystal Springs Road - Tom Mattingly; Ed Weskerna
2911 Alden Road - no permit - Tom Mattingly
1001 North Road, Fox River Grove - Fill within Floodplain complaint
4817 Pagles Road, Chemung Twp. - Creek Dredge/Fill in Floodplain complaint
Barnard Mill Bridge, McHenry Twp. - No permit
MCDOT - Blivin Street Bridge Replacement - Tom Mattingly
MCDOT - Lawrence Road Bridge over Lawrence Creek - Tom Mattingly
MCDOT - Union Road Bridge Replacement - Tom Mattingly; Ed Weskerna
MCDOT - Dunham Road Bridge Replacement - Tom Mattingly
MCDOT - Graf Road over Lawrence Creek - Tom Mattingly
MCDOT - Rakow Road - Tom Mattingly
MCDOT - Walkup Road - Tom Mattingly

5.11 Street Sweeping Schedule and Map

This information can be obtained through the MCDOT Drainage Engineer.

5.12 List of Primary Drainageways

1. Crystal Creek
2. Woods Creek
3. South Branch Kishwaukee River
4. Coon Creek
5. Spring Creek
6. Riley Creek
7. Union Creek East
8. Kishwaukee River
9. North Branch Kishwaukee River
10. Franklinville Creek
11. Mud Creek
12. Rush Creek
13. Mokeler Creek
14. Little Beaver Creek
15. Lawrence Creek
16. Piscasaw Creek
17. West Branch Piscasaw Creek
18. Nippersink Creek
19. Slough Creek
20. Silver Creek
21. North branch Nippersink Creek
22. Dutch Creek
23. Fox River
24. Liliy Lake drain
25. Defiance Lake Stream
26. Griswold Lake Stream
27. Sleepy Hollow Creek

5.13 Drainage Outfall Map

The Drainage Outfall Map refers to those outlets and ponds listed in Appendix 5.6 and can be obtained from the MCDOT.

5.14 Illinois General Permit 87—Stormwater Runoff and Pollutants

5.15 MCDOT Policies for Snow Removal

5.16 MCDOT Procedures for Snow Removal

The MCDOT Policies and Procedures for Snow Removal can be obtained from the MCDOT Maintenance Department.

The Division of Water Resources also maintains a website (www.mchenryh2o.com) with general handbooks and a model policy for both public and private entities. Annually, the Division of Water Resources and MCDOT partner to provide training to snow control entities.