

Stormwater Management Program Plan



Kayaks Along the Fox River – Oswego, IL Photo by: Tia Brooks

VILLAGE OF OSWEGO
KENDALL COUNTY, ILLINOIS

MARCH 15, 2019

SMPP

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1 Overview of the Stormwater Management Program Plan



Fox River – Oswego, IL Photo by Tia Brooks

1.1 Introduction

This Stormwater Management Program Plan (SMPP) was created by the Village of Oswego from a SMPP template provided by the Lake County Stormwater Management Commission. The purpose of the SMPP is 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. Illinois EPA has issued a new version of its MS4 Permit. The new version of the permit became effective on March 1, 2016. According to the new permit, MS4s have 180 days from the effective date of the permit to comply with any changes or new provisions contained in the permit.

The SMPP describes the procedures and practices that can be implemented by Village of Oswego 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 the citizens.

The SMPP addresses the primary program elements, including the manner in which the municipality:

- reviews, permits and inspects construction activity within its limits;
- 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.

1.2 History



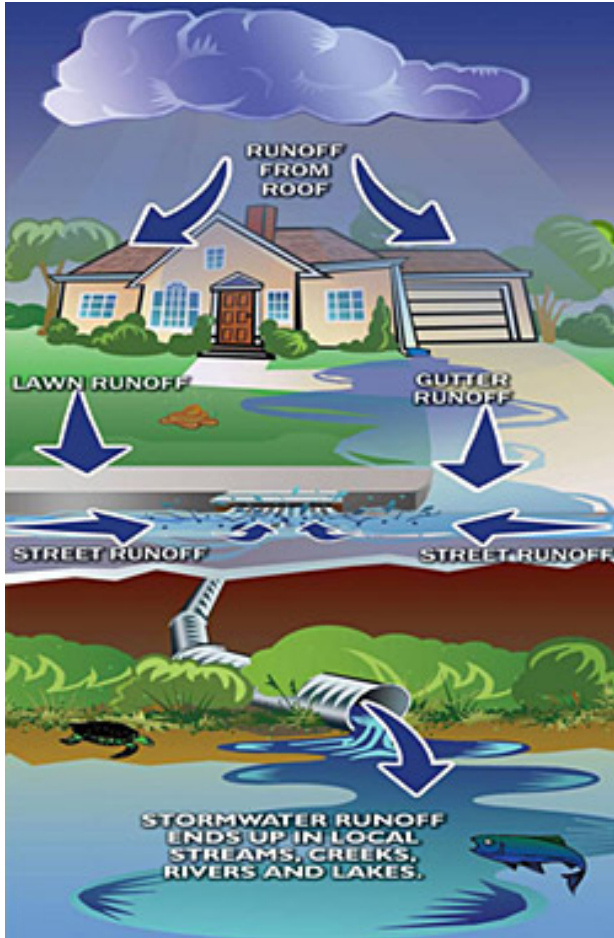
In 1948 the Federal Water Pollution Control Act was enacted to encourage water pollution control at the state and local levels. Between 1949 and 1969 the Cuyahoga River in Ohio caught fire ten times.

To better protect these public assets the 1948 Act was amended in 1972. The focus of the '72 Act was to obtain fishable and swimmable waters and eliminate the discharge of point source pollutants into navigable waters (such as industrial and waste water treatment plant outfalls). This was the beginning of the National Pollutant Discharge Elimination System (NPDES) program.

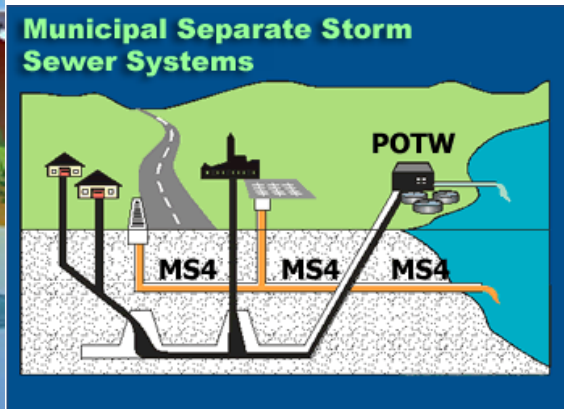


James Thomas
Cleveland Press Collection
Cleveland State University Library

The Act was further refined in 1977, to extend deadlines and better define types of pollutants. It became commonly referred to as the Clean Water Act (CWA).



In 1987 the NPDES permit program was expanded to also regulate discharges from Municipal Separate Storm Sewer Systems (MS4) as point source discharges instead of non-point source discharges.



The NPDES permit process regulates the discharge from MS4s, construction sites and industrial activities 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 NPDES program to the Illinois Environmental Protection Agency (IEPA). On December 20, 1999 the IEPA issued a general NPDES Phase II permit for all MS4s. Under the General 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 and again on March 1, 2016, including revisions each time.

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 30 days after the IEPA receives the NOI from the municipality.

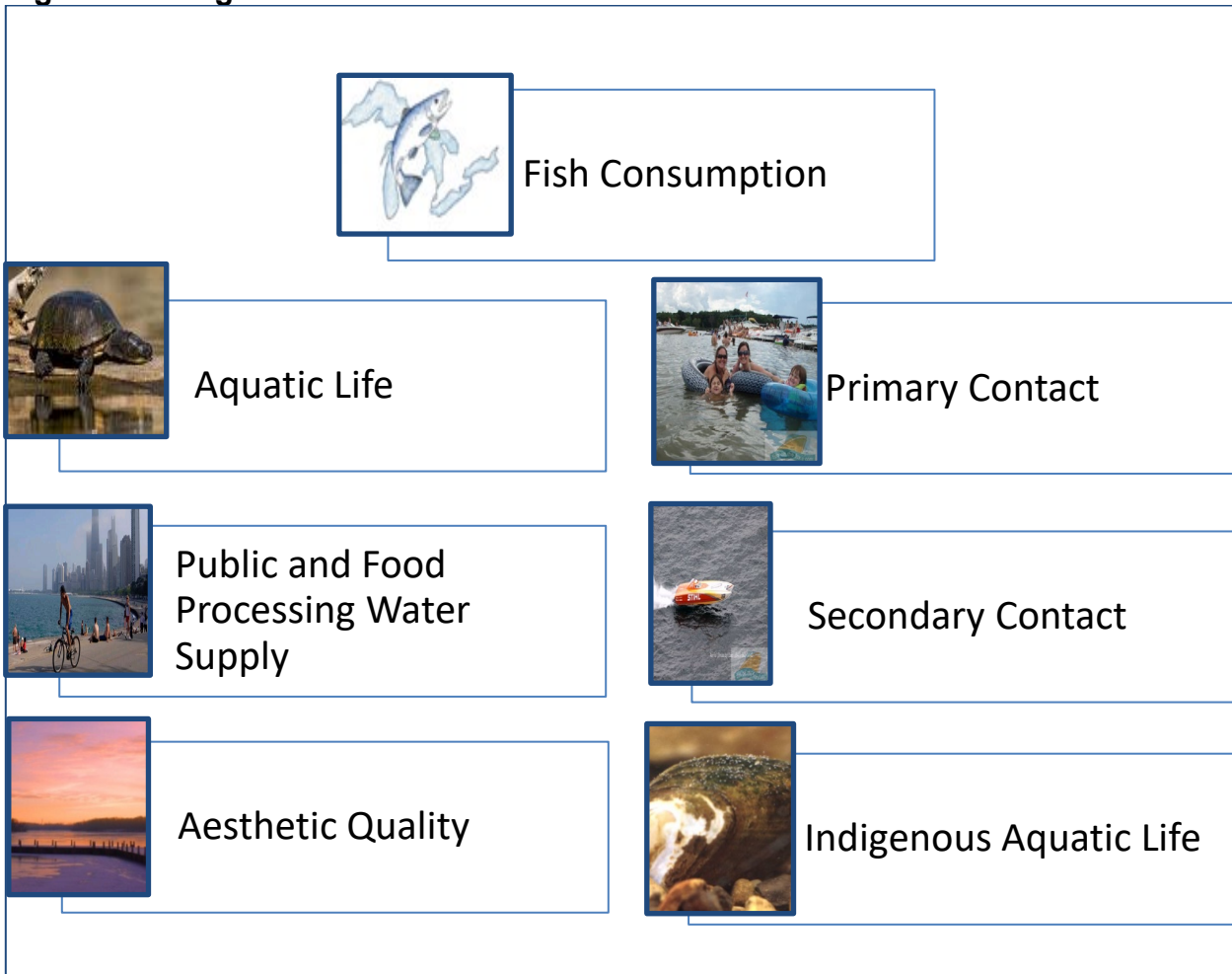
1.3 Water Quality Standards

The 1987 Water Quality Act also established new requirements and funding, through the Clean Water Act Section 319, for states to development and implement nonpoint source pollution control. Specifically, Section 319 required each state to: (1) identify navigable waters that, without government action to control non-point sources of pollution, cannot be reasonably expected to maintain applicable water quality standards or goals; (2) identify nonpoint sources that add significant amounts of pollution to affected waters; and (3) development a nonpoint source water pollution plan on a watershed-by-watershed basis. The Illinois Environmental Protection Agency (IEPA) created a program to comply with these federal regulations. This program has 3 basic components.

1.3.A Designated Uses

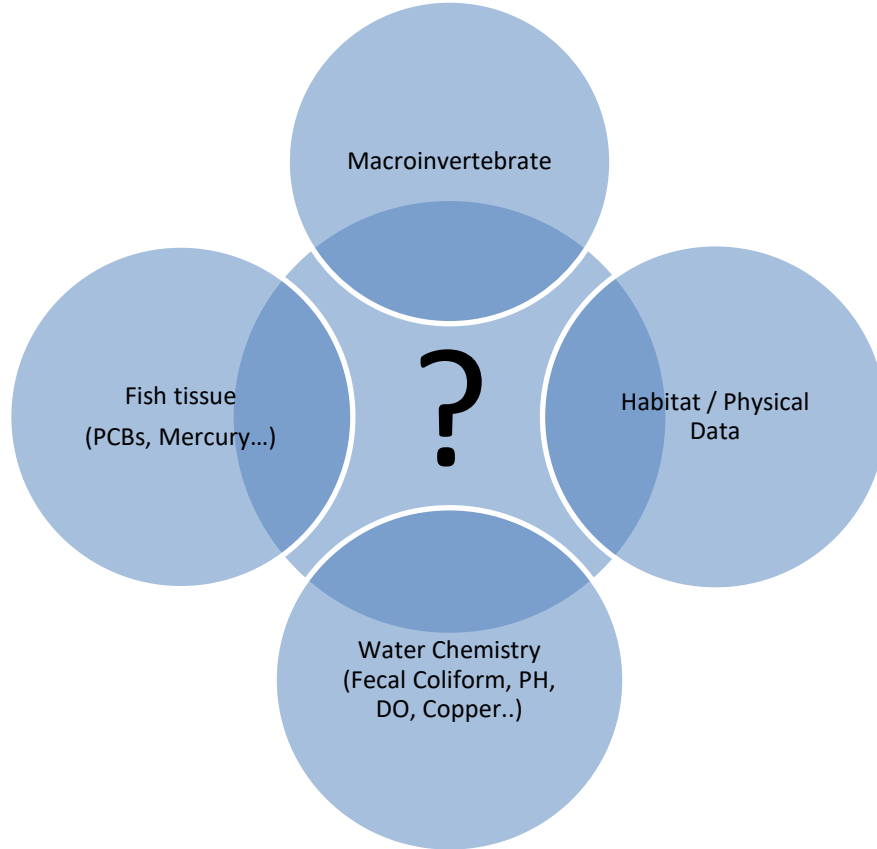
One of IEPA's first steps in achieving compliance with the Act was to identify all uses its waters should support. IEPA identified 7 designated uses, as depicted on **Figure 1**. Then each navigable water was evaluated to identify the designated uses it should support.

Figure 1: Designated Uses



1.3.B Water Quality Criteria

IEPA determined a set of water quality criteria that need to meet based on each of the 7 designated uses. Some criteria are applicable for multiple Designated Uses.

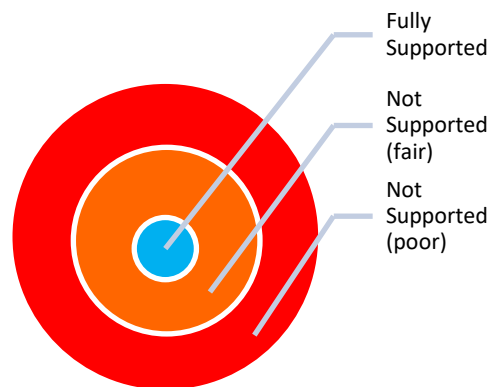


1.3.C Monitoring

IEPA is required to conduct a monitoring program for all of its receiving streams based on the water quality criteria it should be meet for each of its designated uses according to the following process.

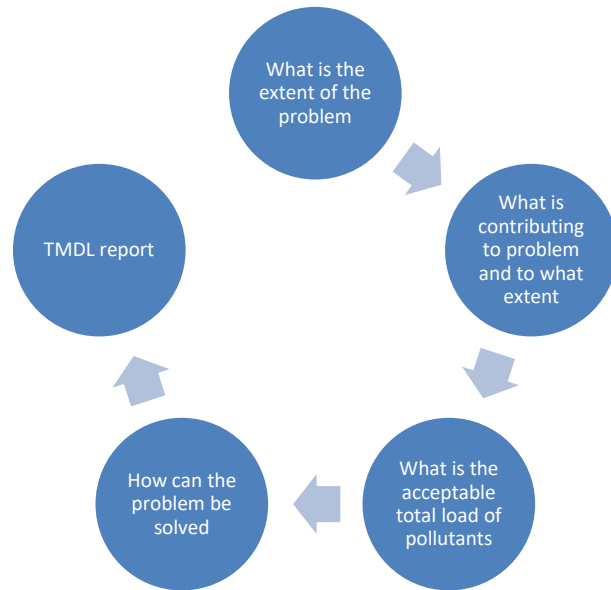
- Conduct Monitoring per Designated Use
- Determine if Water Quality Criteria are met
- Include Non-Supporting Waters on Impaired Waters report
- Rank non-supporting waters based on severity of problem.

IEPA is required to submit the monitoring results [305(b) report] to USEPA every 2 years. The impaired waters report [303(d) report] and ranking are part of this report.



1.3.D Total Maximum Daily Load (TMDL)

Total Maximum Daily Load (TMDL) reports are created by IEPA for impaired waters. These reports are created by IEPA based on severity. IEPA creates TMDL reports for impaired waters with the highest ranks. The majority of impaired waters do not yet have TMDL reports. This graphic identifies the pieces of a TMDL report. Once the TMDL report is approved by the USEPA, the recommended strategies should be implemented by the affected MS4.



1.4 Watershed, Sub-watersheds and Receiving Waters

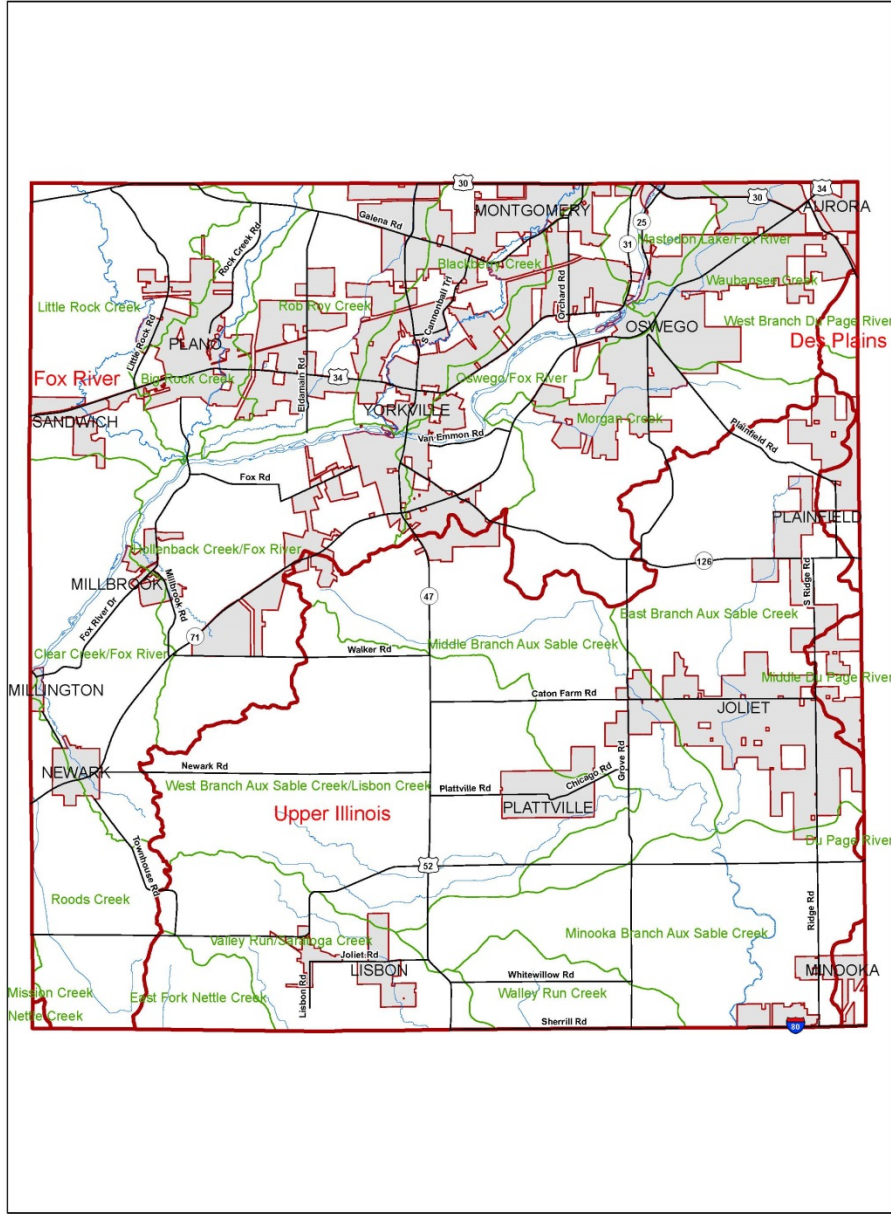


Fox River – Oswego, IL Photo by Tia Brooks

Kendall County is located within the Des Plaines River, the Lower Fox River, and the Upper Illinois/Mazon River Watersheds. The Village of Oswego is primarily located within the Fox River Watershed, although a very small area along the eastern boundary is located in the Des Plaines River Watershed. There are several receiving waters, tributaries to the Fox River (a tributary to the Illinois River), which are located within the Village. These streams include Morgan Creek, Waubensee Creek, and Blackberry Creek. Lakes

and other on-stream bodies of water are also considered part of the receiving water system. Floodplains tend to be broad and flat with relatively small channels.

Kendall County Watersheds



Watershed: The land area that contributes storm water to major rivers in and downstream of Kendall County.

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

Receiving Water: A natural or man-made system into which storm water or treated wastewater is discharged, including the Fox River and the Upper Illinois River, their tributary stream systems and other Waters of the U.S.

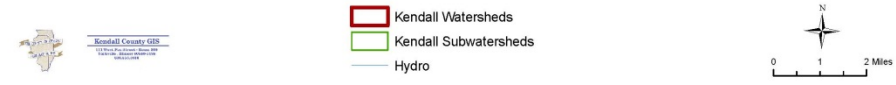
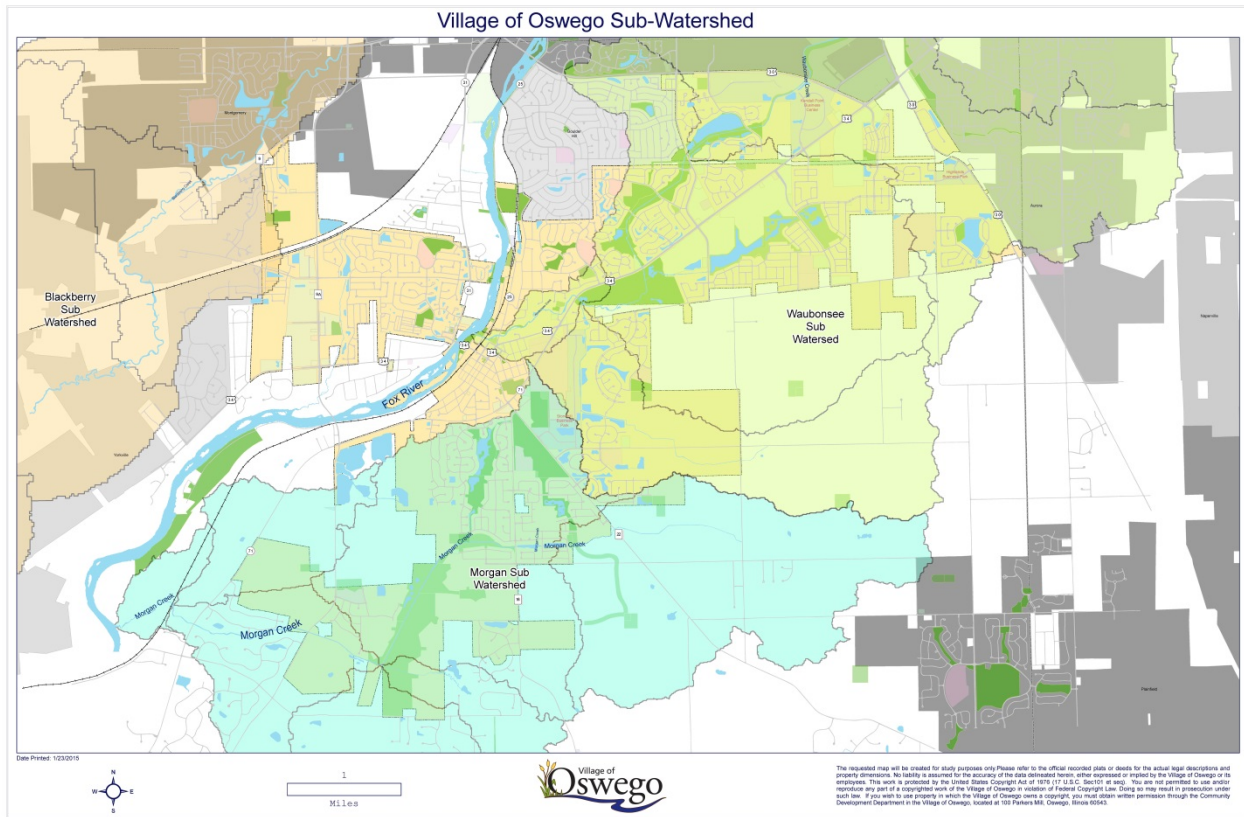


Figure 2: Kendall County Watersheds and Sub-watersheds
http://gis.co.kendall.il.us/downloads/PDFs/zoning/Watershed/PBZ_LandUse_Watersheds.pdf
 Accessed March 15, 2019

Figure 3: Major Sub-watersheds and Receiving Streams within Oswego



1.4.A Watershed Descriptions

Fox River Watershed

The Fox River originates about 15 miles northwest of Milwaukee, Wisconsin. The river enters the northwest corner of Kendall County in Aurora and generally flows southwest to the Illinois River at Ottawa. The drainage area of the Fox River above Kendall County is about 1,705 square miles.

Along the Fox River from the state line to Algonquin, the terrain is flat and contains many lakes and low-lying wetlands. The upland areas of the watershed include gently sloping topography to steep hilly terrain.

Major tributaries to the Fox River in Kendall County include the Clear Creek, Hollenback Creek, Big Rock Creek, Rob Roy Creek, Blackberry Creek, Morgan Creek, and Waubensee Creek. There is limited development along the Fox River, primarily in Aurora, Montgomery, and Yorkville. The northeast area around the Fox River is rapidly developing while the southern end of the watershed primarily consists of agricultural land.

1.4.B Identifying Outfalls (BMP C.1)

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 “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:

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

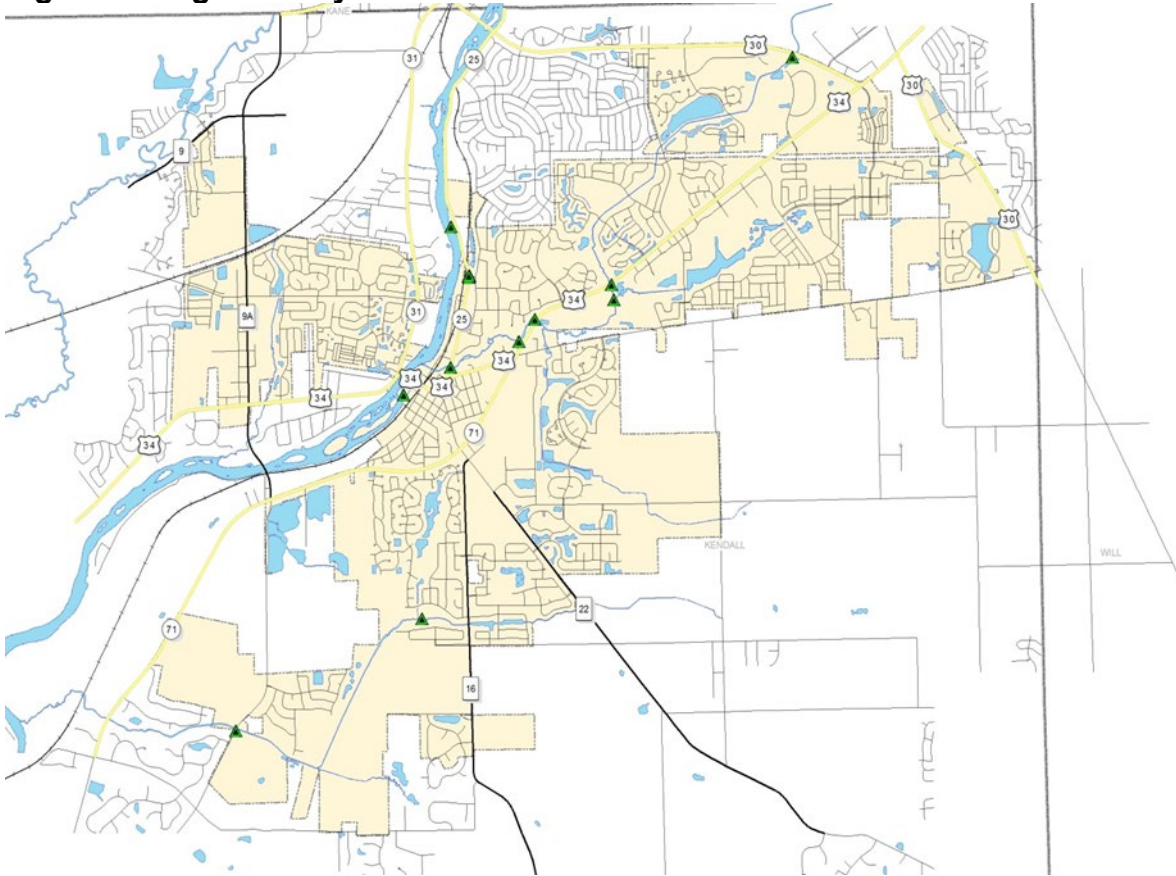
Regulated systems include the conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, gutters, ditches, swales, manmade channels or storm sewers. High priority outfalls are defined, for the purpose of implementing this SMPP, as storm sewers or other Stormwater outfalls of diameter of at least 36 inches that drain into the Fox River, Waubensee Creek, Morgan Creek, or Bartlett Creek. To date 848 outfalls have been identified through the outfall inventory. Of the 173 that are located along the Fox River, Waubensee Creek, Morgan Creek, or Bartlett Creek, 85 are greater than are greater than 12 inches in diameter and 12 have been classified as high priority outfalls. The outfall inventory was completed by the Village’s consultant H.R. Green (formerly SEC) in 2007. The Village used collected data, development plans, and GIS to create an Outfall Inventory map.

The outfall map should be revised to incorporate permitted outfalls associated with new developments. An outfall inventory should be performed every 5 years in conjunction with pre-screening efforts (Chapter 3.4.D.2); the focus of this effort is to search for new outfalls.

Measurable Goal(s):

- Maintain outfall inventory, searching for new outfalls every 5 years.
- Identify high priority outfalls

Figure 4: High Priority Outfall Locations



1.5 Status of Waters

As can be seen on **Figure 5** Blackberry Creek and the Fox River have impaired designated uses. Morgan Creek and Waubonsee Creek have not yet been assessed. The most recent 303(d) list may be found at <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx>.

Information regarding TMDLs may be found at <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/default.aspx>.

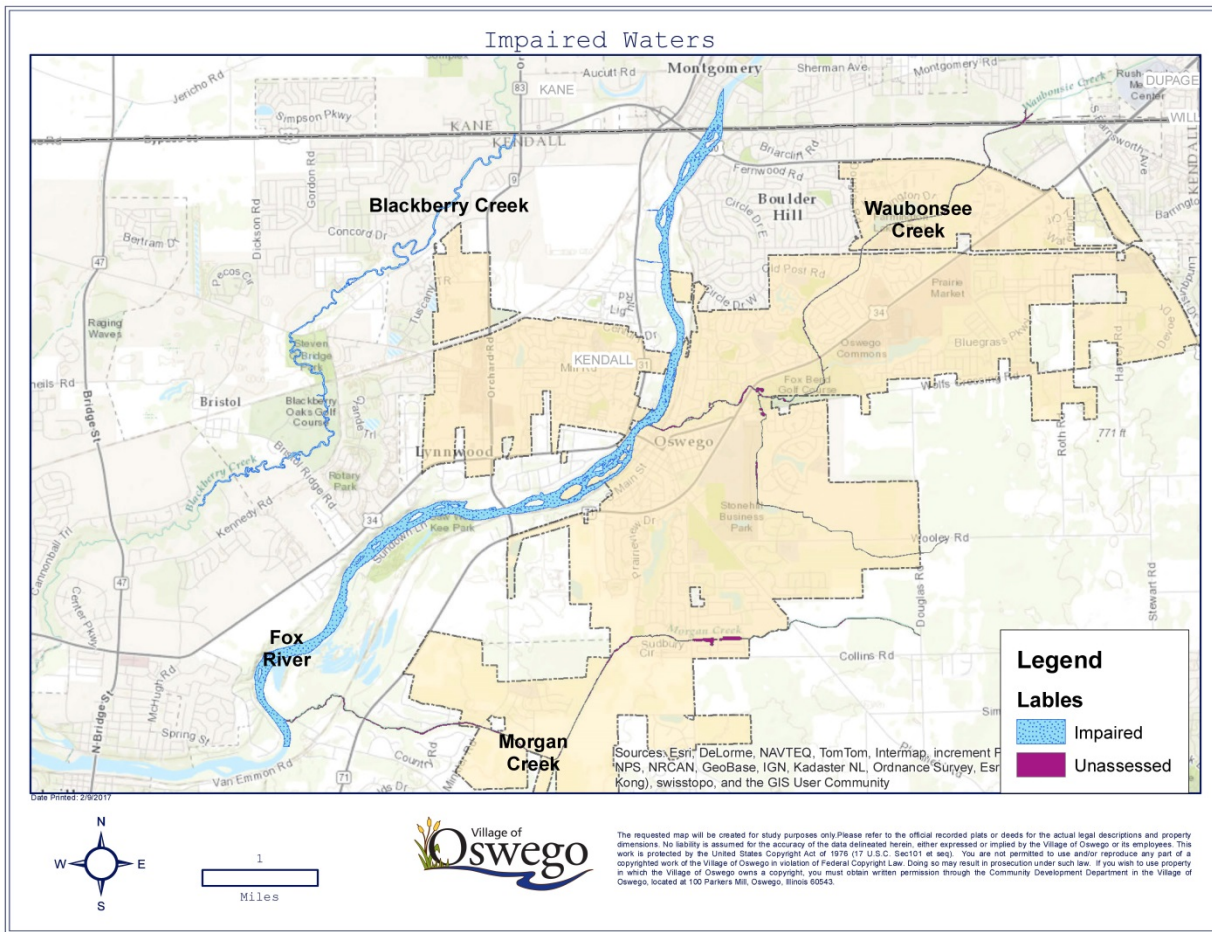


Figure 5: Impaired Waters 2014 303d and 305b Reports by IEPA

Segment	Impaired DU	Potential Cause	Potential Source	TMDL Status
Blackberry Creek IL_DTD-02	Primary Contact, Recreation	Fecal Coliform	Unknown	
Fox River IL_DT-38	Aquatic Life, Fish Consumption, Primary Contact, Aesthetic Quality	Alteration in Stream-side or littoral vegetative covers, other flow regime alterations, Total Suspended Solids, pH, Phosphorus, Aquatic Algae, Mercury, Polychlorinated biphenyls, Fecal Coliform	Streambank Modifications/destabilization, impacts from Hydrostructure Flow Regulation/modification, Dam or Impoundment, Combined Sewer Outflows, Urban Runoff/Storm Sewers, Municipal Point Source Discharges, Atmospheric Deposition – Toxics,	
Fox River IL_DT-03	Aquatic Life, Fish Consumption, Primary	Aldrin, Other flow regime alterations, Dissolved Oxygen, Sedimentation/	Contaminated Sediments, Impacts from Hydrostructure Flow Regulation/modification,	

	Contact, Aesthetic Quality	Siltation, Total Suspended Solids, pH, Phosphorus, Aquatic Algae, Mercury, Polychlorinated biphenyls, Fecal Coliform	Dam or Impoundment, Agriculture, Urban Runoff/Storm Sewers, Municipal Point Source Discharges, Atmospheric Deposition – Toxics, Combined Sewer Overflows	
Morgan Creek IL_DTZJ-01	Not Assessed			
Waubonsee Creek IL_DTE-01	Not Assessed			

Source: <https://www2.illinois.gov/epa/Documents/epa/water-quality/watershed-management/tmdls/2018/303d-list/appendix-a-2.pdf>
 Accessed March 15, 2019

At this time no TMDL requirements have been issued for receiving waters within the MS4. TMDL statuses will be reviewed as part of each year’s annual reports. Upon issuance of a TMDL requirement, an implementation strategy or plan will be created and described in the annual report incorporated into the next SMPP revision.

The Fox River Study Group has developed the [Fox River Implementation Plan - A Plan to Improve Dissolved Oxygen and Reduce Nuisance Algae in the Fox River](#) to address priority pollutants.

1.6 Countywide Approach to NPDES Compliance

Kendall County has the authority to regulate Stormwater Management under the authority of [Illinois Revised Statute 55/5-1062](#). The County’s goals include the reduction of flood damage and water quality degradation. The County wishes 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 County works cooperatively with individuals, groups, and units of government as well as serving as the corporate enforcement authority for the [Kendall County Stormwater Management Ordinance \(KCSMO\)](#). Kendall County enforces the KCSMO in non-certified communities on behalf of the municipality. The municipality is responsible for enforcing the [KCSMO](#) in Certified Communities. A municipality is considered a Certified Community after its petition is approved by Kendall County. Oswego is a Certified Community.¹ The County 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, the County provides solutions to problems related to stormwater and identifies effective ways of managing natural resources.

¹ Ordinance 12-91 adopted December 11, 2012.

The General Permit allows for MS4s to take credit for activities being performed by a Qualifying Local Program (QLP) toward meeting its permit requirements. Kendall County Planning, Building & Zoning (KCPB&Z) is a Qualifying Local Program for MS4s in Kendall County. As part of their ongoing services, KCPB&Z performs some functions related to each of the six minimum control measures. KCPB&Z has been providing services under four of the six minimum control categories since it began implementing a comprehensive, countywide stormwater program in 2011. 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.

As part of the countywide approach to comply with the NPDES Phase II program, KCPB&Z assists municipalities with the following:

- Supporting NPDES II presentations to local boards,
- Developing model Notice of Intent (NOI),
- Providing countywide drainage system overview and receiving waters map,
- Providing general 5-year BMP Plan for NOI,
- Developing specific BMP Measurable Goals and program development tasks, and
- Serving as a clearinghouse for all support information and acts as a liaison to IEPA and USEPA.

KCPB&Z countywide services qualify for credit under four of the six Minimum Control Measures. A general list below summarizes additional KCPB&Z services under the 6 minimum control categories:

1. Public Education and Outreach: KCPB&Z provides, through its Public Information Coordinator, various training workshops, homeowners workshops, brochures, training manuals, teacher/student education, videos, etc.,
2. Public Participation and Involvement: KCPB&Z coordinates and participates in public meetings and committees, Kendall County Health Department and Kendall County Soil and Water Conservation District outreach events.
3. Construction Site Runoff Control: KCPB&Z adopted the countywide Stormwater Management Watershed Development Ordinance (KCSMO) in 2011, which establishes the minimum stormwater management requirements for development in Kendall County. The KCSMO, which is enforced by KCPB&Z as well as by certified communities in the county, establishes standards for construction site runoff control.
4. Post-Construction Runoff Control: The KCSMO also establishes standards for post-construction runoff control.

2 Program Management

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

2.1 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.

Appendix 5.10 includes related tracking forms. The tracking forms are broken out into three categories (based on the frequency of occurrence). There are three different tracking forms included: Annual, As-Needed and On-Going. These forms should be printed annually and the progress of all tasks tracked. At the end of the yearly reporting period (March 1 – February 28/29) the forms 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 municipality's website.

Annual Reports, Monitoring Data, NOI and Stormwater Management Plans shall be kept for a minimum of 5-years after the expiration of this permit (March 1, 2022).

2.2 Intra-Department Coordination

The Board of Trustees is the policy and budget setting authority for this municipality. The Departments of Community Development and Public Works work together to implement this SMPP. The Stormwater Coordinator has primary responsibility for managing the overall program.

2.2.A Stormwater Coordinator

The Public Works Director is the Stormwater Coordinator and is responsible for the oversight and implementation of this SMPP. The Stormwater Coordinator has many different responsibilities, he/she:

- is the lead contact for coordination with Kendall County, 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 municipality effectively implements the SMPP;
- ensures, or assists the Enforcement Officer in ensuring, that the municipality complies with all minimum Kendall County Stormwater Management Ordinance (KCSMO) provisions;

- ensures that the Facilities comply with all minimum ILR40 permit requirements;
- is aware when a 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 KCSMO permit conditions; and
- understands 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.

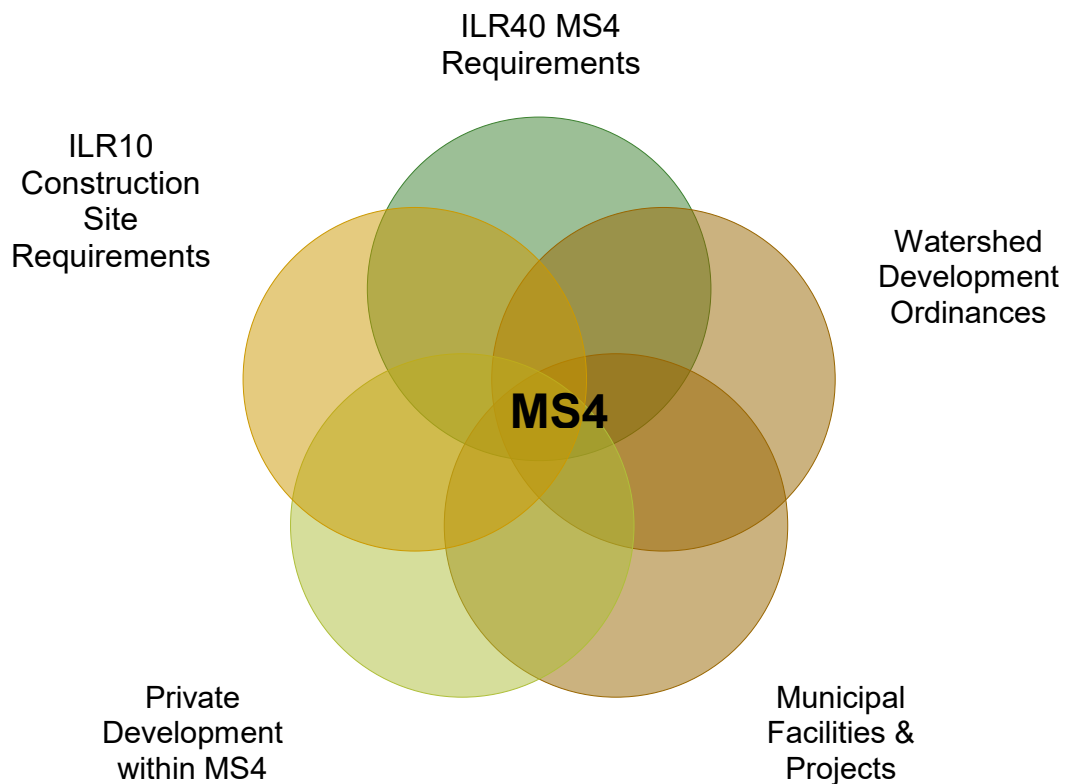


Figure 6: Roles of MS4

provided by Gewalt Hamilton & Associates

Engineering Department

Engineering personnel support the Stormwater Coordinator in obtaining compliance with both the NDPEs and KCSMO programs.

The Village Engineer is also the Enforcement Officer with respect to the administration and enforcement of the Kendall County Stormwater Management Ordinance (KCSMO). Additionally, the Enforcement Officer is responsible for performing inspections and monitoring the development. Review and inspection efforts can be performed by personnel under his/her direct supervision the design and construction of all public projects shall comply with the [KCSMO](#) and Village regulations. As the Enforcement Officer, the Village Engineer has the responsibility to concur that projects meet standards prior to the issuance of permits, and oversee site inspections during construction. The Enforcement Officer follows established procedures for notifying applicants of deficiencies and obtaining site compliance (i.e. enforcement). The Enforcement Officer has the responsibility to concur that projects meet KCSMO and Village standards prior to the issuance of permits, and oversee site inspections during construction. Refer to Chapter 3.5 and 3.6 for additional information on this process.

The Chief Infrastructure Inspector is designated as the primary entity responsible for performing the duties specified under Chapter 3.6 Illicit Discharge Detection and Elimination.

2.2.B Public Works Department

Infrastructure maintenance activities within the MS4 are carried out by Public Works personnel. Public Works personnel are designated as the primary entity responsible for performing the duties specified under Chapter 3.4 Illicit Discharge Detection and Elimination and Chapter 3.7 Pollution Prevention and Good Housekeeping.

2.3 Coordination with Kendall County

Coordination between the MS4 and Kendall County occurs through both participation in the Kendall County forums and through the Certified Community Status under the Kendall County Stormwater Management Ordinance (KCSMO). The MS4's Stormwater Coordinator is the lead contact for participation in the forums. Oswego's Enforcement Officer is responsible for the enforcement of the KCSMO and is designated by the MS4 to Kendall County

2.4 Watershed Work Groups

2.4.A.1 Fox River Study Group

The [Fox River Study Group](#) (FRSG) is a diverse coalition of stakeholders working together to assess water quality in the Fox River watershed. Participants include [Friends of the Fox River](#), [Sierra Club](#), [Fox River Water Reclamation District](#) (Elgin), [Fox Metro Water](#)

[Reclamation District](#) (Aurora), [Fox River Ecosystem Partnership](#), [Illinois Environmental Protection Agency](#) (IEPA) and Blackberry Creek Watershed Plan Implementation Council as well as representatives from Algonquin, Aurora, Batavia, Crystal Lake, Elgin, Geneva, Island Lake, Kane County, Lake in the Hills, St. Charles and Yorkville.

The FRSG began meeting in the summer of 2001 to plan how to prepare for the upcoming Total Maximum Daily Load (TMDL) study on the river. A TMDL study is required by federal law because three segments of the Fox River appeared on the Illinois Environmental Protection Agency's list of impaired waters (the 1998 303(d) list). These segments, which lie between Holiday Hills and North Aurora, were listed because results from at least one water sample suggest there are water quality concerns. The most common concerns include low dissolved oxygen levels or high concentrations of fecal coliform bacteria. The 303(d) listing was updated in 2002, and now includes the entire length of the Fox River from the Wisconsin state line to the river's mouth at Ottawa with the most numerous causes listed as flow alteration, habitat alteration, low dissolved oxygen, nutrients, organic enrichment, PCBs, siltation or suspended solids. The mission of the Fox River Study Group is to bring together a diverse coalition of stakeholders to work together to preserve and/or enhance water quality in the Fox River watershed.

The activities of the Fox River Study Group shall include, but are not limited to, the following:

- Participation in water quality monitoring efforts in the Fox River watershed;
- Development of a computer model of the Fox River watershed;
- Maintenance of the computer model as a management tool to promote efficient use of taxpayer and private money on watershed projects, assess the effect of various development options throughout the watershed, educate stakeholders, evaluate management priorities, identify sensitive regions within the watershed, develop continuing monitoring programs;
- Development of a plan to preserve and/or enhance the water quality of the Fox River; and
- Promotion, as needed, of the adoption of the watershed plan by appropriate entities that have the authority for its implementation.

Additional information and a copy of the Fox River Implementation Plan can be found at <http://www.foxriverstudygroup.org/index.htm>.

2.5 Coordination with Consultants

The MS4 may enlist the services of consultants to assist in the implementation of the Watershed Development Ordinances (WDO) (including, but not limited to, plan review, site inspections and enforcement), and the design of MS4 projects. The Director of Community Development has the responsibility of administering these contracts.

2.6 Coordination of Contractors

The Village also has a responsibility to hire contractors who are knowledgeable of the applicable requirements of the ILR40 and ILR10 permits. Provide appropriate training, or require documentation that appropriate training has been attended, for all contractors responsible for municipal green infrastructures and ensure they are aware of good housekeeping/pollution prevention practices.

2.7 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 3.1. The Public Participation and Involvement Program of this SMPP is discussed in Chapter 3.3. In addition to the avenues described in this SMPP the Public has the opportunity to comment on proposed preliminary and final plats through the Plan Commission and Municipal Board process established in the Municipal Code.

2.8 Coordination with the IEPA

The municipality is required to complete annual reports which describes the status of compliance with the ILR40 permit conditions and other related information as presented on the annual report template provided by the QLP. The annual report must be posted on the municipality's website and submitted to the IEPA by the first day of June each year. Annual reporting to IEPA should 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.

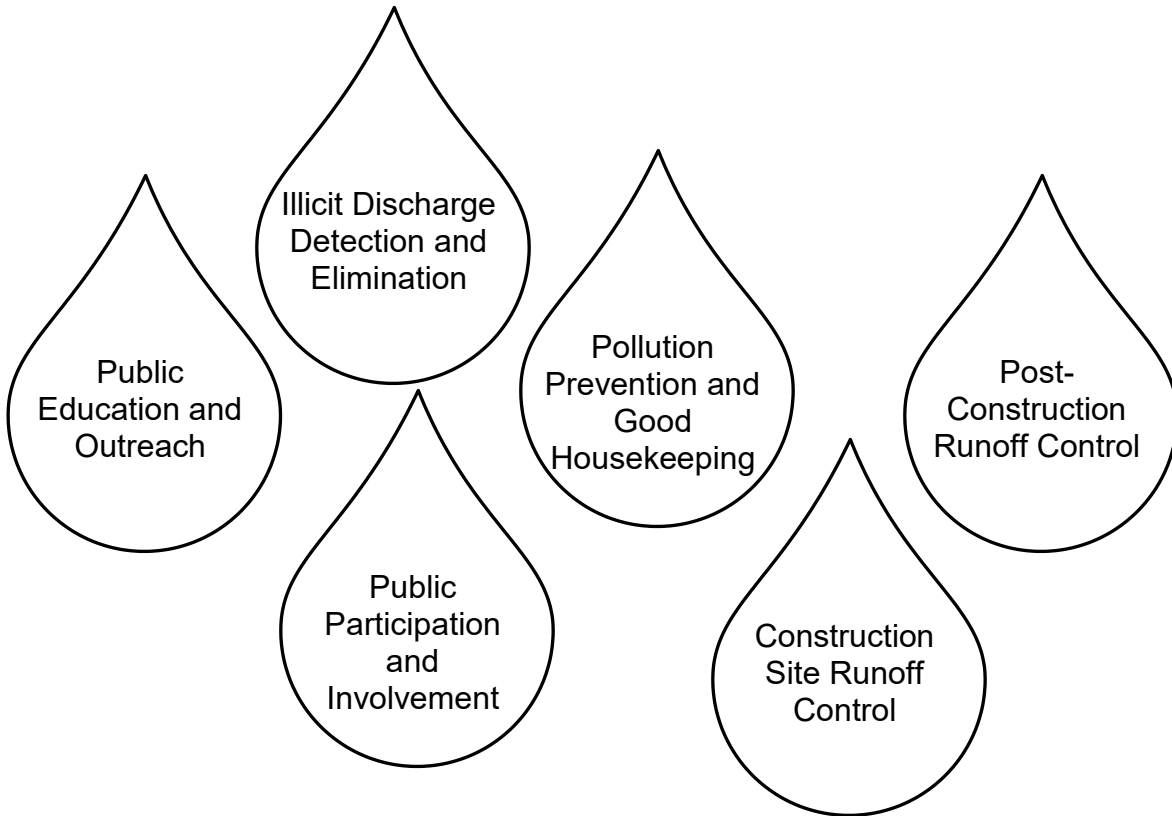
Records regarding the completion and progress of the SMPP commitments must be kept by the community. The tracking form, described in Chapter 2.1, should be updated throughout the year. The completed forms should be located in a binder with necessary supporting documentation. The binder must be available for inspection by both IEPA and the general public.

2.9 Coordination with the Development Community

The Village of Oswego has a responsibility to assist the development community in understanding when an ILR10 permit is required and whether construction sites comply with the general ILR10 and the Watershed Development Ordinances (WDO) permit conditions. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges exiting an MS4's outfall into 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 municipality 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 3.5.B for additional information on qualified personnel.

3 The Program



This Stormwater Management Program Plan includes six Minimum Control Measure (MCM) categories, each of which is necessary in an effort to reduce/eliminate stormwater pollution in receiving water bodies. Chapter 3.1 describes the efforts to educate the public about stormwater pollution and stormwater pollution prevention. The manner in which Oswego incorporates public participation and involvement into the SMPP is explained in Chapter 3.3. Chapter 3.4 describes the approach to detecting and eliminating stormwater illicit discharges. Construction and post construction runoff control is addressed in Chapters 3.5 and 3.6. Lastly, Chapter 3.7 discusses responsibilities for the care and upkeep of its general facilities, associated maintenance yards, and municipal roads and to minimize pollution. This chapter also discusses necessary training for employees on the implementation of the SMPP.

3.1 Public Education and Outreach



The municipality 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 regarding stormwater BMP, water quality BMP, and proper hazardous waste use and disposal.
- Maintain a water quality/stormwater section in the municipality newsletter.
- Attend/sponsor outreach activities to homeowners / property owner associations, commercial / industrial facilities, schools, and other events.
- Coordinate, publicize, and participate in environmental events such as e-waste collection or recycling events.
- Maintain website which offers links to additional educational information, and ways to contact municipality personnel.
- Advise on the potential impacts and effects on stormwater discharge due to climate change <http://epa.gov/climatechange>.

3.2 Distribution of Paper Materials (BMP A.1)

Oswego actively pursues the acquisition of educational sheets prepared by the QLP, IEPA, USEPA, Center for Watershed Protection, Chicago Metropolitan Agency for Planning “CMAP” (previously the Northwest Illinois Planning Commission “NIPC”), University of Wisconsin Extension, Northwest Water Planning Alliance, Fox River Study Group, The Conservation Foundation, and other agencies and organizations. Oswego maintains a list of available publications in the SMPP binder and on the website. Oswego lists the Public Works Department’s telephone number on all municipal outreach publications to encourage residences to contact Oswego with environmental Concerns.

Types of materials distributed include:

- The “Guidelines for Draining Swimming Pools” door hanger,
- The “Protect Our Water” door hanger,
- Informational sheets/pamphlets regarding stormwater best management practices,
- Informational sheets/pamphlets regarding water quality best management practices,
- Informational sheets/pamphlets regarding the construction site activities (soil erosion and sediment control best management practices),
- Informational sheets/pamphlets regarding the hazards associated with illegal discharges and improper disposal of waste and the manner in which to report such discharges.
- Informational sheets/pamphlets regarding green infrastructure strategies such as green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells, and permeable pavement, information sheets/pamphlets published by the Village regarding proper hazardous waste use and disposal, and
- a water quality/stormwater section in the municipal newsletter

Publications are provided in the following manner:

- At take-a-away racks located at Village Hall and Public Works Facility,
- At outreach events,
- The municipal newsletter, a quarterly publication,
- At Earth Day/Green Day events held in the community, and
- At scheduled meetings with the general public. These meetings are on an as needed or as requested basis and may be with the home owners associations, businesses, or local schools.

Measurable Goal(s):

- Support QLP efforts.
- Distribute informational materials from “take away” racks and other appropriate forms.

3.2.A Web Site (BMP A.6)



The Village of Oswego maintains a website that contains a variety of materials and resources related to stormwater management. The website provides information about IEPA’s NPDES Stormwater Program, information about the stormwater management program, including its SMPP, NOI, Permit, Annual Report and Green Practices, allow for download of stormwater management-related publications and documents, provides notices of upcoming meetings and ongoing projects, watershed workgroup information, and provides links to a number of other stormwater management-related resources.

The Village of Oswego will research, compile and make available materials about the impacts of climate change on precipitation and stormwater runoff and the pollution prevention practices that can be used by private property owners, and an evaluation of the impacts of climate change on existing flood control techniques and practices used to achieve runoff volume reduction. A link to the USEPA’s climate change website <http://www3.epa.gov/climatechange> is included on the Village’s website.

Measurable Goal(s):

- Maintain and update the portion of the website dedicated to its stormwater management program including links to Kendall County and the IEPA, and links including information relating to climate change.
- Post SMPP, the NOI and current Annual Report and previous 5 Annual Reports on the website.

3.2.B Outreach Events (BMP A.4)



When possible, the Village of Oswego 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, businesses, and neighborhood groups.

Measurable Goal(s):

- Track any workshops and events

3.2.C Storm Drain Stenciling & Markers (BMP A.6)



The Village of Oswego supports the efforts of private entities to stencil or apply stickers to inlets, and their purchase of factory stamped inlet grates. Stamped or stenciled inlets assist in educating the public about stormwater runoff pollution. Municipal efforts include:

- Requiring all new development to furnish stamped inlet grates as of March 2009.
- Encouraging all Home Owners Associations to annually paint the embossed area of any stamped inlet grates within the subdivision.
- Instituting a program to add “stickers” or other markers to existing inlets through the use of municipal staff or private groups.

Measurable Goal(s):

- Support QLP and private efforts.

3.2.D Household Hazardous Wastes (BMP A.4)



The average garage contains a lot of products that are classified as hazardous wastes, including paints, stains, solvents, used motor oil, pesticides and cleaning products. While some household hazardous waste (HHW) may be dumped into storm drains, most enters the storm drain system as a result of outdoor rinsing and cleanup. Improper disposal of HHW can result in acute toxicity to downstream aquatic life. The desired neighborhood behavior is to participate in HHW collection days, and to use appropriate pollution prevention techniques when conducting rinsing, cleaning and fueling operations. The municipality employs a range of tools to improve resident participation. These include:

- Mass media campaigns to educate residents about proper outdoor cleaning/rinsing techniques
- Conventional outreach materials notifying residents about HHW and collection days

Measurable Goal(s):

- Support and publicize Village efforts.

3.2.E Septic System Maintenance (BMP A.6)

The Village of Oswego maintains a sanitary sewer collection system. Sewage is conveyed in pipes of 9-inch diameter or less to transmission mains owned by the Fox Metro Water Reclamation District (FMWRD) FMWRD owns and operates a 42 MGD wastewater treatment plant which discharges to the Fox River.

Section 7-4-2(C) of the Village Code requires connection of all buildings occupied by humans to the municipal sanitary sewer system with limited exceptions.

Septic systems are subject to compliance with the [Private Sewage Disposal Code](#) and are regulated by the [Kendall County Health Department](#).

Failing septic systems can be a major source of bacteria, nitrogen, and phosphorus, depending on the overall density of systems present in a subwatershed. Failure results in illicit surface or subsurface discharges to streams. Septic systems are a classic case of out of sight and out of mind. Many owners take their septic systems for granted, until they back up or break out on the surface of their lawn. Subsurface failures, which are the most common, go unnoticed. In addition, inspections pump outs, and repairs can be costly, so many homeowners tend to put off the expense until there is a real problem. Lastly, many septic system owners are not aware of the link between septic systems and water quality. The municipality may utilize a range of tools to improve septic system maintenance:

- Media campaigns and conventional outreach materials to increase awareness about septic system maintenance and water quality (e.g., radio, newspapers, brochures, bill inserts, and newsletters)
- Mandatory inspections
- Termination of public services for failing systems

Measurable Goal(s):

- Track efforts

3.2.F Vehicle Fluid Maintenance (BMP A.6)



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 municipality may utilize a range of tools to minimize illicit discharges:

- Directories of used oil collection stations
- Pollution hotlines
- Fines and other enforcement actions

Measurable Goal(s):

- Promote safe vehicle maintenance through previously described BMPs: *Distribution of Paper Materials* (Chapter 3.2.A), *Web Site* (Chapter 3.2.B) and *Outreach Events* (Chapter 3.2.C)

3.2.G Car / Outdoor Washing (BMP A.6)

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. Communities have utilized many innovative outreach tools to promote environmentally safe car washing, including:

- Media campaign
- 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

Measurable Goal(s):

- Promote safe car washing through previously described BMPs: *Distribution of Paper Materials* (Chapter 3.2.A), Web Site (Chapter 3.2.B) and Outreach Events (Chapter 3.2.C)

3.2.H Lawn and Garden Care (BMP A.6)

Our yards are our outdoor homes: fun, beautiful, great spaces for relaxing. Fertilization decisions should be based on the nutritional and growth requirements of plant and the soil conditions. Adding unneeded fertilizer in the yard does not benefit plants and could end up in the storm water system or polluting streams, lakes, and aquifers. By taking care of our lawns and gardens properly, we can save money, time and help the environment. Green Scaping encompasses a set of landscaping practices that can improve the health and appearance of your lawn and garden while protecting and preserving natural resources. This is further described in EPA's [Green Scaping Publication](https://www.epa.gov/sites/production/files/2014-04/documents/greenscaping_-_the_easy_way_to_a_greener_healthier_yard.pdf).

https://www.epa.gov/sites/production/files/2014-04/documents/greenscaping_-_the_easy_way_to_a_greener_healthier_yard.pdf

Measurable Goal(s):

- Promote healthy lawn care through previously described BMPs: *Distribution of Paper Materials* (Chapter 3.2), Web Site (Chapter 3.2.A) and Outreach Events (Chapter 3.2.B)

3.2.I Green Infrastructure (BMP A.6)

The Village encourages residents' use of storm water infiltration, reuse and evapotranspiration of storm water practices on their properties. Types of techniques include green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells and permeable pavement.

Measurable Goal(s):

- Promote the use of green infrastructure on private property through previously described BMPs: *Distribution of Paper Materials* (Chapter 3.2), Web Site (Chapter 3.2.A) and Outreach Events (Chapter 3.2.B)

3.2.J Pool Dewatering (BMP A.6)



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**.

Measurable Goal(s):

- Promote safe pool dewatering through previously described BMPs: *Distribution of Paper Materials* (Chapter 3.2), Web Site (Chapter 3.2.A) and Outreach Events (Chapter 3.2.B). Efforts should be targeted each fall, preferably September and may incorporate the use of Pool **Dewatering Fact Sheet (Appendix 5.11)**.

3.3 Public Participation and Involvement

The public participation and involvement program allows input from citizens during the development and implementation of the SMPP.

3.3.A Public Review Process (BMP B.1)

Village of Oswego presents each year's annual report to the Board during an open meeting and provide for input from the public as to the adequacy of the permittee's MS4 program. In addition, comments on the SMPP are continually accepted through the web-site, phone calls or other media Comments are evaluated for inclusion and incorporated into the next revision of the SMPP as appropriate.

Measurable Goal(s):

- Present each year's annual report to the Board during an open meeting and provide for input from the public as to the adequacy of the permittee's MS4 program.

3.3.A.1 *Environmental Justice Areas*

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this nation. It will be achieved when everyone enjoys:

- the same degree of protection from environmental and health hazards, and
- equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

"Potential" EJ communities have been identified based on IEPA guidance to include communities with a low-income and/or minority population greater than twice the statewide average. In addition, a community may be considered a potential EJ community if the low-income and/or minority population is less than twice the state-wide average but greater than the statewide average and that has identified itself as an EJ community. If the low-income and/or minority population percentage is equal to or less than the statewide average, the community should not be considered a potential EJ community. The following web application is another resource that can be used to determine if an area would qualify for consideration as an environmental justice community.

<https://ejscreen.epa.gov/mapper/index.html>.

Measurable Goal(s):

- Identify EJA, if any, within the community and ensure that BMP efforts are targeted at these areas.

3.3.A.2 *Complaints, Suggestions and Requests (BMP B.7)*



The Village of Oswego encourages the submission of complaints, suggestions and requests related to its stormwater program. Calls are screened, logged and routed to the appropriate department for action. General program related calls are directed to the Stormwater Coordinator, or designee. Construction activity related telephone calls are directed to the Enforcement Officer, or designee. Illicit Discharge, storm sewer, and other related stormwater runoff concerns are directed to the Building and Zoning or Public Works Department as appropriate. Oswego maintains a website which enables and encourages public contact on these issues.

Measurable Goal(s):

- Encourage submission of complaints, suggestions and requests by publicizing contact information on previously described BMPs: Distributed Paper Materials (Chapter 3.2.) and on the Website (Chapter 3.2.A).

3.3.B Illicit Discharge/Illegal Dumping Hotline (BMP B.7)



The community maintains, operates and publicizes a call in phone number where parties can contact the Village with environmental concerns. Telephone calls received from residents, other Village Departments or other agencies are entered into Oswego Click 'n Fix and logged on the **Indirect Illicit Discharge Tracking Form (Appendix 5.7)**. Primary advertisement venues include the website and all related municipal publications. Residents can report problems at the following numbers:

Village Hall Phone: 630-554-3618
Public Works Phone: 630-554-3242

Non-Emergency Dispatch: 630-554-3426
Police General Phone: 630-551-7300 or
9-1-1

Residents may also report problems online through [Oswego Click 'n Fix](#) .

Measurable Goal(s):

- Log reports on the **Indirect Illicit Discharge Tracking Form (Appendix 5.7)**.
- Investigate potential illicit discharges

3.3.C Adopt-A-Highway (BMP B.7)



*Adopt
a
Highway*

The Village of Oswego, in cooperative partnership with the IDOT, supports Adopt-A-Highway Programs for state roadways within the municipal limits. The objective of the program is to improve and promote the image of the entire community by reducing potential illicit discharges. Participation meets the Program Policy and Safety Guidelines established by IDOT in a separate document.

Measurable Goal(s):

- Support the Adopt-A-Highway Program

3.4 Illicit Discharge Detection and Elimination²



² Chapter 3.4 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).

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.

Program objectives and procedures for the identification and removal of direct connections of pollutants into the storm water management systems (including wetlands and receiving waters) are included in this manual. Step-by-step instructions for identifying storm sewers suspected of containing pollutants, suggestions for actions to be taken to determine the sources of identified pollutants, and steps for correcting identified problems are provided. The results of the procedures presented in this manual are intended to serve as indicators of pollution, rather than to provide specific quantitative analysis. 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.

3.4.A Regulatory Authority (BMP C.2)

Effective implementation of an IDDE program requires adequate legal authority to remove illicit discharges and prohibit future illicit discharges. This regulatory authority is achieved through adoption of [Kendall County Stormwater Management Ordinance](#) and the following local ordinances:

[Village of Oswego Subdivision and Development Control Regulations](#)
[Village of Oswego Illicit Discharge Detection and Elimination Ordinance](#)
[Village of Oswego Floodplain Ordinance](#)
[Village of Oswego Stream and Wetland Protection Ordinance](#)

These ordinances are known collectively as the Watershed Development Ordinances (WDO). Additionally, IEPA has regulatory authority to control pollutant discharges and can take the necessary steps to correct or remove an inappropriate discharge over and above SM4 jurisdiction.

3.4.A.1 *Subdivision and Development Ordinance*

Several provisions of the Village of Oswego [Subdivision and Development Control Regulations](#) (SDCR) prohibit illicit discharges as part of the development process. These provisions are only applicable for regulated development activities as defined by the SDCR. Regulated developments are required to meet the soil erosion and sediment control standards of the SDCR. Furthermore, the SDCR requires that the applicant prohibit illicit discharges into the stormwater management system generated during the development process.

The SDCR requires inspection deposits, performance bonds, and to adopt/enforce violation procedures. These tools assist in achieving complaint construction sites. These items are further discussed in Chapters 3.5 and 3.6.

3.4.A.2 Illicit Discharge Detection and Elimination Ordinance

The Village of Oswego created and adopted Ordinance 07-66 [Illicit Discharge Detection and Elimination Ordinance](#). The Ordinance is the mechanism to allow for the execution and enforcement of the SMPP and is enforced.

3.4.A.3 Floodplain Ordinance

The Village of Oswego created and adopted the Ordinance 08-95, [Floodplain Ordinance](#). The ordinance seeks to minimize potential losses due to periodic flooding including loss of life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, impairment of the tax base, all of which adversely affect the public health, safety and general welfare; and to preserve and enhance the quality of surface waters, conserve economic and natural values and to provide for wise utilization of water and related resources.

3.4.A.4 Stream and Wetland Protection Ordinance

The Village of Oswego created and adopted the [Stream and Wetland Ordinance](#) to promote the health, safety and general welfare of the present and future residents of the Village of Oswego and downstream drainage areas by providing for the protection, preservation, property maintenance, and use of the Village of Oswego watercourses, lakes, ponds, floodplain and wetland areas. The ordinance is enforced by the Village of Oswego Building Inspector.

Measurable Goal(s):

- Enforce WDO

3.4.B 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.

3.4.B.1 Potential Sources of Illicit Discharges

Inspecting storm water outfalls during dry-weather conditions reveals whether non-storm water flows exist. If non-storm water flows are observed, they can be screened and tested to determine whether pollutants are present.

There are two primary situations that constitute illicit discharges; these include non-storm water runoff from contaminated sites and the deliberate discharge or dumping of non-

storm water. Deliberate discharge or dumping can enter the storm sewer system in two ways:

- direct connections – through direct piping connections to the storm sewer system, and
- indirect connections – through subtle connections, such as dumping or spillway of materials into storm sewer drains.

Direct connections are more likely to result in continuous pollutant discharges than indirect connections, which often produce limited, intermittent discharges of pollutants. USEPA guidance indicates that direct connections to storm sewer systems most likely originate from commercial/industrial facilities. Thus, the focus of this manual is the identification of illicit discharges from commercial/industrial facilities.

3.4.B.2 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 or IEPA:

- Water line flushing,
- Landscaping irrigation,
- Diverted stream flows,
- Rising groundwaters,
- 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.
- Discharges from dewatering activities, if managed by appropriate controls as specified in a project's SMPP, erosion and sediment control plan, or stormwater management plan.

3.4.B.3 Prohibited Discharges

It is noted the following non-stormwater discharges are prohibited by the ILR40 permit:

- Concrete and wastewater from washout of concrete (unless managed by an appropriate control),
- Drywall compound,
- Wastewater from washout and cleanout of stucco
- Paint
- Form release oils
- Curing compounds and other construction materials
- Fuels
- Oils or other pollutants used in vehicle and equipment O&M,
- Soaps, solvents, or detergents,
- Toxic or hazardous substances from a spill or other release
- Any other pollutant that could cause or tend to cause water pollution

3.4.B.4 Pollutant Indicators

3.4.B.4.a PHYSICAL POLLUTANT 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 1: 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 2: Color of Potential Illicit Discharges (adapted from CWP)

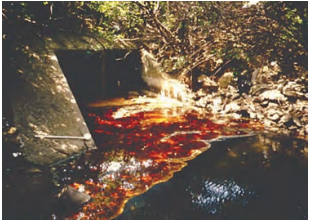



Water Color	Possible Cause	Images
<p>Brown Water – water ranging in color from light-tea to chocolate milk; it may have a rotten egg odor.</p>	<p>Human causes may be eroded, disturbed soils from constr. sites, animal enclosures, destabilized stream banks and lake shore erosion due to boat traffic.</p>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

Table 2 (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 7 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 8 Natural Sheen versus Synthetic

(adapted from CWP)






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



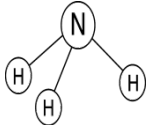
Synthetic oil forms a swirling pattern

Table 3: Floatables in Potential Illicit Discharges (adapted from CWP)

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

3.4.B.4.b CHEMICAL POLLUTANT INDICATORS

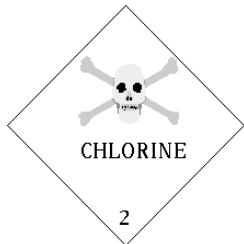
Ammonia



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.

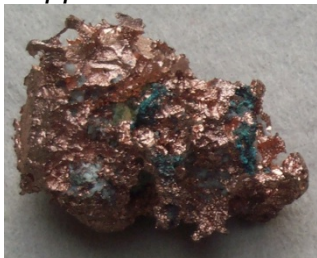
Potential ID NH₃-N: > 0.1 mg/L

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.

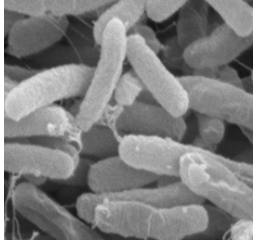
In each of these industries, wastes containing copper would normally be discharged to a treatment facility. Sludge from the waste treatment facility, whether on-site (including lagooning) or publicly operated treatment facilities, would contain copper. If the sludge (or the treatment process) is not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

Detergents



Most illicit discharges have elevated concentration of detergents. Sewage and wash water 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.

Potential ID Range: Fecal Coliform > 2,000 mg/L indicates waste water contamination.

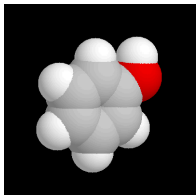
Potential ID Range: E. coli bacteria > 1,000/100 ml indicates waste water contamination.

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. Fluoride 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



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.

Potential ID Range: <6.5 and > 8.5

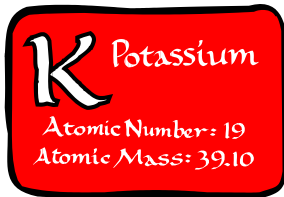
Phosphorus

Phosphorus is recognized as the controlling factor in plan and algae frown. Small increases in phosphorus can fuel substantial increases in aquatic plant and algae grown. In addition to reducing the recreational use of the water body the increased plant and algae growth lowers dissolved oxygen levels. Low dissolved oxygen levels often results in

the death of certain fish, invertebrates and other aquatic animals, reduce recreational use, property values and public health. A key source of phosphorus comes from runoff pollution, as rain or melting snow wash over fertilized areas or manure.

Potential ID Range: >1 mg/L

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 ammonia to potassium ratio of >1 or <1 indicate 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 wash water 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).

3.4.C Indirect Connection Program (BMP C.3)



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.

Upon observing or receiving notification of a potential illicit discharge, the Illicit Discharge Incident Tracking Form, found in **Appendix 5.7** is used to log and investigate the incident. Appropriate procedures found within this chapter are implemented in the event an illicit discharge has been confirmed.

Measurable Goal

- Track efforts related to indirect illicit discharges.

3.4.C.1 *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.

3.4.C.2 *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 3.7.B.

3.4.C.3 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, Vehicle Fluid Maintenance and Pool Dewatering programs are designed to minimize dumping; these programs were previously described in Chapter 3.2. The procedure for handling a dumping incident is described in Chapter 3.7.B.2.

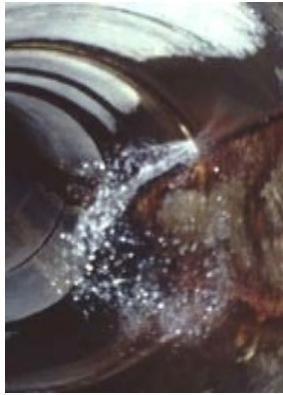
3.4.C.4 Outdoor washing activities

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 3.2 whereas observed/documentated routine washing activities should be addressed through the Removal of Illicit Discharges Procedure in Chapter 3.4.D.4.

3.4.C.5 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 3.2.I.

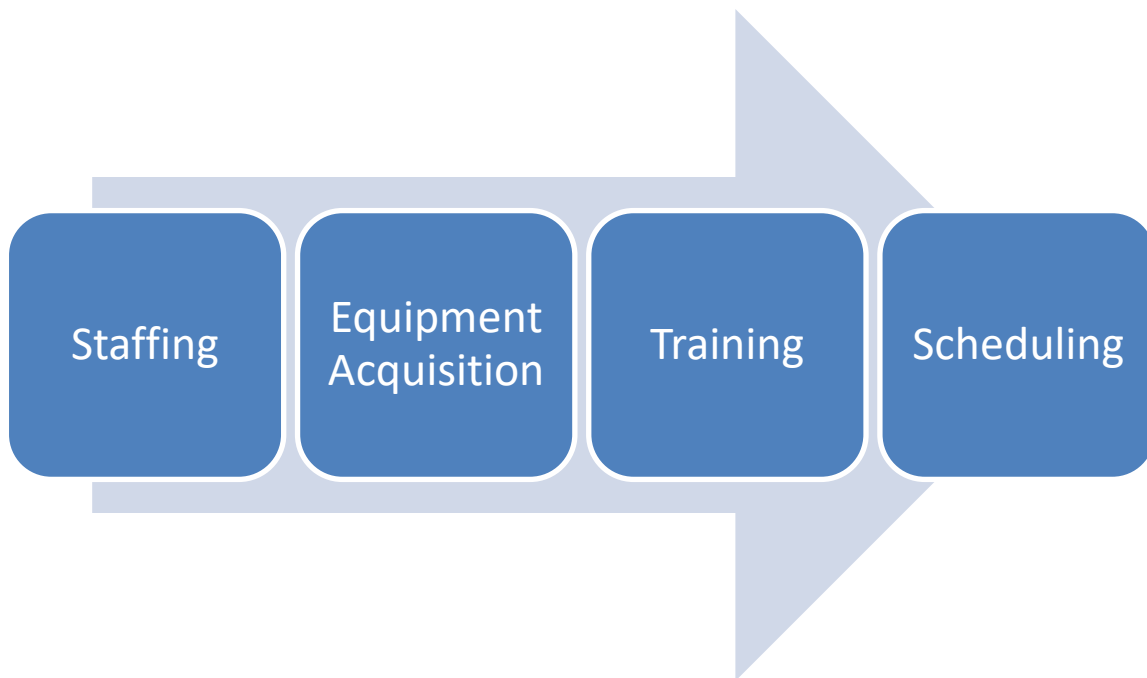
3.4.D Direct Connection Illicit Discharge Program (BMP C.3 – C.8)



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) outfall inspection, and 2) follow-up investigation and 3) removal.

3.4.D.1 Program Planning

Program Planning involves the office work, planning, and organization required to conduct outfall screening and follow-up investigative activities of the program. This includes the identification of the staffing and equipment needed to conduct the outfall screening and scheduling inspection activities. Program planning also 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).



3.4.D.1.a 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 two-member crew is required for the outfall screening and follow-up portions of the program.

3.4.D.1.b EQUIPMENT NEEDS



General field equipment and specialized outfall screening equipment are required for IDDE programs. The method of collecting and managing inspection screening data is driven by available technology. A complete list of recommend equipment and supplies is found on ***Stormwater Outfall Screening Equipment Checklist (Appendix 5.2)***. Field Crews carry basic safety items, such as cell phones, surgical gloves, and first aid kits. Additional safety precautions are described following the Equipment Checklist,

3.4.D.1.c SCHEDULING

Perform all pre-screening and follow-up inspections preceding a dry-weather period, a period of 72 hours of dry weather. A period of 72 hours is selected to allow local detention facilities to drain and local groundwater flows to recede after precipitation events. However, some judgment may be exercised in evaluating the 72-hour period to sampling. For example, if very light rain or drizzle occurred and no runoff was experienced, it is likely that dry-weather conditions would exist and outfall inspection could be conducted.

Pre-Screening:

Pre-screening is on-going, in coordination with the outfall inventory, refer to Chapter 3.4.D.2.a. High priority dry weather flow locations will be identified in 2016, in accordance with the new ILR40 permit. It is recommended that all outfalls be re-screened in 2022 and every 5 years thereafter.

Pre-screening should generally take place during the late summer or fall months, ideally in August, September, or October, although other summer 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.

Outfall Inspections:

Upon completion of the pre-screening efforts, review collected data to identify outfalls with observed dry weather flow or other indicators of an illicit discharge, refer to Chapter 3.4.D.2.b. Schedule outfall inspections so that all identified outfalls with potential illicit

discharges are investigated within the following 5-years, ensuring that outfalls with the greatest potential for the presence of an illicit discharge are investigated first. Annual inspection of all high priority outfalls, as identified in Chapter 1.4, is required.

3.4.D.2 *Outfall Inspection (BMP C.3)*



The identification of potential illicit discharge locations is primarily a two part process, pre-screening and follow-up inspections. Pre-screening is performed by a rapid inspection of all outfalls in a pre-determined area such as along receiving water. Follow-up inspections are required for those pipes found to have dry weather flow. Once probable illicit discharges are found, identify the sources of illicit discharges and correct per the removal procedure of Chapter 3.4.D.4. Outfall inspection consists of the following tasks:

- (1) Pre-Screening
- (2) Outfall Inspection, and
- (3) Outfall Assessment and Documentation.

3.4.D.2.a PRE-SCREENING

Pre-screening consists of a rapid inspection of outfalls, during dry weather flow conditions. During pre-screening basic information should be obtained for each outfall. Recommended information includes basic data about the structure (such as size, shape, material, and condition), presence of dry weather flow determination and a photograph. The Outfall Inventory was previously described in Chapter 1.4. Pre-screening results can be seen by viewing the Outfall Inventory Database available at the Public Works Facility

Measurable Goal

- Pre-screen outfalls and search for new outfalls, repeat every five years.

3.4.D.2.b OUTFALL INSPECTION



An outfall inspection is required for those outfalls identified during pre-screening inspections with dry weather flow or other indicators of a potential illicit discharge. The intent is to gather additional information to determine if an illicit discharge is present. Upon arriving at an outfall, the field crew should inspect the outfall by approaching the outfall on foot to a proximity that allows for visual observations to be made. Outfalls should be screened to determine which one of the three following conditions applies:

- The outfall is dry or damp with no observed flow,
- Flowing discharges are observed from the outfall, or
- The outfall is partially or completely submerged with no observed flow or is inaccessible.

The field crew should photograph the outfall and complete applicable sections of the **Storm Water Outfall Inspection Data Form, Appendix 5.3**. The need for on-site testing and obtaining grab samples for laboratory analysis is determined by using the flow chart as guidance. Testing results are used to identify potential sources. Instructions for Completing the Storm Water Outfall Inspection Data Form and an associated Outfall Inspection Procedure Flow Chart (used to identify applicable sections of the form that must be filled out) are included in **Appendix 5.3**. Initial testing results are NOT intended to document the event for future removal and/or enforcement actions. If the initial testing results identify a potential illicit discharge, proceed to the follow-up investigation procedures discussed in Chapter 3.4.D.3.

Locating an upstream sampling 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 sample collection,
- Other special considerations.

Make reasonable efforts to location upstream sampling location(s) using the available storm sewer atlas and development plan information. Manholes, catch basins, or culvert crossings can be used for upstream sampling locations. If no dry weather flow is present (i.e. the submerged outfall is based solely on a backwater condition, follow the above Scenario 1 procedure. If dry weather flow is identified in an upstream manhole, follow the above Scenario 2 procedure. If the upstream manhole(s) are inaccessible, resolve the problem in the office with appropriate supervisory personnel.

Measurable Goal

- Inspect outfalls identified during pre-screening inspections with dry weather flow or other indicators of a potential illicit discharge over a 5-year period.
- Inspect all high priority outfalls, as identified in Chapter 1.4.A annually.

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

Figure 9: Characterizing Submersion and Flow
Center for Watershed Protection

3.4.D.2.c OUTFALL ASSESSMENT AND DOCUMENTATION

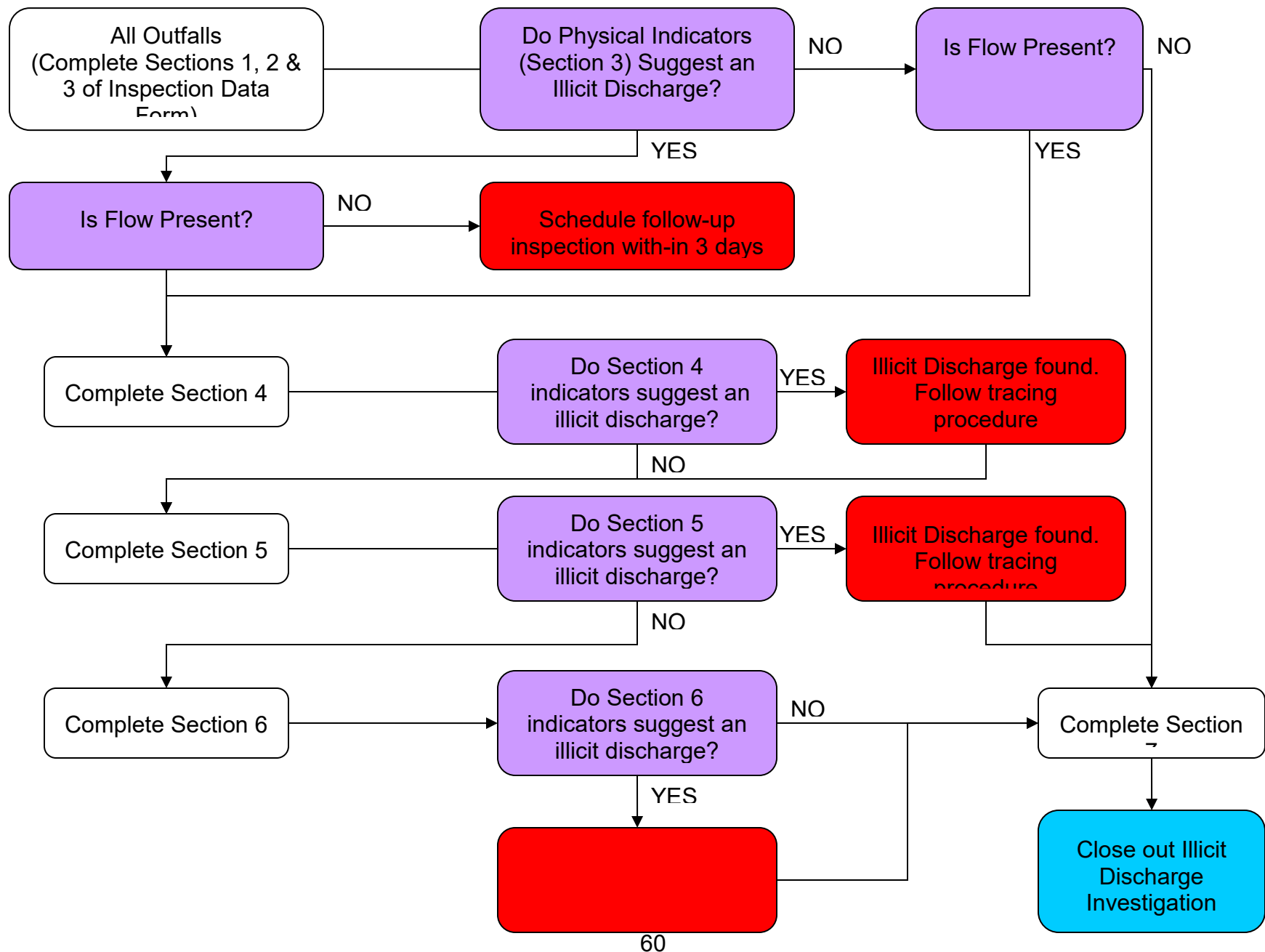
Complete the **Storm Water Outfall Inspection Data Form (Appendix 5.3)** for all outfall screening and grab sampling activities. All completed forms must be dated, legible, and contain accurate documentation of each outfall inspection. *A separate data form must be completed for each outfall.* It is 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 municipality'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. For example, 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 should be recorded on the form.

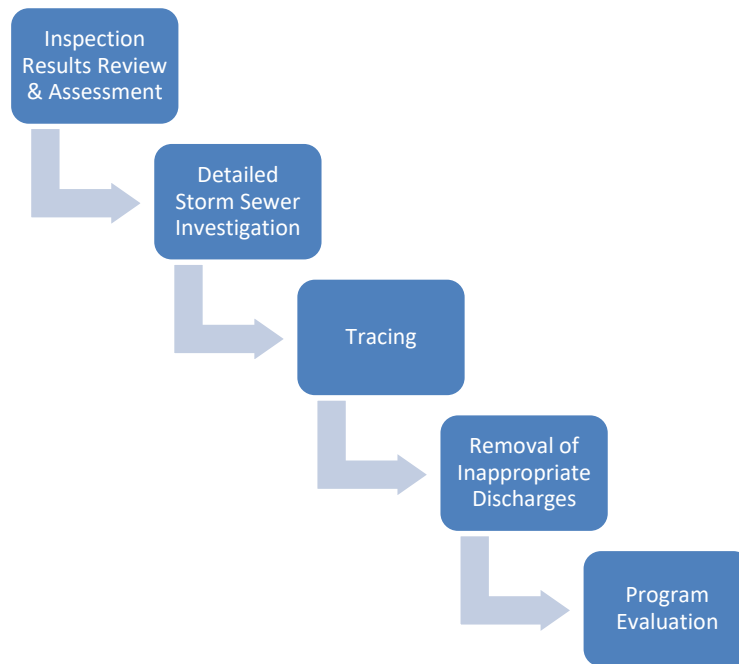
Measurable Goal

- Document all outfall inspections.

Figure 11: Outfall Inspection Procedure Flow Chart



3.4.D.3 Follow Up Investigation and Program Evaluation (BMP C.4)



Measurable Goal

- Continue investigation for outfalls identified through outfall inspection efforts to have a potential illicit discharge.

3.4.D.3.a OUTFALL SCREENING RESULTS REVIEW AND ASSESSMENT

Follow up inspections are required for outfalls identified to have potential illicit discharges during the outfall inspection procedure. This is accomplished by reviewing the **Stormwater Outfall Inspection Data Forms (Appendix 5.3)** collected during outfall investigations to determine which outfalls require a follow up investigation, target sewer system areas (using available mapping and atlas information) for detailed investigation.

3.4.D.3.b INDEPENDENT VERIFICATION



If the initial outfall assessment identifies potential illicit discharges (through either the on-site or off-site testing procedures), additional sampling is required. The results of the inspection and testing should be discussed with the Stormwater Coordinator. Contract

an independent laboratory to take and test an additional sample and verify preliminary finding. Use the established procedure to coordinate the independent laboratory sample and testing.

3.4.D.3.c SOURCE IDENTIFICATION

Follow up investigation is required for all outfalls with positive indicators for pollutant discharges during the pre-screening efforts.

Mapping and Evaluation (BMP C.1)

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 inventory. 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. 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.

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. The method of testing must be approved by the PWD Director prior to testing. Potential testing methods include fluorometric dye testing, smoke testing, and/or remote video inspections. Once identified, clearly log the contributing source.

3.4.D.4 Removal of Illicit Discharges (BMP C.5)

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

- Step 1. Have an outside laboratory service take a grab sample and test for the illicit discharge at the manhole located immediately downstream of the suspected discharge connection.
- Step 2: Conduct an internal meeting with appropriate personnel including Public Works Personnel, Public Works Director, Building Department Code Enforcement Officer, and Stormwater Coordinator to discuss inspection and testing results and remedial procedures.
- Step 3: The Public Works Administration shall send a notification letter to the owner/operator of the property/site suspected of discharging a pollutant. The letter should request that the owner/operator describe the activities on the site and the possible sources of non-stormwater discharges including information regarding the use and storage of hazardous substances, chemical storage practices, materials handling and disposal practices, storage tanks, types of permits, and pollution prevention plans.

Step 4: Arrange a meeting for an inspection of the property with Public Works Personnel, the Building Department Code Enforcement Officer, and the owner/operator of the property where the pollution source is suspected. Most illicit connections and improper disposal can probably be detected during this step. Notify the site owner/operator of the problem and instruct them to take corrective measures.

Step 5: Conduct additional tests as necessary if the initial site inspection is not successful in identifying the source of the problem. The Public Works Director is responsible for determining the appropriate testing measure to pinpoint the source.

Step 6: If the owner/operator does not voluntarily initiate corrective action, the Building Department Code Enforcement Office issues a notification of noncompliance. The notification includes a description of the required action(s) a time frame in which to assess the problem and take corrective action. Upon notification of noncompliance, the owner can be subject to any penalties stipulated in the IDDE Ordinances.

Step 7: Conduct follow-up inspections after stipulated time frame has elapsed to determine whether corrective actions have been implemented to: 1) remove the illicit connection or 2) eliminate the improper disposal practice.

Step 8: If corrective actions have been completed (i.e. and the illicit discharge has been eliminated) the Public Works Administration sends a notification of compliance letter to the owner/operator of the property/site suspected of discharging a pollutant.

If corrective actions have not been completed an additional internal meeting with appropriate municipal) personnel (likely including involved Public Works Personnel, Public Works Director, Building Department Code Enforcement Officer, and Stormwater Coordinator) is held to determine appropriate steps to obtain compliance. Appropriate actions may include monetary or other penalties.

Measurable Goal

- Administer Removal Procedures for outfalls with illicit discharges.

3.5 Construction Site Runoff Control



Development is subject to the provisions of the Kendall County Stormwater Management Ordinance (KCSMO), the Village of Oswego Subdivision and Development Control Regulations, Illicit Discharge Detection and Elimination Ordinance, Floodplain Ordinance, and the Stream and Wetland Protection Ordinance. As noted previously, these ordinances are collectively known as the Watershed Development Ordinances (WDO).

The goal of the WDO is to ensure that new development does not increase existing stormwater problems or create new ones. The WDO establishes 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 WDO. 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.

3.5.A Regulatory Program (BMP D.1)

In addition to the QLP efforts described above, the Village of Oswego has adopted the Kendall County Stormwater Management Ordinance (KCSMO) and is currently a Certified Community for the review, permitting, inspection and enforcement of the provisions of the KCSMO. The community designates an Enforcement Officer; this person is responsible for the administration and enforcement of the WDO. The Village has created an Inspection and Violation Notification Procedure to ensure compliance with the KCSMO.

Measurable Goal

- Enforce WDO

3.5.B Responsible Parties (BMP D.1)

3.5.B.1 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).

3.5.B.2 Municipal Contact – Stormwater Coordinator

The Village of Oswego has the responsibility to designate a contact with both the KCPB&Z and the IEPA. The municipality has designated the Public Works Director to fulfill both roles. KCPB&Z refers to this person as their community contact. The community contact provides support and coordinates with KCPB&Z on development related activities within the community. The IEPA considers this person the Stormwater Coordinator. Chapter 2.2.A provides additional information regarding the role of the Stormwater Coordinator.

3.5.C Erosion and Sediment Control BMPs (BMP D.2)

As described in the QLP section above, the site plan is required to comply with minimum prescribed practice requirements set forth in the KCSMO. The KCSMO also allows for the municipality to require additional measures, above and beyond minimum control measures, to prevent the discharge pollutants from construction sites.

Measurable Goal

- Enforce WDO

3.5.D Construction Site Waste Control (BMP D.3)

The WDO 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.

Measurable Goal

- Continue to administer and enforce the provisions of the WDO related to the control of waste and debris during construction on development sites.

3.5.E Site Plan Review (BMP D.4, E.4)

Oswego is a certified community for the enforcement of the Stormwater Provisions of the [KCSMO](#). The Community Development Department provides applicants with a variety of documents necessary to obtain municipal permits. Included in the packet is relevant WDO information including the performance guarantee information and application forms.

The Village Engineer performs a review of the proposed site plan and provides comments to the applicant on any plan deficiencies and/or recommended plan

enhancements. The plan review also assists in identifying other approvals that the applicant may be required to obtain. After the Village Engineer concurs that the applicable provisions of the WDO have been addressed a permit is issued. The permit lists any additional conditions that are applicable for the development, including providing prior notification of the pre-construction meeting to the municipality. Village attendance of the pre-construction meeting shall be made a condition of the permit for all major developments. The applicant is required to post the permit at the construction site.

Measurable Goal

- Enforce WDO

3.5.F Site Inspection Procedures (BMP D.6, E.5)

Representatives of the Village of Oswego 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 Village may inspect site development at any stage in the construction process.

Site Inspection Process:

- The Village attends the pre-construction meeting on applicable development sites. Complete ***Pre-Construction Meeting Form (Appendix 5.4)***. It is also recommended that the inspector request to see the SMPP and IEPA NOI for applicable construction sites.
- The applicant notifies Village when initial sediment and runoff controls measures have been installed.
- The Village inspects the initial sediment and runoff control measures and authorizes the start of general construction.
- The Village inspects the stormwater management system and authorizes additional site improvement activities.
- The Village performs site inspections at the recommended intervals listed above and completes the ***SE/SC Inspection Form (Appendix 5.5)***.
- The Village requires as-built documentation of the stormwater management system prior to final site stabilization. Tags of the seed mixes are kept by the developer for inspection and approval. Upon approval of the as-builts, the applicant shall permanently stabilize the site.

Measurable Goal

- Enforce WDO

3.5.G Public Information Handling Procedures (BMP D.5)

The Community 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 Enforcement Officer, or designee, and logged in Oswego Click 'n Fix. Site design comments are handled on a case by case basis. Construction related calls are typically addressed by performing a site inspection.

Measurable Goal

- Enforce WDO

3.5.H Performance Guarantees (BMP D.6)

Pre-construction meeting – No deposit required.

Performance Guarantee (surety) is required for public improvements (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 Village for review/approval. The required surety amount shall be 110% of the approved EOPCC.

The Village will hold 10% of the surety for a minimum of 1-yr after "Initial Acceptance" including site stabilization, is complete to ensure that the vegetation is established and no failures occur. For sites with native vegetation, this portion of the surety will be held for a minimum of 5-yr after site stabilization. The applicant may apply for reductions of surety. Refer to the SDCR for information regarding the surety requirements.

Measurable Goal

- Enforce WDO

3.5.I Violation Notification Procedures (BMP B.6)

In general the compliance due date should be within 5-working days. However, if the inspector determines that the violation is or will result in significant environmental, health or safety hazards a 24-hour due date should be set. For time-critical violations, the developer should also be advised to complete an Incidence of Non-Compliance (ION) report with IEPA for all sites that were required to obtain a Notice of Intent (NOI) with IEPA. If the discharge from the construction site enters a receiving water within the MS4 jurisdictional boundaries, it is highly recommended that the MS4 also file an ION with IEPA. The **SE/SC Inspection Form** is found in **Appendix 5.5**. The violation procedure is included in **Appendix 5.6** along with a sample letter of violation.

Measurable Goal

- Enforce WDO

3.6 Post Construction Runoff Control



The Village of Oswego complies with NDPES permit requirements by incorporating Ordinance and BMP standards to minimize the discharge of pollutants of development 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 through the SDCR and IEPA's Program recommendations. All proposed permanent stormwater treatment practices must be reviewed and approved by the Enforcement Officer.

3.6.A Regulatory Program (BMP E.2)

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

Measurable Goal

- Enforce WDO

3.6.B Long Term Operation and Maintenance (BMP E.3)

The SMPP includes one long term maintenance plan. This sample maintenance plan is included in Appendix 5.14.

- The plan is provided to applicants during the permit review period. This plan should be reviewed and enhanced by the applicant to reflect the sites specific

design. Receipt of the signed and recorded maintenance plan is required prior to issuance of a Village permit or listed as a permit condition.

Measurable Goal

- Enforce WDO
- Allow for public submission of concerns related to post-construction stormwater runoff control. Follow-up with concerns as appropriate.

3.6.C Site Inspections (BMP E.6)

The inspection program for its general facilities is discussed in detail in Chapter 3.7.A. The inspection procedure for site inspections during and post construction is described in Chapter 3.5.E. This section focuses on post-construction inspections of previously developed sites, streambanks / shorelines, streambeds, and detention / retention ponds.

3.6.C.1 *Shorelines, Streambanks and Stream Bed Sediment Accumulation*



Project categories typically include problem discharge locations, problem hydrologic impediments, stream buffers, logjam-debris removal, streambank stabilization and shoreline stabilization. The MS4 encourages private property owners to implement the recommendations. Implementation of recommendations by the MS4 will be evaluated on a yearly basis as part of its fiscal planning/budgeting process, keeping in mind that ONLY the implementation of individual site-specific projects or programmatic actions WITHOUT the use of 319 funding can be cited by an MS4 community toward meeting ILR40 permitting requirements.

The community will inspect streambanks as part of their periodic outfall pre-inventory and pre-screening process. Document observed erosion and/or sediment accumulation. Remedial actions might include notifying the property owner or including maintenance activities in the work program.

Measurable Goals:

- Encourage private property owners to recommended retrofits).
- Evaluate feasibility of implementing retrofits cited in adopted watershed plan(s) as part of fiscal planning/budgeting process.
- Inspect streambanks and lake shorelines as part of their periodic outfall pre-inventory and pre-screening process and recommend remedial actions as appropriate.

3.6.C.2 Detention / Retention Pond

PREVIOUSLY INVENTORIED DETENTION BASINS

The MS4 encourages private property owners to implement the detention basin and discharge structure retrofits. Implementation by the MS4, of recommendations, will be evaluated on a yearly basis as part of its fiscal planning/budgeting process, keeping in mind that ONLY the implementation of individual site-specific projects or programmatic actions WITHOUT the use of 319 funding can be cited by an MS4 community toward meeting ILR40 permitting requirements.

OTHER DETENTION BASINS

Portions of the community are located outside of watershed planning areas. Attempts to inspect approximately 20% of all unassessed properties with Stormwater management facilities a year; resulting in a re-occurrence inspection interval of every 5-years.

Inspect the shorelines of these detention basins in the spring and/or fall pending weather conditions (with a goal of inspecting all unassessed ponds once every 5 years). Observed erosion, seeding/re-seeding or slope stabilization needs are documented. A ranking system has been established to identify ponds that would most benefit from a retrofit or other enhancements.

- 1 Turf, obstructed or other deficiencies
- 2 Turf, unobstructed
- 3 Rock
- 4 Native, obstructed or other deficiencies
- 5 Native, unobstructed
- 6 Turf, recreational

Typical BMP for maintenance of these areas are similar to those for a construction site. The Streambank and Shoreline Protection Manual, produced by Lake County, IL Stormwater Management Commission is used as a starting point in choosing the appropriate BMP for remediation activities. Remedial actions might include notifying the property owner of recommended maintenance activity, deficiencies or additional enhancements or including maintenance activities in the Village work program.

Recommendations will take into consideration potential impacts and effects due to climate change.

Measurable Goals:

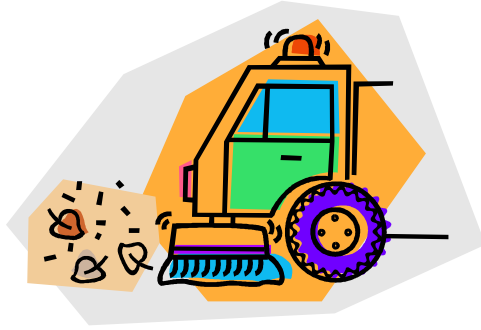
- Encourage private property owners to implement detention basin and discharge structure retrofits.
- Evaluate feasibility of detention basin and discharge structure retrofits recommended by the Village (s) as part of fiscal planning/budgeting process.
- Inspect approximately 20% of all unassessed stormwater management facilities and recommend remedial actions as appropriate.

3.7 Pollution Prevention and Good Housekeeping



The Village is responsible for the care and upkeep of the general facilities, municipal roads, its general facilities 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.

3.7.A Inspection and Maintenance Program (BMPs F.2 – F.4)



This chapter described the Communities Good House Keeping Program by describing areas/items that require inspection and their recommended inspection frequency. It further details recommended maintenance activities and subsequent tracking procedures for each of the tasks.

Measurable Goal for all of 3.7.A

- Implement the SMPP.

3.7.A.1 Street Sweeping

Street sweeping operations are performed to reduce potential illicit discharges and to provide a clean environment. The curb lines of all streets are cleaned on a rotating basis. The rotation maybe changed or interrupted. Each street is typically swept/cleaned approximately 2 times per year. Sweeper waste is collected and disposed of in the spoil waste area. The intended frequency of street sweeping operations is as follows:

- Spring & end of Summer seasons- all streets
- As needed
- Per work order request
- Special events
- Cleanup from utility repairs

3.7.A.2 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 drainageways are described in Chapter 1.4. Minor drainageways include roadside and sideyard swales, overland flow paths, pond outlets, etc.

3.7.A.2.a DRIVEWAY CULVERTS

Maintenance and replacement of driveway culverts is the property owner's responsibility. A minimum 12" diameter culvert is required per 8.404B of the SDCR . Permits are required for culvert replacement; a soil erosion and sediment control plan may be required as part of the permit. The Engineering Department inspects the culvert when it is set to grade and prior to backfilling. The Public Works may rod/clean culverts on an as needed basis.

3.7.A.2.b CATCH BASINS

Catch basin locations are identified on the Storm Sewer Atlas. The Public Works Department cleans catch basins prior to rain events or on an as needed basis per work order requests. Spoil waste obtained from catch basin cleaning is disposed of in the spoil waste bin and is then transported by Village dump truck to Fox Ridge Stone LLC who is our licensed disposal site. Load tickets are issued by the vendor. Locations of cleaned basins are recorded.

Catch basins found to have structural deficiencies are reported to the Village Engineer. Necessary remedial actions are completed by the Street Division or incorporated into a capital project.

3.7.A.2.c 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 at is disposed of in the spoil waste area. Any waste jetted out is picked up with a clapper bar if possible.

3.7.A.2.d SWALES AND OVERLAND FLOW PATHS

Document observed or reported erosion or sediment accumulation. Areas of significant concern are incorporated into a maintenance program.

Privately Owned Drainage Swales (side/rear yard): Document observed or reported erosion or sediment accumulation in privately owned swales. Notify the property owner on an as needed basis for appropriate remediation.

3.7.A.3 *Landscape Maintenance*



The Village maintains general facilities, municipal roads, associated maintenance yards, and other public areas. Municipal staff is responsible for Litter and Debris. A landscape contractor is selected annually to be responsible for the remainder of the landscape maintenance program under the supervision of the Public Works Department. Landscape contractors are required to meet ILR40 training requirements and ensure that they adhere to the SMPP.

3.7.A.3.a LITTER AND DEBRIS

Litter and debris can accumulate on Village property and roadway right-of-ways and should be removed. Each Public Works Division is responsible for the cleanup of their respective facilities. Clean-up at park and recreation areas is the responsibility of the Oswegoland Park District. Other properties and right-of-ways (including municipal, Township, County and State right-of-ways within the Village limits) are cleaned by Public Works personnel or volunteer groups on an as-needed basis.

3.7.A.3.b PRIVATE RESIDENCE YARD WASTE

Yard waste and leaves from private residences are collected through the Village's leaf pickup program. Yard waste is collected weekly throughout the growing season. Leaf collection typically starts in October and runs for approximately six weeks.

3.7.A.3.c FERTILIZERS

The annual landscape contractor and Village is required to be a licensed applicator for fertilizers. 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.

3.7.A.4 *Snow Removal and Ice Control*



During snow removal and ice control activities, salt, de-icing chemicals, abrasives and snow melt may pollute stormwater runoff. To address these potential pollutants, the following procedures for the “winter season” (November 1 through May 1) are implemented.

In addition, the village also participates in the Northwest Water Planning Alliance, which among other reasons, was organized to implement control measures which will reduce chloride concentrations in receiving waters.

3.7.A.4.a ROADWAY ICE CONTROL

Use the minimal amount of salt, de-icing chemicals and additives necessary for effective control. Prior to November 1, 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.

Consider the additional use of Calcium Chloride if the ambient temperature is below 20-degrees Fahrenheit, to improve the efficiency of snow melting efforts. Incorporate pre-wetting and alternative deicing methods if appropriate.

3.7.A.4.b SALT DELIVERY AND STORAGE

Steps are taken to ensure that the delivery, storage and distribution of salt does not pollute stormwater runoff. The floor of the enclosed salt storage building, and adjacent receiving/unloading area is constructed of impervious material. There is a four-inch concrete lip at the overhead door opening to keep any moisture contained within the salt dome. The limits of the salt pile are pushed away from the door opening to minimize potential illicit runoff.

3.7.A.4.c SNOW PLOWING

Snow plowing activities direct snow off the pavement and onto the parkways to reduce the amount of salt, chemical additives, abrasives or other pollutants that go directly into the storm sewer system. When deemed necessary, The Public Works Department hauls accumulated snow to designated stockpile locations. The primary location for stockpiles is the grassed field at the Public Works Facility. Snow blowing, plowing or dumping into drainageways is not allowed. Once the snow has melted, the stockpile areas are cleaned with a street sweeper removing any debris deposited.

3.7.A.5 *Vehicle and Equipment Operations*



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

3.7.A.5.a VEHICLE WASHING

Vehicle washing, wheel wash water, and other wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

3.7.A.5.b VEHICLE MAINTENANCE

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. This chapter discusses proper handling and disposal of vehicle maintenance by-products such as waste oil, antifreeze, batteries and tires.

Waste Oil

Used motor oil, transmission fluids, gear lubes, brake fluids and other vehicle fluids (except antifreeze) are collected and stored in a 350-gallon double-walled tank with a leakage sight gauge. Typically, the waste oil tank is emptied and the contents removed for recycling.

Antifreeze

Used antifreeze is collected in a 55-gallon drum. When the drum is full, a special waste hauler is contacted for collection and disposal.

Batteries

Used batteries are stored in an enclosed covered container at the Public Works Facility. Typically, the batteries are returned to the vendor when new batteries are purchased.

Tires

Used tires are disposed of quarterly by a local vendor. Tires are stored outside at the Public Works Facility within the fenced storage yard until picked up for disposal.

Other

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

3.7.A.6 *Animal Nuisance Control*

Upon receiving notification, collect “road kill” from right-of-way areas. The carcasses are disposed of in the Public Works Facility garbage dumpsters.

3.7.A.7 *Waste Management (BMP F.4)*



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.

3.7.A.7.a SPOIL STOCK PILE

The Village of Oswego spoils stock pile is located at the Public Works Facility. Asphalt and concrete maintenance by-products and excess earth excavation materials are temporarily stored in the stock pile. Attempts are made to recycle asphalt and concrete products prior to storage in the spoil stock pile. Public Works trucks then transport the material to our licensed clean waste disposal site at Fox Ridge Stone, LLC. Load tickets

are issued by the vendor at the time of disposal. Surface runoff from this area is largely contained on three sides by large concrete barriers.

3.7.A.7.b CONTAMINATED SOIL MANAGEMENT

Collect or manage contaminated soil/sediment generated during an emergency response or identified during construction activities for treatment or disposal. Attempts are made to avoid stockpiling of the contaminated soil. If temporary stock piling is necessary, place the stockpile on an impermeable liner. Additionally, BMP (presented in the Lake County Stormwater Management Commission's Technical Reference Manual or the Illinois Urban Manual, 2014) are used to protect the downslope of the stockpiled area for erosion downstream. Locate the construction access on the upstream side of the temporary stock pile.

3.7.A.7.c 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. 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.

3.7.A.7.d SANITARY WASTE

Sanitary waste into a discharged into the sanitary sewer or managed by a licensed waste hauler.

3.7.A.8 *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. During periods of dry weather, a sprinkling/irrigation schedule is enforced. Maintenance activities (performed

by the staff or its contractors) preserve water by utilizing vacuum recovery as opposed to water based cleaning when possible. Additionally, the water main replacement program decreases the possibility for water main leaks. In the event that a water main leak occurs, valve off the leaking section as soon as possible and then repair.

3.7.A.9 *Green Infrastructure*

Oswego has installed rain gardens at the Village Hall. Since these gardens are small in size, they are weeded by hand each year. Dead plant material is replaced on an as-needed basis.

3.7.A.10 *Special Events*

Ensure that entities in charge of special events (such as parades, fairs) prohibit the dumping, depositing, dropping, throwing, discarding or leaving of litter and all other illicit discharges from entering the stormwater management system. The Public Works Department will oversee clean-up activities to promote compliance with the SMPP.

3.7.B Spill Response Plan (BMP F.6, C.9)



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.

3.7.B.1 Spill Prevention

Ensure all hazardous substances are properly labeled. Store all hazardous wastes in sealed containers constructed of compatible material and labeled. Locate items, such as paint, aerosol cans, gasoline, solvents and other hazardous wastes, in non-flammable storage cabinets or on a containment pallet. Do not overfill containers. Provide secondary containers when storing hazardous substances in bulk quantities (>55gl). Dispense and/or use hazardous substances in a way that prevents release.

3.7.B.2 Non-Hazardous Spills/Dumping

Upon observing or receiving notification of a potential illicit discharge, the Illicit Discharge Incident Tracking Form, found in **Appendix 5.7** is used to log and investigate the incident. Appropriate procedures found within this chapter are implemented in the event an illicit discharge has been confirmed.

Non-hazardous spills typically consist 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, 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 containment and cleanup activities have been performed, fill out the **Spill Response Notice (Appendix 5.8)** and distribute to adjoining residences/businesses. In residential areas, the hanger should be provided to residences on both sides of the spill and on both sides of the street.
- Document the location, type of spill and action taken on the **Indirect Illicit Discharge Tracking Form (Appendix 5.7)**.
- If a person is observed causing an illicit discharge, Building Department is notified and appropriate citations issued.

3.7.B.3 Hazardous Spills

Upon notification or observance of a hazardous illicit discharge, Public Works follows the following procedure:

- Call 911, explain the incident. The Fire Department responds;
- Public Works 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;
- Document the location, type of spill and action taken on the Illicit Discharge Incident Tracking Form (**Appendix 5.7**); and,

If the Fuel Tank leaks, immediately call 911. Shut pump off, if pump won’t shut off, shut off any possible sources of ignition. Contain spill, put booms around storm sewer.

3.7.C Employee Training (BMP F.1)



The Village promotes education and training to all of its employees (or contractors retained to manage Village infrastructure) to ensure that they have the knowledge and skills necessary to perform their functions effectively and efficiently. Employees are encouraged to attend all relevant training sessions offered by the Village and other entities on topics related to the goals/objectives of the SMPP. Key educational topics include the following:

- Stormwater characteristics and water quality issues;
- The roles and responsibilities regarding implementation of the SMPP to consistently achieve Permit compliance;

- Activities and practices that are, or could be sources, of stormwater pollution and non-stormwater discharges;
- Managing and maintaining green infrastructure and low impact design features; and,
- How to use the SMPP and available guidance materials to select and implement best management practices.

Measurable Goal(s):

- Provide program information to staff
- Promote employee trainings.

3.7.C.1 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. Make available training materials tailored to specific functional groups. The materials focus on storm water pollution prevention measures and practices involved in routine activities carried out by the various functional groups.

3.7.C.2 Training Schedule and Frequency

Digital and hard copies of the training materials will be kept and shared with applicable new employees as part of their job introduction. 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.

3.7.C.2.a IDDE TRAINING

Personnel conducting the IDDE portion of the SMPP shall thoroughly read and understand the objectives of the IDDE subchapters of this manual prior to performing any outfall inspections or monitoring efforts.

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. Land development, redevelopment and transportation improvement projects were required to comply with the provisions of the SDCR prior acceptance of the SMPP. This SMPP documents and organizes previously existing procedures and incorporates the objectives of the WDO to create one cohesive program addressing pre-development, construction, post-development activities and municipal operations.

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

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

4.1 Monitoring Program

There are extensive monitoring efforts already underway across the County including efforts by the Northwest Water Planning Alliance and the Fox River Study Group.

4.1.A Fox River Study Group

In accordance with ILR 40 V.A.2.b.x, the Fox River Study Group (FRSG), previously described in Chapter 2.4, satisfies the monitoring requirement for the portion of the community located within the Lower Fox River Watershed.

By agreement between the Illinois EPA and the FRSG, the Fox River Implementation Plan (FRIP) will take the place of a traditional TMDL for dissolved oxygen and nuisance algae in the Fox River. No written agreement has been implemented between the Illinois EPA and the FRSG regarding the FRIP, but the Illinois EPA has worked closely with the FRSG in developing the FRIP since 2001. Because the Illinois EPA's authority to implement and enforce the Clean Water Act comes from the federal government, the FRIP will need to be approved by the U.S. EPA before it officially replaces the TMDL process. The need for a TMDL will be revisited by IEPA after implementation of the FRIP, by evaluating whether the listed reaches are still impaired

The ISWS developed a calibrated QUAL2K water quality model application for the Fox River (Bartosova, 2013). This model was used to simulate future Fox River water quality in response to management actions considered in the FRIP. In 2016, the FRSG will develop a strategy for future data collection and prepare written plan(s) that may potentially include additional water quality monitoring and discussion with IEPA and IDNR of biological data to assess actual condition of aquatic community and potentially identify gaps in existing biological data.

The Village of Oswego is committed to supporting the FRSG efforts.

4.1.B Fox Metro Water Reclamation District

In addition to testing done by the Fox River Study Group, the Fox Metro Water Reclamation District (FMWRD) conducts sampling of the Fox River for compliance with its discharge permit. The Village reviews data provided by the FMWRD for a total of two sampling locations along the Fox River. The first location is located just downstream of the discharge from FMWRD. The second location is located in the vicinity of the Orchard Road bridge. At these locations, the physical characteristics of the sampling point are observed and water quality samples (i.e., grab samples) are collected on an annual basis. Collected water quality samples are tested for: copper, phosphorus, chlorine, ammonia, alkalinity, and ph.

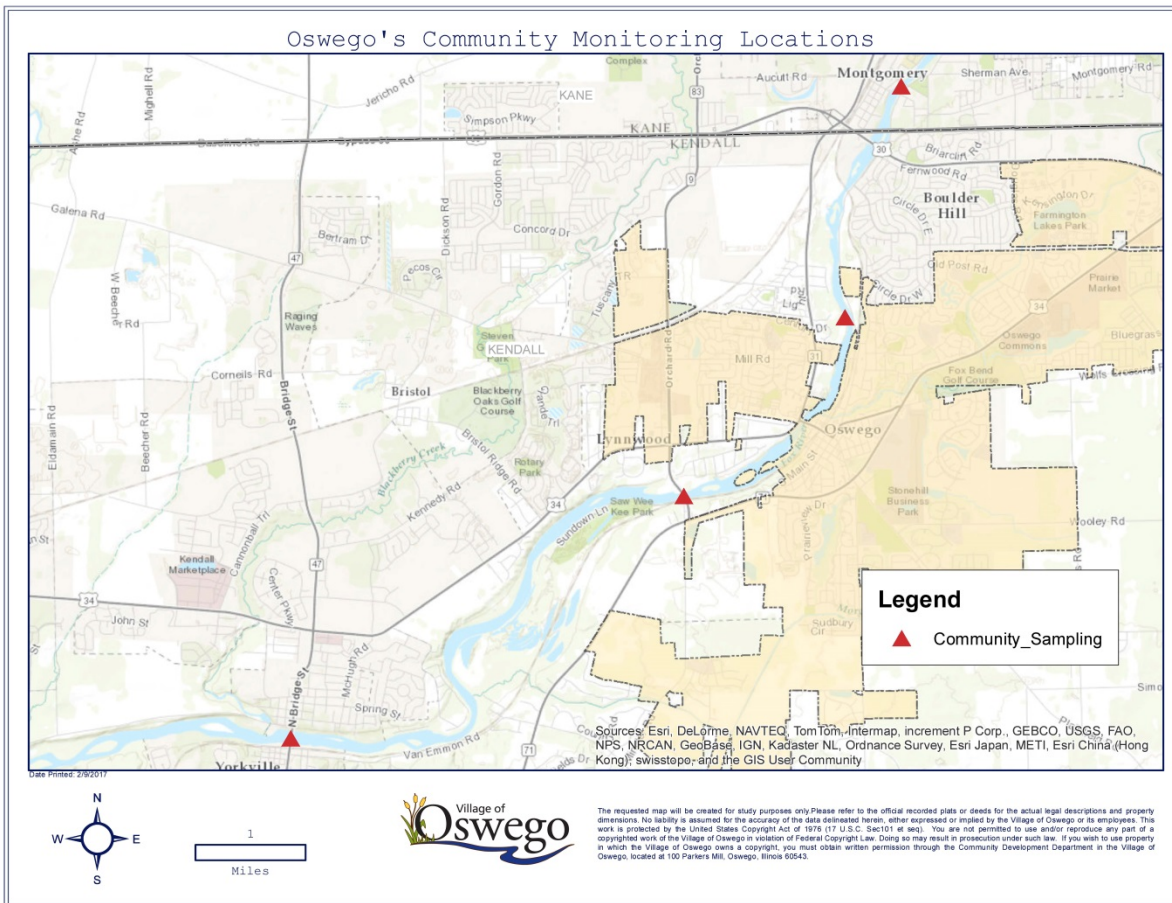


Figure 10: Additional Community Monitoring Locations

4.2 Program Evaluation (BMP C.6)

At the end of each year the BMPs implemented by the MS4 should be evaluated in order to determine the effectiveness of the program. Include a description of observed areas of program effectiveness, at the end of Part B **Stormwater Management Program Assessment** within each **Annual Report** submitted to IEPA. Program areas which do not appear to be improving should also be identified and described within this portion of the Annual Report. This information will be used to provide insight into how the program may need to evolve. The following are some indicators that the BMPs are appropriate.

- A reduced number of outfalls having positive indicators for potential pollutants.
- An improvement, or no change, in the annual monitoring results.
- Improved community awareness of water quality and other NPDES program aspects.
- Increased number of hits on website information related to the NPDES program.

- Increased quantities of Household Hazardous Wastes or Electronics collected by Groot.
- Reduced number of septic system failures.
- Increased stakeholder involvement.
- Reduced number of SE/SC violations.
- Increase in Streambank and Shoreline stabilization projects, or a decrease in the extent of projects necessary.
- Improved detention pond quality (including conversion of dry bottom or turf basins to naturalized basins; removal of excess sediment accumulation and a general increase in maintenance activity on detention ponds throughout the MS4).
- Reduced use of chloride and phosphorus by the MS4.
- Improved awareness of water quality and other NPDES program aspects by both Village staff and its contractors.

4.2.A Monitoring Program Evaluation

The results of the monitoring are used to further gauge the effects of the SMPP on the physical/habitat-related aspects of the receiving waters and the effectiveness of BMPs. Possible causes of any documented degradation will be investigated and any appropriate corrective actions will be incorporated into future Stormwater Management Program Plan (SMPP).

- The Village is responsible for providing a discussion of any additional local monitoring efforts within the MS4 portion of the **Annual Report Part C Annual Monitoring and Data Collection**.

4.2.B IDDE Program Evaluation

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. 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. If so, these conclusions may guide future outfall screening activities.

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 first phase of the program was to complete the MS4 wide pre-screening effort, investigate those outfalls exhibiting dry-weather flow and then eliminate identified illicit

direct connections. The ILR40 permit, issued in 2016 requires that all high-priority outfalls be evaluated annually. It is logical to assume that completion of the Phase 1 efforts and several years of annual screening, the majority of the dry-weather pollution sources will be eliminated. However, new sources may appear in the future as a result of mistaken cross connections from redevelopment, new-development or remodeling. These efforts 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. Include a description of the screening and dry-weather flow investigation, in **Annual Report Part C IDDE Monitoring and Data Collection** submitted to IEPA annually.

4.2.C SMPP Document Evaluation

Evaluation of the SMPP. The following types of questions/answers are discussed periodically between the QLP, Stormwater Coordinator, Managers and field staff. Suggested improvements are noted and incorporated into a revised SMPP document, approximately every 5-years.

- Are proper stormwater management practices integrated into planning, designing and construction of both public and private projects?
- Are efforts to incorporate stormwater practices into maintenance activities effective and efficient?
- Is the training program sufficient?
- Is the SMPP sufficient with respect to both the BMPs and measurable goals described for each of the six MCM?
- Are the procedures for implementing the SMPP adequate?
- Are there any TMDL Reports within the community and if yes, is there an action plan for compliance?
- Were there any issues of non-compliance and if yes, determine the plan for achieving compliance with a timeline of actions?

5 Appendices

5.1 List of Acronyms

BMP	Best Management Practices
CWA	Clean Water Act
EO	Enforcement Officer (Kendall County Stormwater Management Ordinance)
FMWRD	Fox Metro Water Reclamation District
HHW	Household Hazardous Waste
ID	Identification
IDDE	Illicit Discharge Detection Elimination
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
ILR10	National Pollutant Discharge Elimination System Storm Water Permit - Construction Site Activities
ILR40	General NPDES Permit No. ILR40 - General NPDES Permit For Discharges from Small Municipal Separate Storm Sewer Systems
ION	Incidence of Non-compliance (with IEPA)
IUM	Illinois Urban Manual
LOC	Letter of Credit
MS4s	Municipal Separate Storm Sewer Systems
NOI	Notice of Intent
NOT	Notice of Termination (with IEPA)
NPDES	National Pollutant Discharge Elimination System
SDCR	Village of Oswego Subdivision and Development Control Regulations
SDS	Safety Data Sheets
SE/SC	Soil Erosion and Sediment Control
SMPP	Stormwater Management Program Plan
USEPA	United States Environmental Protection Agency
QLP	Qualified Local Partner (i.e. Kendall County)
WDO	Watershed Development Ordinances

5.2 Stormwater Outfall Screening Equipment Checklist



STORM WATER OUTFALL SCREENING EQUIPMENT CHECKLIST	
Field Analysis	pH Testing Strips
	Chlorine Testing Strips
	Copper Test Strip
	Ammonia Test Strip
	Phenols Test Kit (Minimum of 15 Tests)
	Detergents Test Kit (Minimum of 15 Tests)
	Color Chart
	Thermometer
	Wash Bottle with Tap Water
Sampling	Extended Sampler
	250-ml and 500-ml glass sample containers with labels
	Cooler with ice or ice packs
Other	Outfall Screening Data Form (Minimum of 10)
	Outfall Sampling Report (Minimum of 10)
	Clipboard and Pens
	Resident Form Letters (Minimum of 10)
	Training Manual
	Storm Sewer Atlas
	Digital Camera
	Flashlight
	Manhole Cover Hook
	Tape Measure
	Folding Rule
	Brush Clearing Tool
	Plastic Trash Bags
	Paper Towels
Safety (PPE Equipment)	Traffic Cones/Flags/Light Sticks
	Traffic Safety Vest
	First Aid Kit
	Steel-Toe Boots
	Work Gloves
	Safety Glasses/Goggles
	Rubber Boots
	Disposable Gloves (Latex)
	ID Badge
Personal (supplied by employee if desired)	Insect Repellant
	Sunscreen

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5.3 Stormwater Outfall Inspection Data Form



Stormwater Outfall Inspection Data Form

Section 1: Background Data

Subwatershed:	Outfall ID:	
Date:	Time (Military):	
Temperature:	Inspector(s):	
Previous 48 Hours Precipitation:	Photo's Taken (Y/N)	If yes, Photo Numbers:
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Commercial	
	<input type="checkbox"/> Institutional Other: _____ Known Industries: _____	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
Storm Sewer (Closed Pipe)	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Clay / draintile <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ _____ _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
Open drainage (swale/ditch)	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____		

Section 3: Physical Indicators

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Pooling <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: _____	
Pipe algae/growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: _____	
Do physical indicators suggest an illicit discharge is present (Y/N):			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No, Skip to Section 7 and Close Illicit Discharge Investigation	
Flow Description	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial		

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5.4 Outfall Sampling Report



Structure ID #	Date:
Outfall ID #	Time of Sample:
Sampled By:	AM PM


Glass Bottle Size:	250 ml	500 ml	32 ml
--------------------	--------	--------	-------

Tests requested:	Flouride	Potassium	Fecal Coliform
------------------	----------	-----------	----------------

Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:
Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:

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5.6 Pre-Construction Meeting Form

	Pre-construction Meeting Agenda
PROJECT: _____	DATE: _____
LOCATION: _____	TIME: _____
1. Introductions:	
Owners Contact: _____	Phone: _____
Owner's Engineer: _____	Phone: _____
Contractor: _____	Cell Phone: _____
24-HOUR Emergency Contact:	
• Cell Phone: _____	
Erosion Control: _____	
Excavation: _____	
Underground: _____	
Landscaping: _____	
Testing Agency: _____	
2. List of Subcontractors/Suppliers:	
3. Status of Plan Reviews:	
4. Permits:	
• Insurance coverage (Village and Smith engineering inspectors additionally covered)	
• LOC (Letter of Credit Bond) -	
• Notice to Proceed Permit -	
• Approved Engineering plans - (# of Revs & date) -	
• Water IEPA Permit -	
• Sanitary IEPA Permit -	
• Fox Metro Permit -	
• NPDES Permit (NOI, ILR-10) -	
• SWPPP Permit (Certification sign off) -	
• Copy of Village erosion control requirements -	
• Code Compliance Form (B&Z) -	
• Contractor's Registered -	
5. Field Inspections:	
6. Working Hours:	
• Equipment start- up	
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5.7 Soil Erosion and Sediment Control Inspection Form

Soil Erosion and Sediment Control Inspection Checklist

Project No:	Project Name (Phase):	
Date:	Report No:	Observer(s):
Weather:	People Present:	
Time:	Last Inspection:	Location:
Owner:	Developer:	

Stage of Construction: Pre-Construction Meeting Rough Grading Finish Grading
 Clearing & Grubbing Building Const. Final Stabilization

WEATHER INFORMATION SINCE LAST INSPECTION

Event	Date	Duration	Amount	Event	Date	Duration	Amount
1				3			
2				4			

			INSPECTION CHECKLIST				Condition		Need Repair		Further Action		Structure / Control #	Site Photo	Comments	
Y	N	N/A	SWPPP				G	F	P	Y	N	Y	N			Special Comment Number Included
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a stamped/approved set of plans on-site (SWPPP-Stormwater Pollution Prevention Plan)?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is the SWPPP up-to-date with the protective measures located on-site?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Y	N	N/A	Basins (Detention, Retention, Sediment)				G	F	P	Y	N	Y	N			Special Comment Number Included
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are sediment basins installed where needed? Adequate Size? <input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do the basins have native vegetation planted according to the planting plan?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are the basins properly stabilized?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Y	N	N/A	Dewatering Activities				G	F	P	Y	N	Y	N			Special Comment Number Included
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is dewatering occurring directly into a nearby aquatic resource, storm sewer, or drain tile?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If a sediment bag is being used, is the bag providing adequate protection?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

5.8 Sample Notice of Violation Letter



100 Parkers Mill • Oswego, IL 60543 • (630) 554-3242 • Fax: (630) 551-4854
Website: <http://www.oswego.il.org>

[Date]

Property Owner
Owner Address
City, State, Zip Code

RE: Code Violation at [Address]

Dear [Property Owner]:

The Village of Oswego inspected (Property Name) on (Inspection Date) and again on (Inspection Date). At these inspections we found the site non-compliant with the [cite the appropriate sections(s)] outlined in the

[Village of Oswego Building Code](#)
[Village of Oswego Floodplain Ordinance](#)
[Village of Oswego Stream and Wetland Protection Ordinance](#)
[Village of Oswego Subdivision and Development Control Regulations](#)
[Village of Oswego Discharge Detection and Elimination Ordinance](#)
[Kendall County Stormwater Management Ordinance](#)

as adopted by the Village of Oswego.

This letter is to inform you again that the following items need to be addressed before any additional work on (Property Name) can be done:

1. (List of Non-compliant Items)

Before work can continue at the subject site, the Village of Oswego will need to inspect the site to confirm that all non-compliant items have been remediated. For additional information, please see the attached inspection report prepared by [Inspector's position] for additional information.

If there are any questions or objections to the information contained in this letter feel free to contact me by phone at [Phone] or by email at [email]. If no objections are received within 5 business days, the Village will consider this letter to be accepted with no alterations.

Sincerely,

Village of Oswego

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Detention/Retention Pond Checklist



Detention / Retention Pond Checklist

Inspected By:
Date:
Weather Conditions:

Number	Location	Flood Height Classification <small>(low/medium/high)</small>	Side Slopes Condition <small>(good/fair/poor)</small>	Outfall Condition <small>(good/fair/poor)</small>	Comments

Flood Height Classification: <i>Low – NWL</i> <i>Medium – NWL to Top of Grate</i> <i>High – Top of Grate and Above</i>	Side Slopes Condition: <i>Good – No erosion evident or reseeding necessary</i> <i>Fair – Minor erosion detected and reseeding needed</i> <i>Poor – Extensive erosion, regrading and seeding needed</i>	Outfall Condition: <i>Good – Outlet is unimpaired</i> <i>Fair – Outlet obstructions, still discharging</i> <i>Poor – Outlet blocked</i>
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5.9 Roadway Culvert/Bridge Checklist



**Illinois Department
of Transportation**

Bridge Inspection Report (MI)

Structure Number: _____

Maintenance County: _____

90 - Insp. Date	90A - Insp. Team Leader/Qualification	Temp.

Township: _____
 Municipality: _____
 Fac Carried: _____
 Feat Crossed: _____
 Location: _____
 Mat/Type/# Span: _____

Bridge Inspection Year: 05 08 10 12 14

Team Sect. - Sub-Sect: _____ - _____

Appraisals Comments (All comments must be dated.)

Deck	
58 - Deck Condition:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Wearing Surface	_____
Parapets / Bridge Railings:	_____
Curbs:	_____
Median:	_____
Sidewalks:	_____
Drain System:	_____
Light Standards:	_____
Expansion Joints:	_____

Superstructure	
59 - Superstructure Cond:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Bearing Devices:	_____
Girders / Beams / Stringers:	_____
Diaphragms / Braces:	_____
Trusses / Portals / Bracing:	_____
Rivets / Bolts:	_____
Paint:	_____

Substructure		
60 - Substructure Cond:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Abutments	Stem / Columns / Piles:	_____
	Caps:	_____
	Bearing Seats:	_____
	Backwalls:	_____
	Wingwalls:	_____
Piers	Stem / Columns / Piles:	_____
	Caps:	_____
	Bearing Seats:	_____
	Crash Walls:	_____
Fender Systems:	_____	
Paint:	_____	

5.10 Pool Dewatering Fact Sheet



GUIDELINES FOR DRAINING SWIMMING POOLS

Your swimming pool is filled with chlorinated water. Chlorinated water discharged directly to surface waters (wetlands, lakes, streams, and rivers), roadways or storm sewers has an adverse impact on local water quality. High concentrations of chlorine, as are present in swimming pools, are toxic to wildlife and fish. Appropriate preparations should be made prior to draining down a pool during pool winterizing. It is recommended that one of the following measures be used:

- De-chlorinate the water in the pool prior to draining. This can be done through mechanical or chemical means. These types of products are readily available at local stores.

- Or -

- Drain the pool over a period of several days across your lawn using the following additional guidelines:
 - Allow pool water to sit at least 2 days while receiving a reasonable amount of sunlight, and without further addition of chlorine or bromine. It is recommended that the chlorine level be tested after 2 days to ensure that safe levels are met (below 0.1mg/l).
 - Pool discharge should be directed across your lawn, not down your driveway or into nearby storm sewer inlets. Our storm sewer system leads directly to wetlands, streams, lakes or rivers.

These recommendations are based on guidance from the Illinois Environmental Protection Agency. Visit www.epa.state.il.us/water for additional information.

You may also contact the Oswego Public Works Department at 630-554-3242.

Please do your part to protect your water supply and help promote cleaner wetlands, streams, lakes and rivers.

Thank you.

5.11 Spill Response Notice



Spill Response Notification Form

Name:		Position:	
Day time phone:		Evening phone:	
Date of Incident:		Time of Incident:	AM/PM
Exact Location of spill:			
		Yes	No
Were materials discharged into drains, sumps or water courses?			Comments
Source and/or cause of incident:			
Type of Material Spilled:		Quantity	
Notes:			
Additional comments: Once the spill is cleaned up, label the container hazardous waste and date it with the date the material was placed in the container. Fill out a Hazardous Waste Disposal Form. Forward the Spill Response Notification Form the Public Works Director.			

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5.12 Indirect Illicit Discharge Tracking and Summary Forms



Indirect Illicit Discharge Tracking and Summary Form

Incident ID:				
RESPONDER INFORMATION				
CALL TAKEN BY:			Call date:	
CALL TIME:			Precipitation (inches) in past 24-48 hrs:	
REPORTER INFORMATION				
Incident time:			Incident date:	
Caller contact information (optional):				
Incident Location (complete one or more below)				
Latitude and longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description		Secondary Location Description:		
<input type="checkbox"/> Stream corridor (In or adjacent to stream)		<input type="checkbox"/> Outfall	<input type="checkbox"/> In-stream flow	<input type="checkbox"/> Along banks
<input type="checkbox"/> Upland area (Land not adjacent to stream)		<input type="checkbox"/> Near storm drain	<input type="checkbox"/> Near other water source (storm water pond, wetland, etc.):	
Narrative description of location:				
Upland Problem Indicator Description				
<input type="checkbox"/> Dumping		<input type="checkbox"/> Oil/solvents/chemicals	<input type="checkbox"/> Sewage	
<input type="checkbox"/> Wash water, suds, etc.		<input type="checkbox"/> Other:		
Stream Corridor Problem Indicator Description				
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide (rotten eggs);	<input type="checkbox"/> Other: Describe in "Narrative" section		
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil sheen	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Suds
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Floatables	<input type="checkbox"/> None:	<input type="checkbox"/> Sewage (toilet paper, etc)	<input type="checkbox"/> Algae	<input type="checkbox"/> Dead fish
	<input type="checkbox"/> Other: Describe in "Narrative" section			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

5.13 Sample Maintenance Plan

Stormwater Management Facilities Maintenance Plan
for
NAME OF PROPERTY / PROJECT

Date:
Prepared By:
Revision No:

Permitting Jurisdiction: **Village, City, County**
Property Location: **Subdivision, Address, PIN**
Maintenance Entity: **HOA, Public, Corporation**

Purpose:

All projects where a permit is required and stormwater facilities are proposed shall include a Stormwater Management Facilities Maintenance Plan. The entities responsible for maintenance of all elements of stormwater facilities shall be identified in the Maintenance Plan. All stormwater facility elements, including but not limited to, stormwater basins, storm sewers, swales, natural areas and wetlands shall be included in the Maintenance Plan. The Plan is intended to identify essential documentation, inspections and funding requirements, such that the responsible entity can reasonably maintain the function of the drainage system, as originally intended and approved, into perpetuity.

The maintenance plan shall include the following elements as appropriate and as determined by the designer and approved permitting agency:

- a. Emergency Procedure and Contact List
 1. Emergency Condition Procedure
 2. Call List & protocol

- b. Project Information
 1. Subdivision Plat & Easements
 2. Engineering Plans (Record Drawings – hard copy and electronic format)
 3. Stormwater Management Permit and calculations
 4. Covenants and By Laws
 5. HOA Official Contact List (after established)
 6. Management Company Contact List & Tennant contact list

- c. Inspections & Record Keeping
 1. Routine Inspections
 2. Post Rainfall Inspection
 3. Incident Inspection
 4. Annual reporting format
 5. Inspector qualifications
 6. Inspection checklists

5.15 General Permit ILR40

General NPDES Permit No. ILR40

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand East
P.O. Box 19276
Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit For Discharges from Small Municipal Separate Storm Sewer Systems

Expiration Date: March 31, 2014

Issue Date: February 20, 2009

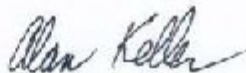
Effective Date: April 1, 2009

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act, the following discharges may be authorized by this permit in accordance with the conditions herein:

Discharges of only storm water from small municipal separate storm sewer systems, as defined and limited herein. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Receiving waters: Discharges may be authorized to any surface water of the State.

To receive authorization to discharge under this general permit, a facility operator must submit an application as described in the permit conditions to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

ILR40.wpd

5.16 Storm Sewer Atlas



5.17 Bibliography and References

[Kendall County Stormwater Management Ordinance](#)

Illinois Environmental Protection Agency - www.epa.state.il.us

United States Environmental Protection Agency - www.epa.gov

Handbook for Identifying Illicit Stormwater Discharges, Charlotte County Edition, Charlotte County, Florida.

Industrial User Inspection and Sampling Manual for POTWs, The Office of Wastewater Enforcement and Compliance Water Enforcement Division – USEPA, April 1994.

Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004.

Lake County Illicit Discharge Detection and Elimination (IDDE) Guidance Manual, Lake County Stormwater Management Commission, November 2006.

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