Village of Villa Park, Illinois

STORMWATER MANAGEMENT PROGRAM PLAN

DuPage County - May 2016

Sugar Creek

Village of Villa Park

Public Works Department

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1.0 Overview of the Stormwater Management Program Plan

This Stormwater Management Program Plan (SMPP) was developed by the Village of Villa Park based off 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. There are many different types of MS4s including municipalities, park districts, drainage districts, township highway departments, counties and county and state transportation departments DuPage County Division of Transportation (DuDot) and the Illinois Department of Transportation (IDOT).

1.1 Introduction

The SMPP describes the procedures and practices that can be implemented by the Village of Villa Park 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 for all Village of Villa Park activities, including the manner in which the Village of Villa Park:

- 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 evaluations the program.

1.2 State and Federal Regulations

Federal environmental regulations based on the 1972 Clean Water Act (CWA) require that MS4s, construction sites and industrial activities control polluted stormwater runoff from entering receiving bodies of water (including navigable streams and lakes). The NPDES permit process regulates the discharge from these sources based on amendments to CWA in 1987 and the subsequent 1990 and 1999 regulations by the U.S. Environmental Protection Agency (USEPA). In Illinois, the USEPA has delegated administration of the Federal NDPES program to the Illinois Environmental Protection Agency (IEPA). On December 20, 1999 the IEPA issued a general NPDES Phase II permit for all MS4s. Under the General ILR 40 Permit each MS4 was required to submit a Notice of Intent (NOI) declaring compliance with the conditions of the permit by March 10, 2003. The original NOI describes the proposed activities and best management practices that occurred over the original 5-year period toward the ultimate goal of developing a compliant SMPP. At the end of the 5th year (March 1, 2008) the components of the SMPP were required to be implemented per the ILR40 permit. The IEPA reissued the ILR 40 permit on April 1, 2009. September 1, 2016 is the deadline for compliance with new provisions of the General NPDES Permit ILR40.

Additionally, under the General ILR10 permit also administered by the IEPA, all construction projects that disturb greater than 1 acre of total land area are required to obtain an NPDES permit from the 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 Countywide Approach to NPDES Compliance

DuPage County Stormwater Management is a countywide governmental agency created by county ordinance under the authority of Illinois Revised Statute 55/5-1062. The principle purpose of the countywide ordinance is to promote effective, equitable, acceptable and legal stormwater management measures. Other purposes include managing and mitigating the effects of urbanization on drainage, reducing the existing potential for stormwater damage, protecting human life and health from the hazards of flooding and the degradation of water quality, and protecting and enhancing the quality, quantity and availability of surface and groundwater resources amongst many other purposes.

The Village of Villa Park is a Full Waiver Community with respect to the DuPage Countywide Stormwater Ordinance. The Village of Villa Park reviews all permits with respect to compliance with the ordinance including special management areas such as wetlands, buffers, and floodplains. Any development that may impact those special management areas does not need certification from the county before the Village issues a permit. Permits that involve floodways are handled by the IDNR.

DuPage County county-wide stormwater and floodplain ordinance is adopted by the Village via Ordinance 3268. However, DuPage County made significant changes to the stormwater ordinance in 2013. The Village of Villa Park is in the process of amending Appendix D of the Village's Municipal Code to reflect the latest revision of the DuPage County stormwater ordinance. The county did a thorough job of reaching out to local engineers, land owners and developers for input on the matter. Village of Villa Park staff is active with the Municipal Engineers Group and the DuPage Mayors and Manager's Conference on this and related issues. Some major changes with the new ordinance were:

- Requirements that apply to redevelopment of land instead of just farm fields
- Regulations that reflect current NPDES requirements for water quality
- A new volume control Best Management Practice (BMP), which seeks to infiltrate certain volumes of stormwater depending on the amount
- An improved format to more easily find and understand the regulations
- Provisions aimed at reducing submittals to the county and allowing construction by either General Certifications or Letters of Permission

The General Permit allows for MS4s to take credit for activities being performed by a Qualifying Local Program (QLP) toward meeting its permit requirements. DuPage County Stormwater Management is a Qualifying Local Program for MS4s in DuPage County. As part of their ongoing services, DuPage County Stormwater Management performs some functions related to each of the six minimum control measures. 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.

However, using the countywide approach, municipalities may take credit for the programs and ordinances developed by DuPage County Stormwater Management as well as tailor specific local BMP programs for compliance with the Phase II rules.

This general list summarizes additional DuPage County Stormwater Management services under the six minimum control categories:

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

2. **Public Participation and Involvement**: DuPage County Stormwater Management coordinates and participates in public meetings and committees, including the Municipal/County Intergovernmental Advisory Committee, Stormwater Management Committee (SMC), Municipal Engineers Technical Advisory Committee (TAC), and volunteer support.

3. **Illicit Discharge Detection & Elimination:** DuPage County initiated their Illicit
DuPage County is in partnership with the Village of Villa Park regarding the screening for and tracing of illicit discharges into Waters of the State from MS4 outfalls. County staff hosts an illicit discharge hotline, performs field inspections of known outfall locations, and, where applicable, traces a suspected illicit discharge to the source.

4. **Construction Site Runoff Control**: DuPage County Stormwater Management adopted the Countywide Stormwater & Flood Plain Ordinance (CSFPO) in 1991, which establishes the minimum stormwater management requirements for development in DuPage County. The CSFPO, which is enforced by DuPage County Stormwater Management as well as by certified county communities establishes standards for construction site runoff control. The CSFPO has been amended several times since its adoption.

5. **Post-Construction Runoff Control**: The Village follows the CSFPO and also establishes standards for post-construction runoff control.

6. **Pollution Prevention/Good Housekeeping**: DuPage County Stormwater Management provides guidance for winter de-icing and chloride reduction, best management practices, and other green initiatives.

1.4 Organization of SMPP

The Village of Villa Park Stormwater Management Program Plan (SMPP) consists of policies, programs, and practices that implement and enforce stormwater management throughout the Village. The plan is structured to meet the six minimum control measures as defined in the General NPDES Permit No. ILR40. Villa Park's Stormwater plan goals are to reduce the discharge of pollutants from our stormwater system to the maximum extent practicable and to protect water quality, among other requirements.

The SMPP identifies best management practices to be implemented in six categories:

1. Public Education and Outreach,
2. Public Participation/Involvement,
3. Construction Site Runoff Control,
4. Post-Construction Runoff Control,
5. Illicit Discharge Detection and Elimination, and
6. Pollution Prevention/Good Housekeeping

Salt Creek

1.5 Watersheds, Sub-Watersheds and Receiving Waters

The Village of Villa Park is located within the Salt Creek Watershed. There are three sub-basins, tributary to this watershed, which are located within Village limits. These sub-basins include Salt Creek, Sugar Creek, and Westwood Creek. These sub-basins are presented in Figure 1 - Map of Major Sub-basins.

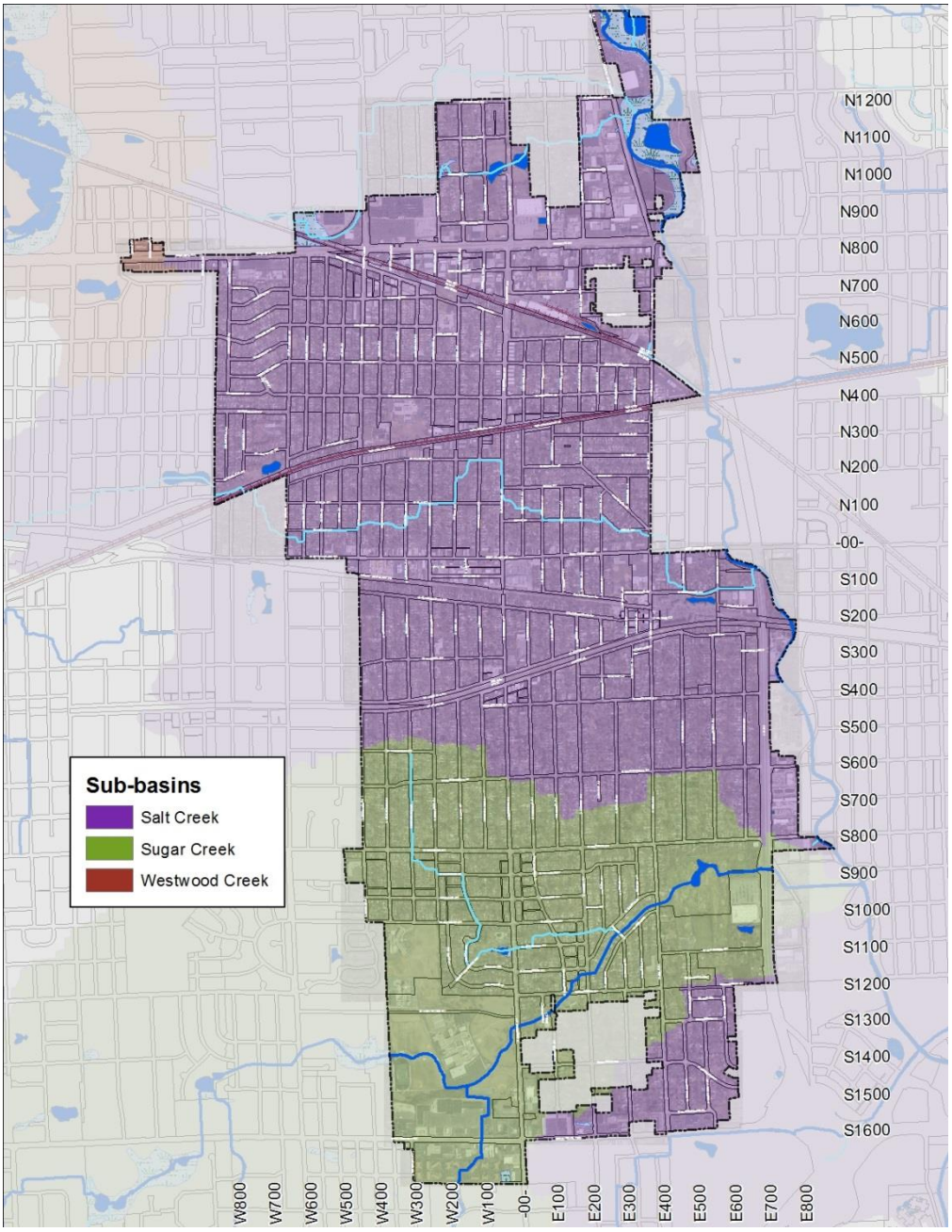


Figure 1 – Map of Major Sub-Basins

2.0 Program Management

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

2.1 Intra-Department Coordination

The Village Board is the policy and budget setting authority for the Village of Villa Park. The Village Manager is responsible for management of all Village Departments. The Public Works Department is responsible to implement this SMPP. The Stormwater Administrator (Public Works Director or his designee) has the primary responsibility for managing the overall program.

2.1.1 Stormwater Coordinator

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

a. Is the lead contact for coordination with the DuPage County Stormwater Management, the Illinois Environmental Protection Agency, contractors, the development community and other external regulatory agencies;
b. Understands the requirements of ILR40, ensures that the SMPP meets the permit requirements and that the Village of Villa Park effectively implements the SMPP;
c. Ensures that the Village of Villa Park complies with all minimum DuPage County Countywide Stormwater & Floodplain Ordinance and Villa Park Municipal Code provisions;
d. Ensures that the Municipal Facilities comply with all minimum ILR40 permit requirements;
e. Is aware when a Municipal Project is required to be authorized under the ILR10 permit. In these cases the Stormwater Administrator should ensure that the NOI is received by IEPA at least 30 days prior to the start of construction; and
f. Assists the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10, the Villa Park Municipal Code and DuPage County Countywide Stormwater & Floodplain Ordinance permit conditions; and
g. Should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges exiting an MS4's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction

site, it may be necessary for both the applicant and the MS4 to file the NOI form with the IEPA.

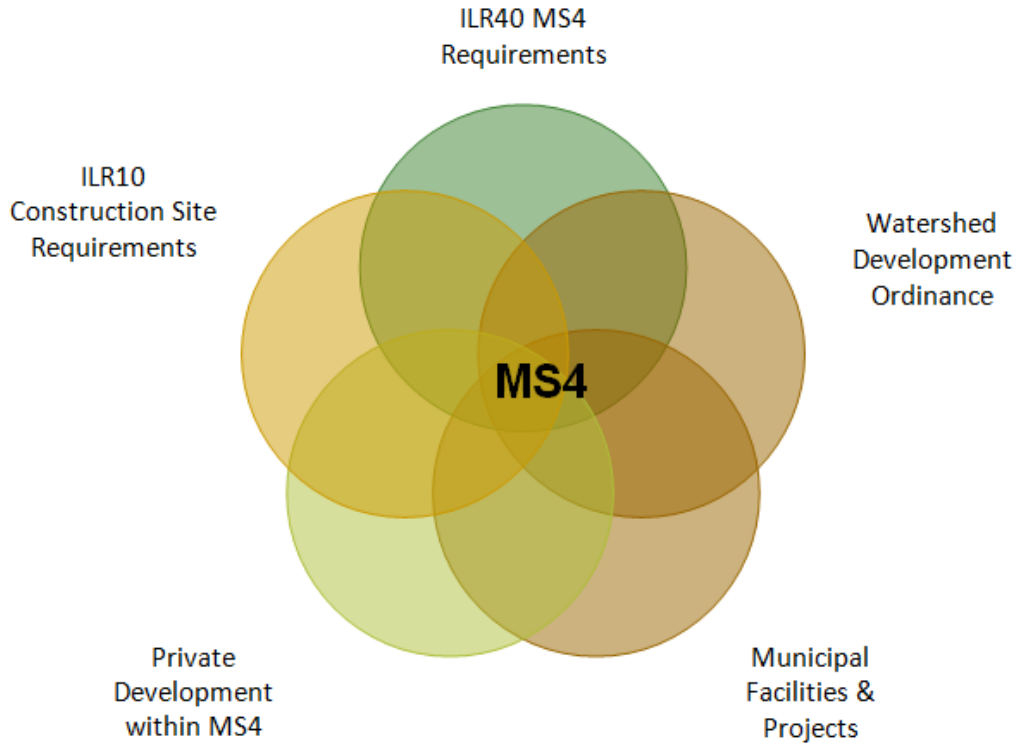


Figure 2 – Roles of MS4 (provided by Gewalt Hamilton & Associates)

2.1.2 Engineering Division

Engineering Division of the Public Works Department personnel support the Stormwater Administrator in obtaining compliance with both the NPDES and the CSFPO. The Public Works Engineering Division is the enforcement hand for the Village for stormwater management. The design and construction of all public projects must comply with the CSFPO.

The Stormwater Ordinance Administrator has the responsibility to concur that projects meet CSFPO standards prior to the issuance of permits, and oversees site inspections during construction. Refer to Chapter 3.4 and 3.5 for additional information on this process.

2.1.3 Public Works Department

Public Works personnel carry out infrastructure maintenance activities within the MS4. They are also one of the departments to respond to hazardous waste spills and illicit discharges. Public Works Department and Public Works Engineering Division personnel are designated as the primary entities responsible for performing the duties specified under Chapter 3.3 Illicit Discharge Detection and Elimination and Chapter 3.6 Pollution Prevention and Good Housekeeping.

Coordination between the MS4 and the DuPage County Stormwater Management occurs through participation in the DuPage County sponsored forums. The MS4's Stormwater Administrator is the lead contact for participation in the forums. Villa Park is a Full Waiver Community, and the Stormwater Administrator (Director of Public Works) is responsible for enforcement of the CSFPO and is designated by the MS4 to the DuPage County Stormwater Management.

2.1.4 Consultants

The MS4 may enlist the services of consultants to assist in the implementation of the CSFPO (including, but not limited to, plan review, site inspections, enforcement, proceedings), and the design of MS4 projects. The Stormwater Administrator has the responsibility of administering these contracts. Currently, small commercial and residential engineering plan reviews (including stormwater/drainage, roadway, geometrics, utilities, signage, ect.) are done in-house by the Public Works Engineering Division. Larger commercial developments and those involving special management areas, wetlands and vegetative BMP's are reviewed by the Village's engineering consultant. The Village also may consult with DuPage County staff or other subject matter experts when needed.

2.1.5 Fire Department

Fire protection for the Village of Villa Park is provided by the Villa Park Fire Department. Depending upon product, size or location of a hazardous waste spill, the Fire Department is contacted if not already aware of the situation. The Fire Department would assess the scene and depending upon the product, mitigate the spill. If product or size warrants it, the Fire Department would call for hazardous material clean-up. The Fire Department also has access to other resources thru its mutual aid agreements.

3.0 The Program

This Stormwater Management Program Plan includes six components, each of which is necessary in an effort to reduce/eliminate stormwater pollution in receiving water bodies. Chapter3.1 describes the efforts to educate the public about stormwater pollution and stormwater pollution prevention. The manner in which the Village of Villa Park incorporates public participation and involvement into the SMPP is explained in Chapter 3.2. Chapter 3.3 describes the approach to detecting and eliminating stormwater illicit discharges. Construction and post construction runoff control is addressed in Chapters 3.4 and 3.5. Lastly, Chapter 3.6 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 intended training for employees on the implementation of the SMPP.

3.1 Public Education & Outreach

The Village of Villa Park endorses and utilizes the DuPage County Water Quality Education Program. The primary goals of the program are: to increase the awareness and appreciation of a watershed community that will result in a lasting change in behavior; show how the protection and enhancement of the quality, quantity, and availability of surface and groundwater resources will preserve and enhance the health of existing aquatic and riparian environments as well as the quality of life; and establish the necessary resources to support the development and distribution of educational materials throughout the County. The County provides educational information to the public that outlines the steps that the public can take to reduce pollutants in stormwater runoff that fulfill the requirements for the Public Education and Outreach minimum control measure in the General NPDES Permit No. ILR40.

DuPage County and the Village of Villa Park educates via:

- **Distribution of Publications.** DuPage County staff has created several handouts and brochures pertaining to sources of pollutants in waterways and water quality BMPs. These, as well as handouts from other entities, are distributed at public events, at the DuPage County complex and through municipal partners. They are also available on the Village's website. Informational topics include rain barrels, rain gardens, native plants, other green infrastructure techniques, citizen monitoring of waterways and seasonal BMPs for the spring, summer, fall and winter.

The County continues updating and developing educational materials to include new and updated information, including the effects of climate change on stormwater impacts. Village of Villa Park residents without internet access can reach this information through publically available computers such as those at Village Hall or Public Works.

- **Speaking Engagements** DuPage County staff coordinates, hosts and presents at many workshops and community events countywide throughout the year. These events are held for residents, community groups, professional organizations, businesses and governmental agencies. Among the topics discussed are water quality efforts for the watersheds, methods for pollutant reduction, during and after construction BMPs, native vegetation and green infrastructure. In accordance with the updated ILR40 requirements, recent presentations have included information on the potential impacts and effects of stormwater discharge due to climate change. The County also invites outside speakers who are experts on particular topics to present.

- **Public Service Announcements & Media.** DuPage County Stormwater Management has taken advantage of technology to enhance outreach efforts. The department runs Facebook, Twitter, Instagram and YouTube pages that detail water quality trends and highlight practices that can reduce the transport of pollutants into waterways. In recent years, DuPage County has created video public service announcements, videos detailing flood control facilities and water quality projects occurring around the County, and displayed billboards as part of a water quality campaign with seasonal messages using the Village of Villa Park website, Twitter, and other social media, disseminates additional information to the public about Village infrastructure improvement projects affecting the environment, community events and public participation programs such as the recycling of: Electronics; the Refuse and Recycling program; the Illinois Prairie Path Clean Up; the Adopt a Tree program, and many other such activities run by the Village of Villa Park.

- **Classroom Education.** In partnership with schools and local educational organizations, DuPage County students are educated on stormwater management and water quality. Using several watershed models owned or borrowed by the County, students learn how watersheds work, including the transport of pollutants from watershed-wide land uses to waterways via stormwater. The students also learn about green infrastructure, such as rain gardens,

permeable pavers, green roofs, native plants and bio swales. DuPage County also promotes water quality and environmental efforts through the Water Quality Flag program. Schools within the area can earn a Water Quality Flag by participating in certain educational trainings, using green infrastructure as a learning opportunity and participating a hands-on activity. The County also hosts the Sustainable Design Challenge where students from across DuPage County participate to design buildings and landscapes using sustainable design techniques, including LEED strategies to reduce environmental impacts and green infrastructure to capture and treat stormwater runoff.

3.2 Public Participation/Involvement

In 1977, Villa Park enacted its first stormwater control ordinances. Since that time Villa Park has participated directly in the development of stormwater policy in DuPage County establishing and retaining committee participation. Village of Villa Park staff actively participates in the DuPage County Municipal Engineers Group (MEG), Water Quality Stakeholders Group, and the DuPage River/Salt Creek Work Group, all of which have a focus on stormwater management and water quality. The MEG was established by the Countywide Stormwater and Flood Plain Ordinance to provide input to the Village Stormwater Administrator on technical matters related to the Ordinance, recommend General Certification topics, review draft Ordinance revisions, review draft General Certifications, and discuss permitting issues where a recommendation is requested.

In September 1989, the DuPage County Stormwater Management Plan was established. The Village of Villa Park and the public have been involved in the development and implementation of each of the subsequent appendices and ordinances. Public participation is done through public notices of revisions of key documents guiding the plan as well as public hearings for the adoption of policy regulation and ordinances.

DuPage County also formed a water quality education program comprised of volunteers from the general public, non-profit agencies, consultants, developers, municipal engineers, state agencies and County staff, to spearhead the development of water quality policy for the County of DuPage.

Public involvement and participation is an integral part of water quality improvement programs. When

residents are engaged in the process, change is more likely to occur in everyday practices, which can greatly improve water quality throughout the watershed. DuPage County Stormwater Management aims to inform the public on watershed initiatives and engage a broad range of individuals regarding policies and projects related to the control and reduction of pollutants in stormwater runoff. This is accomplished through technical trainings, stakeholder groups, volunteer opportunities and public meetings. The County will enhance this effort by identifying environmental justice areas within the watershed planning jurisdictions in order to ensure prioritization of efforts in regards to public involvement and participation initiatives. Annual reports provided by DuPage County and the Village to the IEPA will include an evaluation of public involvement and participation goals, listed below.

- **Public Panels.** DuPage County Stormwater Management annually supports several training initiatives throughout the County, including The Conservation Foundation's Environmental Summit and Beyond the Basics seminars and the DuPage River Salt Creek Workgroup's chloride reduction trainings. The purpose of the events is to engage local residents, organizations and government agencies in pollution reduction practices and volunteer opportunities. Villa Park staff and other stakeholders regularly attend these events.

- **Stakeholder Meetings.** DuPage County Stormwater Management hosts two regular water quality stakeholder meetings per year in each of the County's three main watersheds. These meetings address matters pertaining to pollutant reduction on a watershed level. In addition, input on water quality impairments is requested from stakeholders for incorporation into watershed planning efforts, which may provoke the need for separate stakeholder groups any given year. Additionally, the municipal engineers of DuPage County along with the County of DuPage host a regularly scheduled monthly meeting that is open to the public in which the countywide ordinance, water quality, best management practices, and permit processes are discussed. Villa Park staff participates in these meetings.

- **Public Meetings & Hearings.** DuPage County Stormwater Management provides opportunity for public comment on the adequacy of its MS4 permit, watershed plans and projects. At least one public meeting and/or hearing also accompany public comment periods. The County publicizes public comment periods in accordance with its education and outreach initiatives and includes opportunities to comment online, in person or by mail.

- **Program Coordination.** DuPage County Stormwater Management staff has a full time Stormwater Communications Supervisor who is responsible for coordinating 10 educational and public involvement strategies. To gauge their effectiveness, the County develops and distributes surveys via an email list, webpage and on social media. These surveys measure citizen views, behaviors and concerns pertaining to a variety of topics, including water quality, property management, flood perceptions and residential pollutant control. County staff and/or educational partners analyze results of these surveys in order to improve and enhance the current program. Villa Park provides links to this information of the Village's website.

- **Volunteer Opportunities.** A variety of volunteer opportunities are sponsored by DuPage County Stormwater Management, including: Adopt-a-Stream program, which engages the public by providing an opportunity to pick up trash and/ or monitor a stretch of waterway; The DuPage River Sweep, which is an annual event which allows residents, groups, schools, and businesses to volunteer for a day to pick up trash out of section of a local waterways. The Village's Environmental Concerns Commission, a volunteer group, regularly participates in these events.

- **Other Volunteer Opportunities**. The Village of Villa Park requires its refuse provider to have a curbside recycling program to help keep recyclable material out of the environment. The Village's Environmental Concerns Commission sponsors or participates in water quality events.

3.3 Illicit Discharge Detection and Elimination (IDDE)

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:

1) non-stormwater runoff from contaminated sites (as displayed in figure 2)
2) deliberate discharge or dumping of non-stormwater (as displayed in figure 3). Illicit discharges can enter the storm sewer system as either an indirect or direct connection.

Figure 2 – Contaminated Site Runoff (sustainablewestseattle.org)

Figure 3 – Deliberate dumping into the storm sewer

In 2010, the Village of Villa Park passed Resolution #09-79, establishing an intergovernmental agreement with DuPage County for the implementation of the Illicit Discharge Detention and Elimination monitoring and sampling. The Village of Villa Park responds to suspected illicit discharges and manages enforcement procedures. In 2009, The Village of Villa Park approved Ordinance 3580 amending Village Code for the Illicit Discharge Detection and Elimination program. This ordinance is the mechanism that allows for the execution and enforcement of the SMPP and it is strictly enforced.

3.3.1 Regulatory Authority

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 the adoption of the CSFPO, and The Village of Villa Park IDDE Ordinance. 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 MS4 jurisdiction.

3.3.2 Watershed Development Ordinance

The Village of Villa Park adopted the DuPage County IDDE Ordinance effective November 9, 2009 as the IDDE Ordinance of the Village in Appendix E of the Village Municipal Code which prohibits illicit discharges as part of the development process. These provisions are applicable for regulated development activities as defined by the Municipal Code. Regulated developments are required to meet the soil erosion and sediment control standards of the Municipal Code. Furthermore, the Municipal Code requires that the applicant prohibit illicit discharges into the stormwater management system generated during the development process. The Municipal Code allows the Village of Villa Park to require inspections, performance bonds, and to adopt/enforce violation procedures. These tools assist in achieving compliant construction sites. These items are further discussed in Chapters 3.4 and 3.5.

3.3.3 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. An Outfall (is defined at 40 CFR 122.26(B)(9)) means a point source (as defined by 40 CFR 122.2) at the point where a municipal separate storm sewer discharges into a waters of the United States “receiving water”. Open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the United States are not considered Outfalls. For the purposes of this plan 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 water or another MS4.

Storm Sewer Outfall

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.

An Outfall Inventory Map was completed and is maintained by the Village of Villa Park as part of the Village's storm sewer atlas. This investigation was completed with a GPS Receiver and ArcGIS software. This map is used in combination with the previously existing Storm Sewer Atlas to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular water bodies these flows may be affecting. The inlets and outfall locations have been numbered to facilitate detection and tracking of identified illicit discharges.

The Outfall Inventory Map is reviewed annually and revised as necessary to incorporate permitted outfalls associated with new developments.

3.3.3A Potential Sources of Illicit Discharges

Table 1 shows that direct connections to storm sewer systems most likely originate from commercial/industrial facilities. Thus, the focus on Chapter 3.3 is on the identification of illicit discharges from commercial/industrial facilities.

Table 1: Potential Sources of Illicit Discharges to Storm Sewers

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

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

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

3.3.3B USEPA Exclusions

The illicit discharge detection and elimination program does not need to address the following categories of non-stormwater discharges or flows unless the Village identifies them as significant contributors of pollutants to its MS4 per the USEPA. Not all dry-weather flows are considered inappropriate discharges. Acceptable discharges would be:

- 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

3.3.3C Pollutant Physical Indicators

Adapted from New Hampshire Estuaries Project and the IDDE Guidance Manual by the Center for Watershed Protection. (found in reference section)

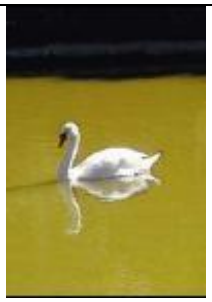
Odor - Water is a neutral medium and does not produce odor; however, most organic and some inorganic chemicals contribute odor to water. Odor in water may originate from municipal and industrial waste discharges, from natural sources such as decomposition of vegetative matter, or from associated microbial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

Table 2: 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 - 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 3: Color of Potential Illicit Discharges (adapted from CWP)

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

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 - 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 4 -Turbidity Severity Examples
(adapted from CWP)

Severity 1

Severity 2

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. Petroleum sheens do not break apart and they quickly flow back together.

Figure 5 - Natural Sheen versus Synthetic

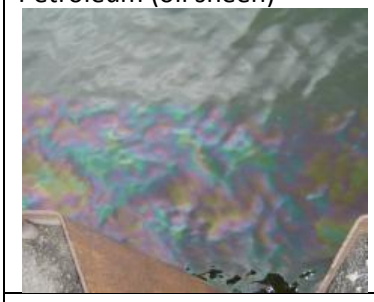
(adapted from CWP)

Sheen from natural bacteria forms a film that cracks if disturbed

Synthetic oil forms a swirling pattern swirl-like

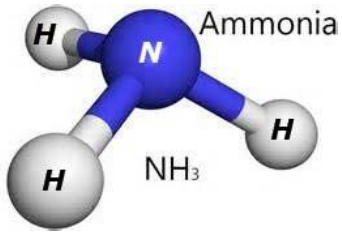
Table 4: Floatables in Potential Illicit Discharges (adapted from CWP)

Floatables	
Sewage 	Human causes include connection of domestic wastewater, leaking sanitary sewers or failing septic systems.
Suds and Foam – 	Common human causes of unnatural foam include leaking sewer lines, boat discharges, improper sewer connections to storm sewers and detergents from car washing activities.

Petroleum (oil sheen) 	Human causes may include leaking underground storage tank or illegal dumping.
Grease 	Common human causes include overflow from sanitary systems (due to clogging from grease) and illegal dumping.

3.3.3D Testing Indicator

Ammonia:



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

Chlorine:

Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic

materials can cause chlorine levels to drop below detection levels. Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

Copper:

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

Industrial sources of copper include the following:

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

In each of these industries, wastes containing copper would normally be discharged to a treatment facility. Sludge from the waste treatment facility, whether on-site (including lagooning) or publicly

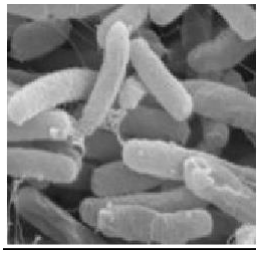
operated treatment facilities, would contain copper. If the sludge (or the treatment process) is not managed properly, copper could enter the storm sewer system.

Detergent:

Most illicit discharges have elevated concentration of detergents. Sewage and washwater discharges contain detergents used to clean clothes or dishes, whereas liquid wastes contain detergents from industrial or commercial cleansers. The nearly universal presence of detergents in illicit discharges, combined with their absence in natural waters or tap water, makes them an excellent indicator.

Research has revealed three indicator parameters that measure the level of detergent or its components-- surfactants, fluorescence, and surface tension. Surfactants have been the most widely applied and transferable of the three indicators. Fluorescence and surface tension show promise, but only limited field testing has been performed on these more experimental parameters; therefore these are not tested. Refer to Boron and Surfactants descriptions.

E. coli, Enterococci and Total Coliform:

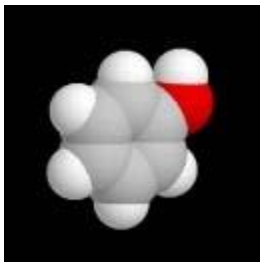


Each of these bacteria is found at very high concentrations in sewage compared to other flow types, and is a good indicator of sewage or seepage discharges, unless pet or wildlife sources exist in the subwatershed. Overall, bacteria are good supplemental indicators and can be used to find “problem” streams or outfalls that exceed public health standards. A Fecal Coliform count greater than 400 per 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.

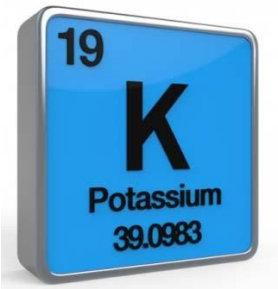
Other sources of phenol include improper handling and disposal of cleaning compounds by institutions such as hospitals and nursing homes.

pH:

Potential ID Range: <6.5 and > 8.5

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

Potassium:



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

Surfactants:

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

3.3.3 E Indirect Connection Program

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

Groundwater Seepage

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

Spills

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

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.

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 3.1 whereas observed/documented routine washing activities should be addressed through the Removal of Illicit Discharges Procedure in Chapter 3.3.

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 3.1.

3.3.4 Enforcement

Enforcement provisions are included in the Villa Park Ordinance 3580. The Village of Villa Park Public Works Department is responsible for enforcement of spills and illegal hook-ups. This is generally complaint driven and reactionary. Investigations can be cooperative with the Illinois Environmental Protection Agency and DuPage County through an existing inter-governmental agreement.

3.3.5 Complaints

When a complaint comes in, the Public Works Department dispatches an employee to investigate. If access to private property is required, staff will attempt to arrange a meeting for an inspection of the property with the owner/operator of the property where the pollution source is suspected. Most illicit connections and improper disposal can be detected during this step. The Village will notify the site

owner/operator of the problem and instruct them to take corrective measures via notification of noncompliance. The notification includes a description of the required action(s) and a time frame in which to assess the problem and take corrective action. The owner may be subject to penalties if corrective action is not achieved within the applicable time frame.

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

If corrective actions have been completed (i.e. and the illicit discharge has been eliminated), then the Public Works Department will notify the property owner that the site is now in compliance.

If corrective actions have not been completed, an additional internal meeting with appropriate Village personnel is held to determine appropriate steps to obtain compliance. Appropriate actions may include monetary or other penalties. If the property owners refuses to provide access to the property for inspection, then the Village may seek access through the court system.

Enforcement levels include:

- Containment, Clean-Up
- Violation Letters
- Clean-Up Costs
- Compliance Schedules
- Fines

3.3.6 Inspection

Going forward, high priority outfalls should be inspected at least on an annual basis with reminders and scheduling managed through the Village of Villa Park network. The Village welcomes reporting of illicit discharges through contacting the Public Works Department general line (630) 834-8505, or in-person notification at Village Hall. Enforcement is handled through the Public Works Engineering Division. Depending upon the severity of the issue, a correction notice is given with a 0-14 day timeframe or immediate shut-down until the violation is remedied. Severity is based on life safety, health and welfare. If it is believed that an illicit discharge is occurring after normal business hours, and

life safety, health and welfare are at risk, residents are encouraged to dial 911 and they will direct the appropriate police and fire personnel.

Most common issues are:

- Contaminated run-off from leaking chemical drums and tanks, dumpsters, grease containers;
- Run-off from failed septic systems (unincorporated);
- Truck lots with poorly maintained or abandoned vehicles;
- Gasoline, Antifreeze, Diesel spills caused by accidents;
- Outside power washing of equipment;
- Heavy solids / siltation from construction sites;
- Direct dumping of illicits into storm sewers

3.3.7 Monitoring

The Village intends to utilize its GIS capabilities for storm sewer monitoring. This will be accomplished by:

- When new outfalls are added, using GPS to collect outfall data points
- Upload to GIS and attach pertinent data to the points in the storm sewer layers
- Mapping of points and producing reports
- Data will be "transferrable" to County
- Maintenance and update of a database – for the entire IDDE program

3.38 Prohibited Discharge Standards are outlined in the Village Code

Prohibition of illicit discharges can be found in Section 16-41 (Article 5 of Appendix E). This is the codified form of Ordinance 3580

3.4 Construction Site Runoff Control

The goal is to ensure that new development does not increase existing stormwater problems or create new ones. The Village Code, Chapter 19.5, establishes Village-wide standards for soil erosion and sediment control. The County wide Stormwater Ordinance, which the Village has adopted for reference, also contains soil erosion and sediment control standards. These provisions are only applicable for regulated development activities as defined by the Municipal Code or the County Wide

Stormwater Ordinance. 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.

Example of a Detention Site

3.4.1 Regulatory Program

The Villa Park Municipal Code and the County wide Stormwater Ordinance include performance standards on Grading, Stormwater and Soil Erosion/Sediment Control that must be met for all parties undertaking construction.

Example of Perimeter Silt Fence

3.4.2 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 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) as required by the DuPage County Stormwater Ordinance.

3.4.3 Site Plan Review

The Village of Villa Park is the enforcement agency of the Stormwater Provisions of the Municipal Code and the County wide Stormwater Ordinance. The Village's Public Works Engineering Division provides applicants with a variety of documents necessary to obtain municipal permits. Included in the packet is relevant permitting information including the performance guarantee information.

The Public Works Engineering Division 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. The Public Works Engineering Division also reviews for any site or stormwater issues. After reviewers concur that the applicable provisions of the Municipal Code have been addressed, a Stormwater Certification may be issued.

3.4.4 Runoff Volume Reduction Hierarchy

The Villa Park Municipal Code and the County wide Stormwater Ordinance includes performance standards which require that the site plan include a combination of structural and/or non-structural BMPs that will reduce the discharge of pollutants and the volume and velocity of stormwater flow to the maximum extent practicable. The permittee should ensure that the development plan addresses these provisions during the plan review process.

3.4.5 Construction Site Inspection Process

The Village regularly receives public inquiries regarding a development, either during the review or construction phase. Both site design and construction related inquiries are directed to the designated Village staff, and logged. Site design comments are handled on a case by case basis. Construction

related inquiries are typically addressed by performing a site inspection.

Construction site runoff in Villa Park is regulated by Village Municipal Code Appendix D & E and the County wide Stormwater Ordinance. The Public Works Engineering Division is in charge of reviewing the site plans to ensure compliance with the Village, DuPage County and IEPA stormwater regulations. Prior to starting any site work, the contractor/developer signs off on acknowledging the need to call in for erosion control inspections. Stormwater Certifications and construction permits can then be issued. Ordinance requires erosion and sediment control Best Management Practices (BMP) along with the control of construction material debris. The Village reviews BMP designs prior to construction and inspects sites during construction. These policies form the fundamental regulatory control programs that enforce rules to reduce pollutants in stormwater runoff from construction activities as a result of any land disturbances within the Village. Included within these ordinances are requirements for:

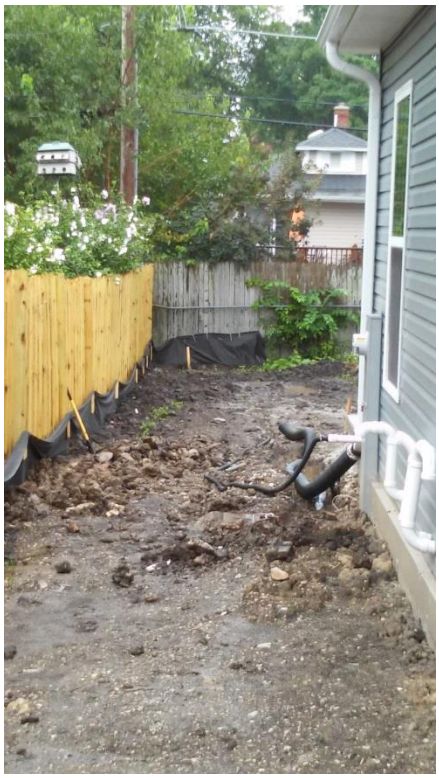
- Sediment and erosion control, including recommendations for appropriate control practices;
- Site plan review;
- Public notification;
- Site inspection/enforcement procedures that fulfill the requirements for Construction Site Water Runoff Control measures in the General NPDES Permit NO. IL40

Example of BMP and sediment and erosion control

Inspections aim to determine if the erosion control measures match what is on the design plan, and ensures they are in good working order so they prevent materials from leaving the site and potentially ending up in storm drain system. This includes proper installation of silt fencing, additional BMPs installed at drainage outfalls, proper location of construction entrance and dewatering discharge filters. The Village requires debris catch baskets at construction sites. This reduces solids which would

otherwise enter the creek system.

The Village code also allows for violations to be corrected by the Village with all costs being paid for by the owner/operator when compliance is not voluntarily achieved.



Example of proper erosion control at a new single family development

This SMPP creates and references extensive policies and procedures for regulating design and construction activities for protecting receiving waters. The design and construction site practices selected and implemented by the responsible party for a given site are expected to meet BMP measures described in the Revisions to Appendix E: Technical Guidance for the DuPage County Countywide Stormwater and Floodplain Ordinance and IEPA's Program recommendations. All proposed permanent stormwater treatment practices must be reviewed and approved by the Village's Stormwater Ordinance Administrator.

3.4.6 Erosion Control Inspections

The Village of Villa Park requires all earth disturbing activities that last longer than one day, to have installed the proper erosion control. Representatives of the Village of Villa Park are authorized to enter upon any land or water to determine that the correct erosion control is being utilized and that it is properly functioning.

Sites found to be not in compliance will be notified that they are in violation of Village code. The Village may then issue a notice of violation followed with a Stop Work order, and/or fines to the contractor, developer, and/or property owner. The site will then need to be brought into compliance before any work can proceed.

3.4.7 Minimum Construction Site Practices

A site plan is required to comply with minimum prescribed practice requirements set forth in the Municipal Code and the County wide Stormwater Ordinance. The Municipal Code and the County wide Stormwater Ordinance also allows for the Village of Villa Park to require additional measures, above and beyond minimum control measures, to prevent the discharge pollutants from construction sites. Design and implementation guidance is available in the DuPage County Technical Reference Manual and other reference materials identified in the County's Stormwater Management Program Plan. A copy of the DuPage County Technical Reference Manual can be found at: www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1424/)

Some minimum control measures include the following:

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

Projects that disturb more than 1 acre must have a SWPPP designed by a licensed engineer. The Village does not designate control measure, but does enforce those listed and designed in the SWPPP.

3.4.8 Village Construction

The Village of Villa Park follows the same construction standards to which private developers adhere. This includes using filter fabric, sediment logs and inlet filter bags for excavation work.

3.5 Post-Construction Runoff Control

The Village of Villa Park 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.

The controlled release and storage of excess stormwater runoff is required in combination for all new commercial and industrial developments. Single family residential developments and two lot residential subdivisions are currently exempt from stormwater detention requirements. However, residential developments must comply with Article VIII of the DCSFPO with respect to PCBMP.

The controlled release rate of stormwater runoff from all new commercial developments shall not exceed the existing safe storm drainage capacity of the natural downstream outlet channel or storm sewer system. The release rate shall be an average value computed as a direct ratio of the tributary watershed area.

3.6 Pollution Prevention / Good Housekeeping

The Village of Villa Park is responsible for the care and upkeep of the Village owned general facilities, municipal roads, and associated Village owned 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.

3.6 A Inspection and Maintenance Program

The following chapters describe 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.

3.6 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 may be changed or interrupted if heavy rain occurs, the sweeper is out of order due to mechanical problems, or the Public Works Divisions experiences heavy workload. An in-house sweeper handles all service requests, special events and in-house construction jobs. Village streets are currently swept and average of 1,280 lane miles per year. This equates to each mile of Village street being swept of sediment and debris over 16 times.

3.6. A.2 Catch Basins and Storm Sewer

The Village has a catch basin and storm sewer maintenance program which is carried out by the Villa Park Public Works Department (VPWD). VPWD currently inspects, cleans, and maintains the MS4 components on a routine annual basis of approximately 10% of the storm sewer pipe system and 30% of the catch basins. The debris that is collected by VPWD is taken to a specially designed and constructed storm sewer debris dump station which is located within the Public Works facility. This dump station is utilized for drying storm sewer debris prior to hauling the solid material off-site for proper disposal.

3.6 A.3 Landscape Maintenance

The Village of Villa Park maintains its general facilities, municipal roads, associated maintenance yards, and other public areas. Municipal staff is responsible for litter and debris control described in Chapter 3.6.A.3.a. The Villa Park Buildings & Grounds Department is responsible for the landscape maintenance of Village property except for public right-of-way.

3.6 A.3.a Litter and Debris

Litter and debris can accumulate on Village property and roadway right-of-ways. Clean-up at Village recreation areas is the responsibility of the Buildings & Grounds Department. Village properties and

right-of-ways (including Municipal, Township, County and State right-of-ways within the MS4 limits) are cleaned by Public Works personnel on an as-needed basis.

3.6.A 3.b Private Residence Yard Waste

Yard waste and leaves from private residences are collected through the refuse collection contractor. Yard waste is collected weekly from April till November which reduces debris from landing in the street and being caught in catch basins and flowing to the creek system. The Village also offers a multi-week free leaf pick-up program through its contractor each fall.

3.6.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 April 1) are implemented.

3.6 A. 4.a Roadway Ice Control

The Village's goal is to 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, installing these items onto snow removal vehicles, performing test operations, and conducting effective driver training. Performing these preparatory tasks helps ensure that only the necessary level of salt is applied.

The materials used for combating roadway Ice include the following:

- Salt - Rock crystal form
- Pre-wetted salt – salt mixed with beet heet
- Beet Heet – liquid mix of 50% beet heet and 50% of 23.3% NaCl blend used in tanks on salt spreaders to pre-treat salt and to de-ice streets before storm event

Village Public Works personnel has been taking measures to limit the use of salt due to its high cost and environmental impacts. Staff has reduced road salt usage by lowering the application rates for the salt when possible and limiting 'bare pavement' salting to collector and arterial streets only. Under normal circumstances only hills, curves, intersections, arterials, and collector streets and neighborhood connector roadways have been salted.

3.6.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 from the Public Works Facility. The floor of the salt storage building and adjacent receiving/unloading area are constructed of concrete. Delivered salt is unloaded at the salt storage area at 729 N. Ardmore Ave. The Village has a covered salt storage bin.

Village of Villa Park Salt Storage

3.6.A 4.c Snow Plowing

Snow plowing activities direct snow off the pavement and onto the parkways. This reduces the amount of salt, chemical additives, abrasives or other pollutants that go directly into the storm sewer system. Snow blowing, plowing or dumping into drainage-ways is not allowed.

Village of Villa Park Snow Plow

3.6.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.

3.6.A 5.a Vehicle Fueling

The vehicle fueling area contains two fiberglass underground storage tanks. All equipment is fueled at the Village owned fueling area.

3.6.A 5.b Vehicle Washing

Public Works Department washes all vehicles in an enclosed wash bay at their facility which drains to the sanitary sewer after passing through a triple-basin separator. Fire Department vehicles are washed at their respective fire stations in a similar manner. All Police and other smaller municipal vehicles are washed at a local privately-owned commercial car wash facility.

3.6.A 5.c 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 byproducts 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 250 gallon tank. Typically, the waste oil tank is emptied and the contents removed by a licensed waste oil contractor.

Antifreeze: Used antifreeze is inside a building in a 55 gallon drum. The waste antifreeze is then

removed by a licensed waste antifreeze contractor.

Batteries: Used batteries are recycled by vendors when buying a replacement.

Tires: Used tires are disposed of at a vendor.

Other: Fleet Technicians are certified in air-conditioning. The refrigerant is captured and recycled whenever they work on vehicle air conditioning systems. This saves the environment and the cost of refrigerant.

3.6 A.6 Waste Management

Waste Management consists of implementing procedural and structural practices for handling, storing and disposing of wastes generated by a maintenance activity. This helps prevent the release of waste materials into the stormwater management system including receiving waters. Run off from Public Works material storage bins at the Public Works facility is conveyed into a sanitary sewer that flows directly to head of the Salt Creek Sanitary wastewater treatment plant.

3.6. A. 6.a Spoil Stock Pile

The spoil stock pile is located at the Public Works Facility at 729 North Ardmore Avenue, Villa Park, Illinois. Asphalt and concrete maintenance by-products and excess earth excavation materials are temporarily stored in the stock pile. Attempts are made to use excess earth excavation when conditions are warranted. Asphalt and concrete are separated and put into material storage bins separately and are hauled away separately. Asphalt and concrete products are recycled at appropriate facilities. Excess earth excavation is tested prior to removal by an environmental geotechnical engineer, who provides the necessary documentation (IEPA LPC 663) for proper disposal. Licensed waste haulers are contracted to remove and dispose the contents of the spoil stock pile at a licensed landfill when spoil cannot be disposed of at a regular facility.

Concrete Waste Storage

Wood Chip Storage

3.6 A. 6.b Hazardous Waste

All hazardous wastes are stored 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. Employees are instructed to not overfill containers. Paint brushes and equipment used for water and oil-based paints are cleaned within the designated cleaning area. Employees contain associated waste and other cleaning fluids within an enclosed tank; the tank is maintained by a private licensed special waste company.

3.6 B Employee Training

The Village's intent is to provide education and training to all employees to ensure that they have the knowledge and skills necessary to perform their functions effectively and efficiently. The purpose of the Employee Stormwater Training Program is to teach appropriate employees about:

- Stormwater characteristics and water quality issues;
- The roles and responsibilities of the various Departments, and individuals within these Departments, 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;
- On managing and maintaining green infrastructure and low impact design features; and,
- How to use the SMPP and available guidance materials to select and implement BMP's.

The Village maintains good housekeeping habits:

- Clean Facility – picking up trash/debris; sweeping out Public Works garage minimally monthly
- Sludge Hauling – if a spill occurs, the contractor or Village employee must clean it up immediately

- Containers are stored orderly and away from traffic to prevent spills
- Dumpsters are covered and reported if a leak is detected
- Vehicles are cleaned inside garage which drains directly to Wastewater Treatment Plant
- Storage containers are properly labeled
- Plant chemicals, petroleum is stored inside the Public Works garage
- Building floor drains are piped back to the treatment facility

4.0 Complaint Procedure

The Village welcomes and encourages the public to report issues that may affect the Village waterways. The form below will be used and will be found at the Village website.

Village of Villa Park

20 South Ardmore Avenue, Villa Park, Illinois 60181-2696

DEPARTMENT OF PUBLIC WORKS
VYDAS JUSKELIS, P.E. • Public Works Director

Phone (630) 834-8505
Fax (630) 834-8509

Village of Villa Park Stormwater Complaint

The storm drains in the street outside your home flow directly to waterways, without any treatment. It is therefore very important that no one be allowed to dump waste of any kind onto the street surface, drainage pipes, and ditches, or into storm drains – they are only for rainwater. If you see someone dumping anything onto street surfaces, into storm drains, or into any other device built to contain rainfall or runoff, please report it immediately by calling the Public Works Department at (630) 834-8505 or by completing the form below.

Fill in the information and the Village of Villa Park will investigate all reports received and take any and all enforcement actions necessary to rectify by discharge.

Erosion and Sediment Complaints: observed excessive erosion and sedimentation from active construction sites.

Illicit Drainage Complaints: observed illegal dumping into the stormwater system and / or streams. Anything entering the stormwater system that is not stormwater is considered illicit discharge.

Call 9-1-1 to Report an Emergency do not use this form Complaint can be made anonymously.

Name:_____

Address:_____

Telephone:_____

Email:_____

Date / Time of Occurrence: _____

Location: _____

Description of Problem:

_____

_____

_____

_____

Was a Commercial Vehicle Involved? YES / NO

If Yes, what was company name or license plate? _____

Reference Links

DuPage County General NPDES Permit No. ILR40 MS4
http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1166/

DuPage County Water Quality Education Program
http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1377/

DuPage County Water Quality Publications
http://www.co.dupage.il.us/EDP/Stormwater_Management/1163/

Non-Profit Educational Partnerships: DuPage County partners with The Conservation Foundation and SCARCE to provide stormwater education and training

DuPage County Stormwater Committee
https://www.dupageco.org/County_Board_Committees/Stormwater_Committee/17810

DuPage River/Salt Creek Work Group http://www.drscw.org/ and education materials

DuPage County Ordinances and Documents
http://www.dupageco.org/EDP/Stormwater_Management/Regulatory_Services/1420/

DuPage County Construction Site Stormwater Runoff Control
http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1315/

Village of Villa Park Stormwater Management
http://www.invillapark.com/695/Storm-Water-Management-Program

DuPage County Stormwater Management Projects
http://www.dupageco.org/EDP/Stormwater_Management/1197/

DuPage County Wetlands and Education/Training
http://www.dupageco.org/EDP/Stormwater_Management/Natural_Areas/5136/

DuPage County Stormwater Frequently Asked Questions
http://www.dupageco.org/EDP/Stormwater_Management/6720/

DuPage County Pollution Prevention and Good Housekeeping for Municipal Operations
https://www.dupageco.org/EDP/Stormwater_Management/water_quality/1262/