

MS4 Annual Update

LIBERTYVILLE TOWNSHIP
MAY 10, 2022

Prepared by Manhard Consulting



National Pollutant Discharge Elimination System (NPDES)

What is NPDES?

- **Permit program addresses water pollution by regulating point sources that discharge pollutants to waterways**
- **Created by the 1972 Clean Water Act**
- **State governments to perform permitting, administrative and enforcement aspects of the program**

MS4 Permit

Illinois Environmental Protection Agency (IEPA) Regulates Stormwater Discharge From



Municipal Separate Storm Sewer System
(MS4)



To Receiving Waters

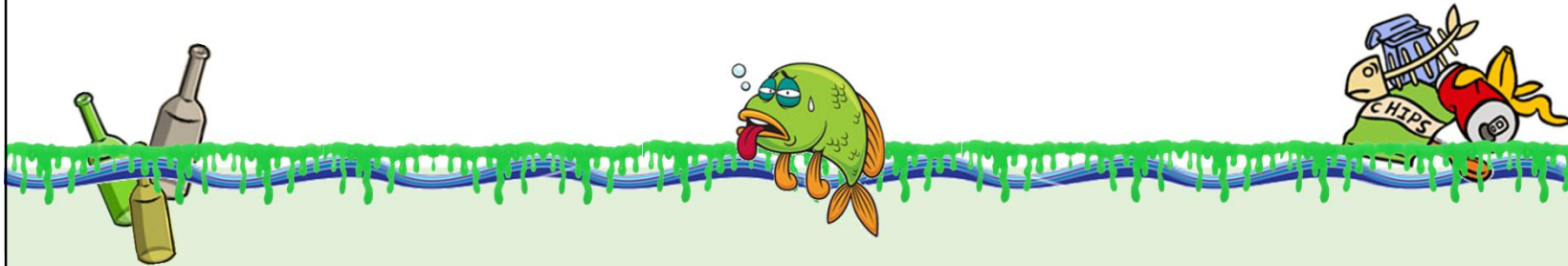


What is a MS4?

Municipal	Separate	Storm Sewer System
System owned or operated by a public agency, such as a city, town, county, state, etc.	Does <i>not</i> connect to the sanitary sewer system and does <i>not</i> lead to a wastewater treatment plant.	Drains, ditches, curbs, and gutters that move stormwater from one place to another.



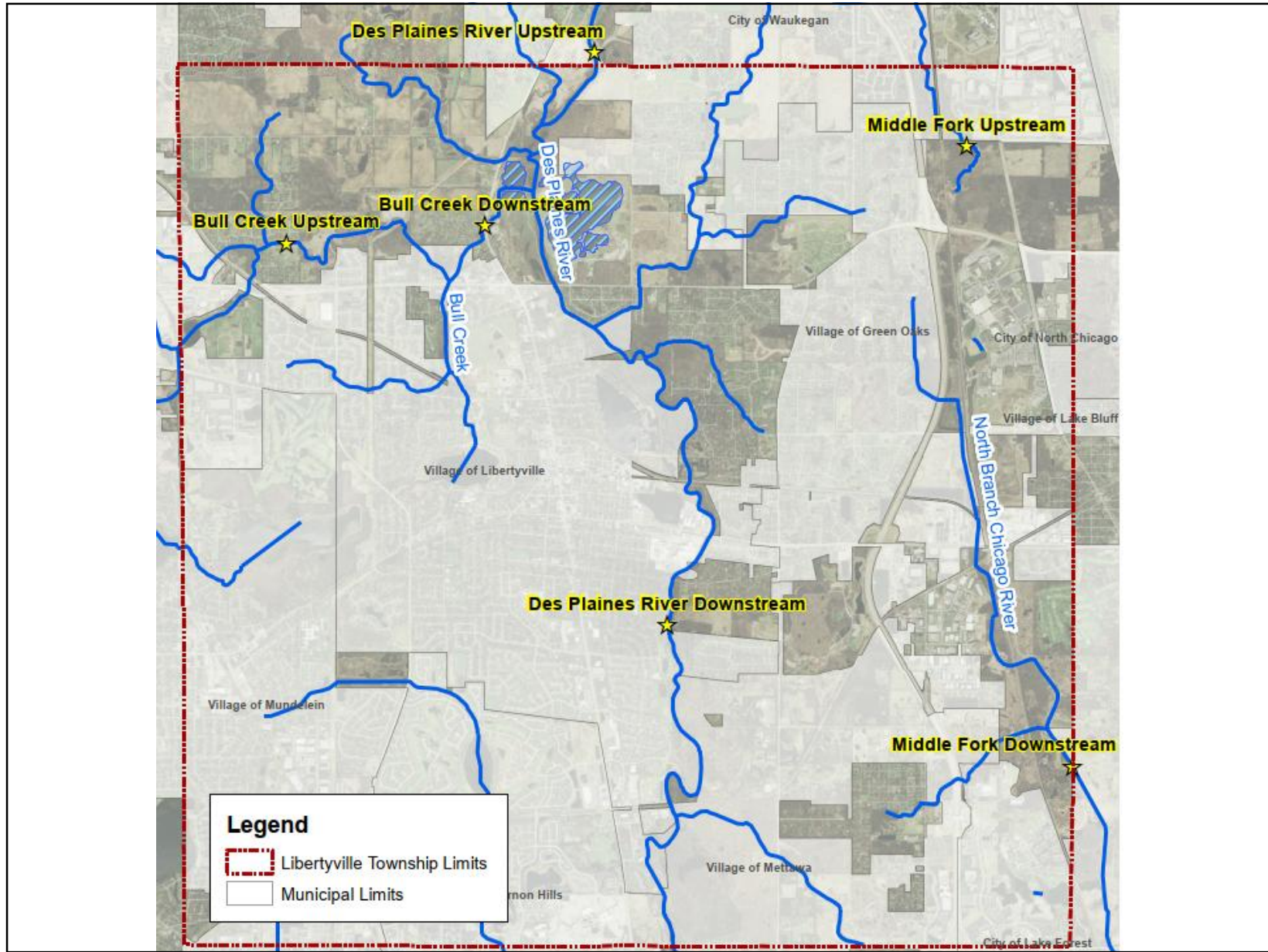
Why is Stormwater Pollution a Problem?



STORMWATER FLOWS DIRECTLY INTO STREAMS/CREEKS AND CARRIES POLLUTANTS & CONTAMINANTS WITH IT.

TYPICAL STORMWATER POLLUTANTS

- | | |
|-----------------|------------|
| Sediment | Chlorides |
| Oil and Grease | Pet Waste |
| Toxic Chemicals | Yard Waste |
| Bacteria | Litter |
| Nutrients | |



Meeting the Requirements

REQUIREMENT:

REDUCE POLLUTANTS IN STORMWATER TO THE
MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY

HOW?

DEVELOP, IMPLEMENT, AND ENFORCE A
STORMWATER MANAGEMENT PROGRAM (SWMP)

ANNUAL REPORTING (6 MINIMUM MEASURES)

Stormwater Management Program

6 Minimum Control Measures

1. Public Education and Outreach	2. Public Participation and Involvement	3. Illicit Discharge Detection and Elimination	4. Construction Site Runoff Control	5. Post Construction Runoff Control	6. Pollution Prevention/Good Housekeeping
Educational materials	Public Meeting	Outfall Inspections	Review site plans	Conduct inspections	Operation & Maintenance
Website		Water Quality Monitoring	Conduct inspections	Detention basin inspections	Snow removal and street sweeping
Newsletter		Industrial & Commercial Inspection Program	Enforcement	Streambank inspections	Storm sewer maintenance
					Employee training



1 & 2 - Public Education / Participation



HOME ABOUT US SERVICES RESOURCES OPEN SPACE DISTRICT CONTACT US

MS4/NPDES Phase II

An MS4 entity owns or operates a system for collecting and conveying stormwater. The purpose of the MS4 program is to maintain and benefit water quality in creeks streams and waterways by reducing pollutants in stormwater runoff.

The MS4 program is an unfunded federal mandate. It is the result of the 1987 amendments to the Clean Water Act, commonly referred to as the Water Quality Act of 1987. In these amendments, Congress mandated that the U.S. Environmental Protection Agency (USEPA) address non-point source pollution associated with stormwater runoff. In response to the Congressional action, the USEPA developed the MS4 program to permit the discharge of the stormwater from the MS4s. In essence, EPA defined urban stormwater (previously considered a non-point source) as a point source with numerous physical locations (or points) of discharge.

The MS4s are permitted under the National Pollutant Discharge Elimination System (NPDES) program through the Illinois Environmental Protection Agency (IEPA). MS4 permits are granted in five-year cycles at the end of which the permit must be renewed. The NPDES permit was granted in 2003, and was renewed in 2009.

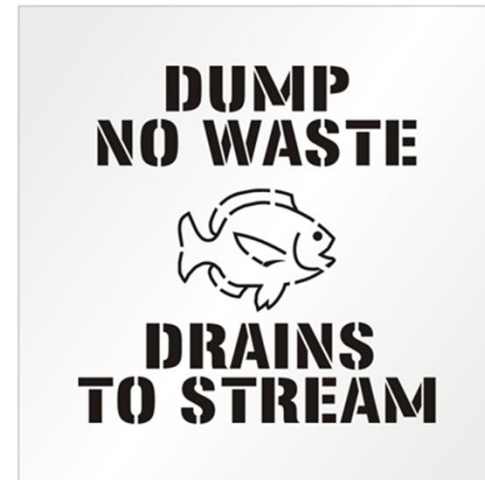
The MS4 entities are required to develop a Stormwater Management Plan (SWMP), and to implement the following six Minimum Control Measures to reduce polluted stormwater runoff:



3 - Illicit / Illegal Discharges

"...any discharge to the municipal separate storm sewer system that is not composed entirely of storm water."

(with some exceptions)



3 - Illicit Discharges - Examples



OILS/VEHICLE FLUIDS



GREASE



SOAPS/DETERGENTS



SEDIMENT/POLLUTED WATER



DUMPING INTO STORM SEWER



SEWAGE

Allowable Discharges



FIREFIGHTING ACTIVITIES



AIR CONDITIONING CONDENSATE



LAWN WATERING



DECHLORINATED POOL WATER



RESIDENTIAL CAR WASHING



WASHING WITHOUT DETERGENTS



3 - Illicit Discharge & Detection

A Citizen's Guide to Monitoring Storm Water

Storm water runoff is precipitation from rain or snowmelt that flows over the ground. On its way to the storm drain, water can pick up debris, chemicals, dirt and other pollutants. Any substance entering the storm sewer system gets released untreated into the bodies of water we use for swimming, fishing, and drinking.

A Municipal Separate Storm Sewer System (MS4), refers to the system of pipes, ditches and/ or gullies managed by a government entity. This system serves us by collecting storm water and distributing it into detention/retention ponds and waterways, including local waterways.

Illicit Discharges contain any substances other than storm water that end up in the storm sewer system. Examples of these substances are oil, paint, wastewater and more. These contaminants have a negative effect on the health of our local waterways and the communities of people surrounding them.

Sources of Illicit Discharges

- Sanitary wastewater or water from toilets, sinks, and bathtubs
- Discharge from septic tanks and fields
- Car wash wastewaters (commercial)
- Improper oil disposal
- Radiator flushing disposal
- Laundry wastewaters
- Spills from roadway accidents
- Improper disposal of automobiles and household toxics

How do I Spot a Potential Illicit Discharge?

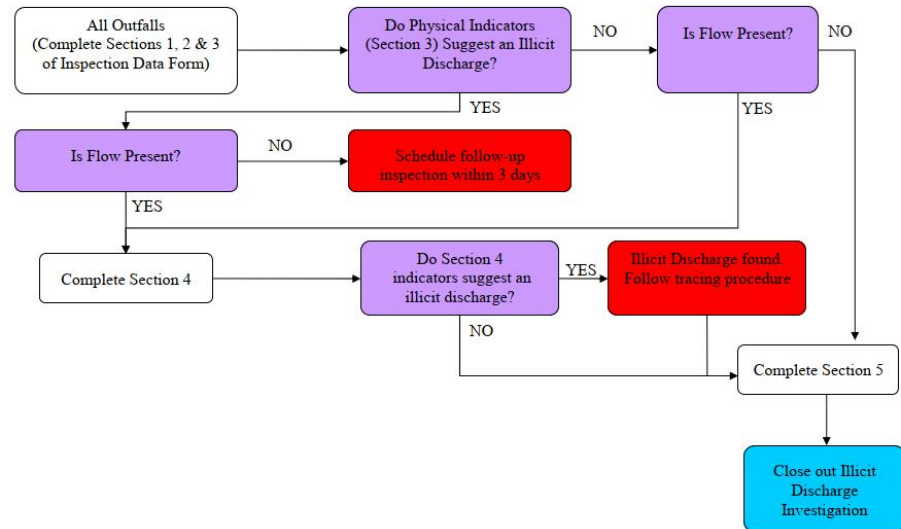
In a neighborhood or at a commercial site, look for pipes in disrepair or hoses that lead to a storm drain or body of water. Watch for stains, suds, unusual odors, structural damage to streets or gutters, and abnormal vegetative growth in nearby lakes and streams. Sump pumps, irrigation water, and certain other non-storm water discharges are not illicit.

On or near the water, the most obvious way to spot an illicit discharge is during dry weather. Since storm sewer systems exist to carry storm water runoff, they are generally active during rain events. Without the presence of rain, water flowing from storm water outfalls or along swales may carry with it bad news.

Sanitary Sewer Discharge	Staining on pipe, heavy foam, gray or discolored water, odors (sewage, chlorine, rotten eggs, detergents), and sanitary debris such as fecal material and toilet paper.
Illegal Dumping, Spills, or Floor Drain Connection	Oily sheen, trash or unnatural debris, petroleum odors, and stained sediment, rocks, and vegetation.
Industrial Discharge	Discolored water and chemical odor.
Fertilizers or Sanitary Sewer Waste	Algae growth or heavy vegetation at or near the outlet.

If you think you have found an illicit discharge, please contact Libertyville Township at (847) 816-6800.

Outfall Inspection Procedure Flow Chart

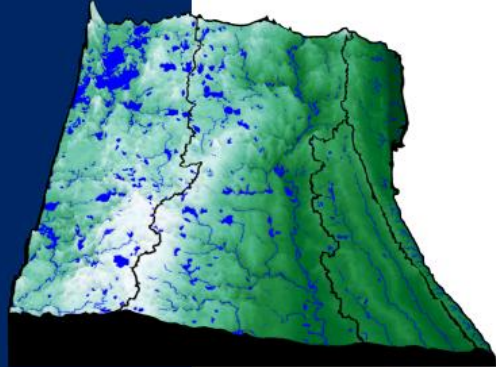


4 & 5 - Construction / Post Construction Site Runoff


WATERSHED

DEVELOPMENT

ORDINANCE



The map displays the Lake County watershed with various colored regions indicating different levels of development and ordinance enforcement. A dark blue area on the left side of the map represents a specific watershed or development zone. The rest of the map is colored in shades of green and blue, with black lines delineating different areas.



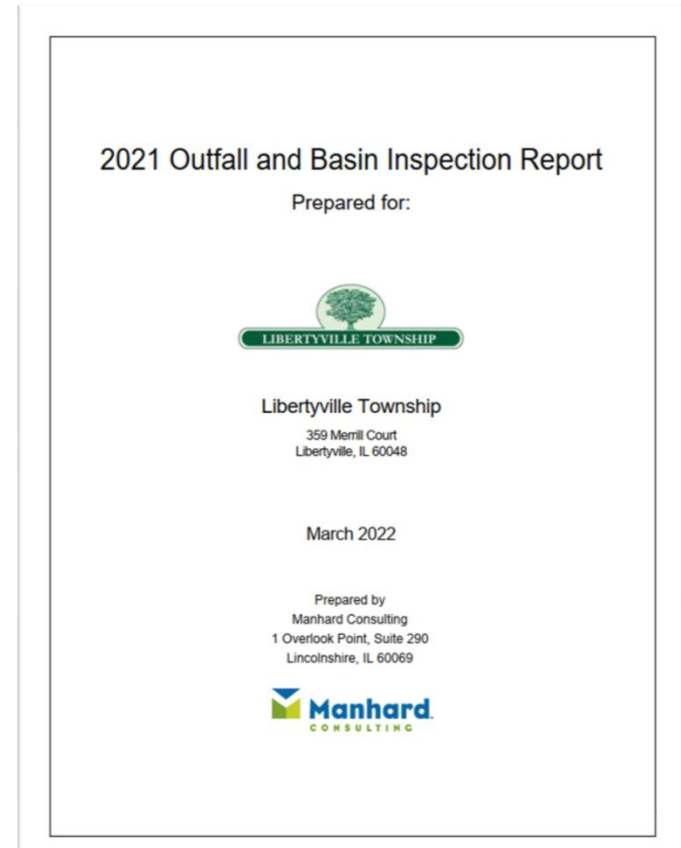
Lake County
Stormwater Management Commission
October 13, 2020

Continue to work with Lake County SMC and Planning, Building & Development, as they issue permits and enforce the WDO

6 - Pollution Prevention & Good Housekeeping

Track and report:

- Sewers cleaned
- Miles of road cleaned
- Salt, brine, and calcium chloride used
- Employee training
- Linear feet of streambank inspected
- Detention basin inspections
- Outfall inspections
- Herbicide application



6 - Pollution Prevention & Good Housekeeping

Water Quality Testing:

- Six Sample Locations
 - Total suspended solids
 - Total nitrogen
 - Total phosphorous
 - Fecal coliform
 - Chlorides
 - Oil and grease

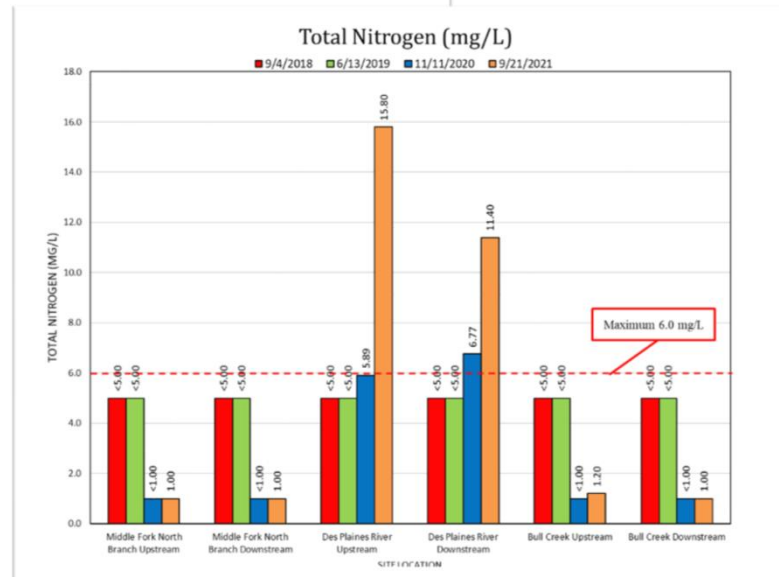
Year 19 Water Quality Monitoring & Assessment Program

Water Quality Testing Report
for Sampling Conducted on
September 21, 2021

Prepared for:



Libertyville Township
Lake County, IL



Questions?

Contact Information

Jodi McCarthy

jmccarthy@manhard.com

(847) 325-7491

