

The background is a photograph of a forest stream with a yellow circle at the top center and a white line on the left side.

MCM #3

Illicit Discharge Detection and
Elimination

IDD & ~~E~~ P

Illicit Discharge Detection & ~~Elimination~~
Prevention

What it is

and What it is not

How to Detect

an Illicit Discharge

How to Prevent

; and, when necessary
Eliminate

MS4

Guiding Principles



Operation Manual

A public facing document that outlines the functions & operations of the program

PAG-13

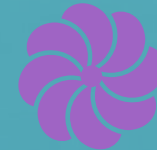
Keep It Handy!

Print out a copy and keep it in an easy to grab location.



Processes

Include your own processes. DOCUMENT, DOCUMENT, DOCUMENT



Living Document

Update your documents as you administer the program.



Good Faith Effort

A municipality that is attempting to meet the intent of the program is better than nothing at all.

MCM #3: Overview & Background



Terms to Know

Regulatory Background

MCM #3 and its BMPs

Illicit Discharges

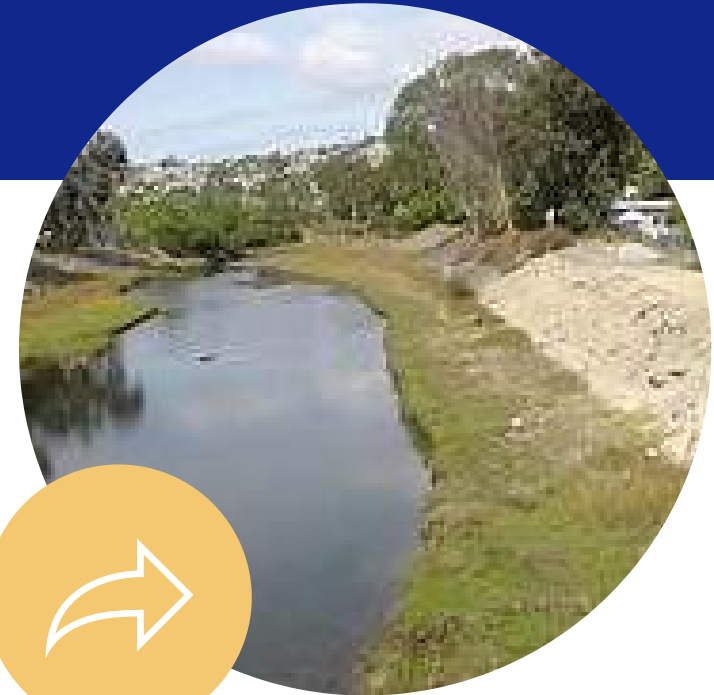


What is an Illicit Discharge?

Allowed Discharges

Illicit Discharge Detection

Elimination & Prevention



Illicit Discharge Reporting

Illicit Discharge Generators

Elimination & Prevention



MCM#3

Background & Overview

Terms to Know

Illicit Discharge

Defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens.



Permitted Stormwater Discharge

A storm drain with measurable flow but containing no pollutants is simply considered a permitted stormwater discharge.





Terms to Know

Outfall

An outfall is defined by EPA/DEP as the point where stormwater discharges to a stream or tributary directly without being conveyed by additional piping or other infrastructure.

MCM

Short for Minimum Control Measure. Every MS4 Community is responsible for implementing 6 MCM's meant to minimize or eliminate stormwater pollution.

BMP

Short for Best Management Practice. Each MCM has 3 to 6 BMPs to implement throughout the year. Many of the BMPs involve community outreach, inspections, training and mapping.



Terms to Know

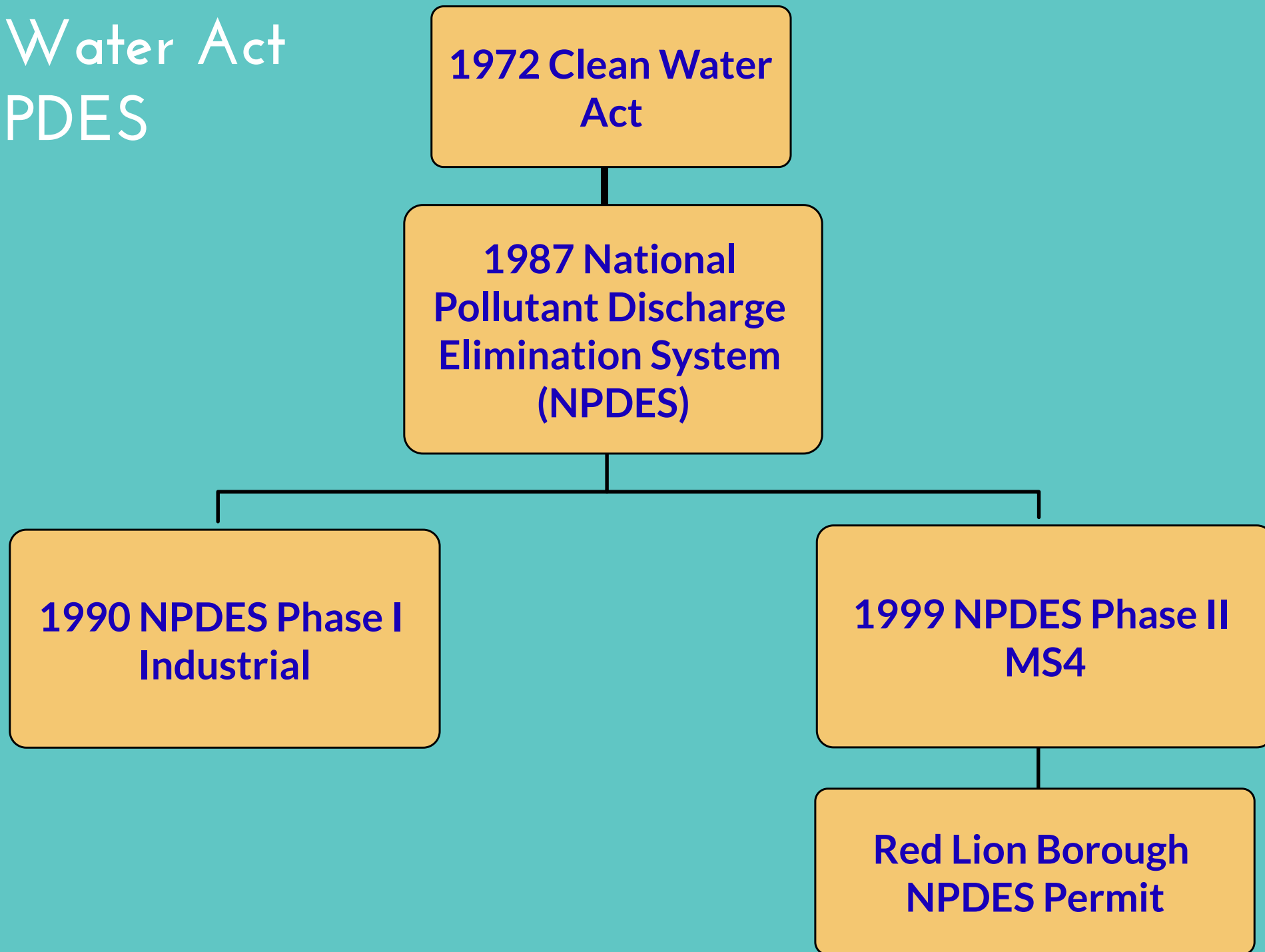
Generating Site

Generating Sites are a small subset of a commercial, industrial, institutional, municipal and transport-related operation that have the greatest risk of generating an illicit discharge.

Examples:

- Vehicle Operations – improper disposal of fluids
- Physical Plant Maintenance – power washing into storm drains
- Community Pool – discharge of chlorinated water from the pool
- Restaurants – dumping grease

US Clean Water Act & NPDES



Chesapeake Bay Foundation

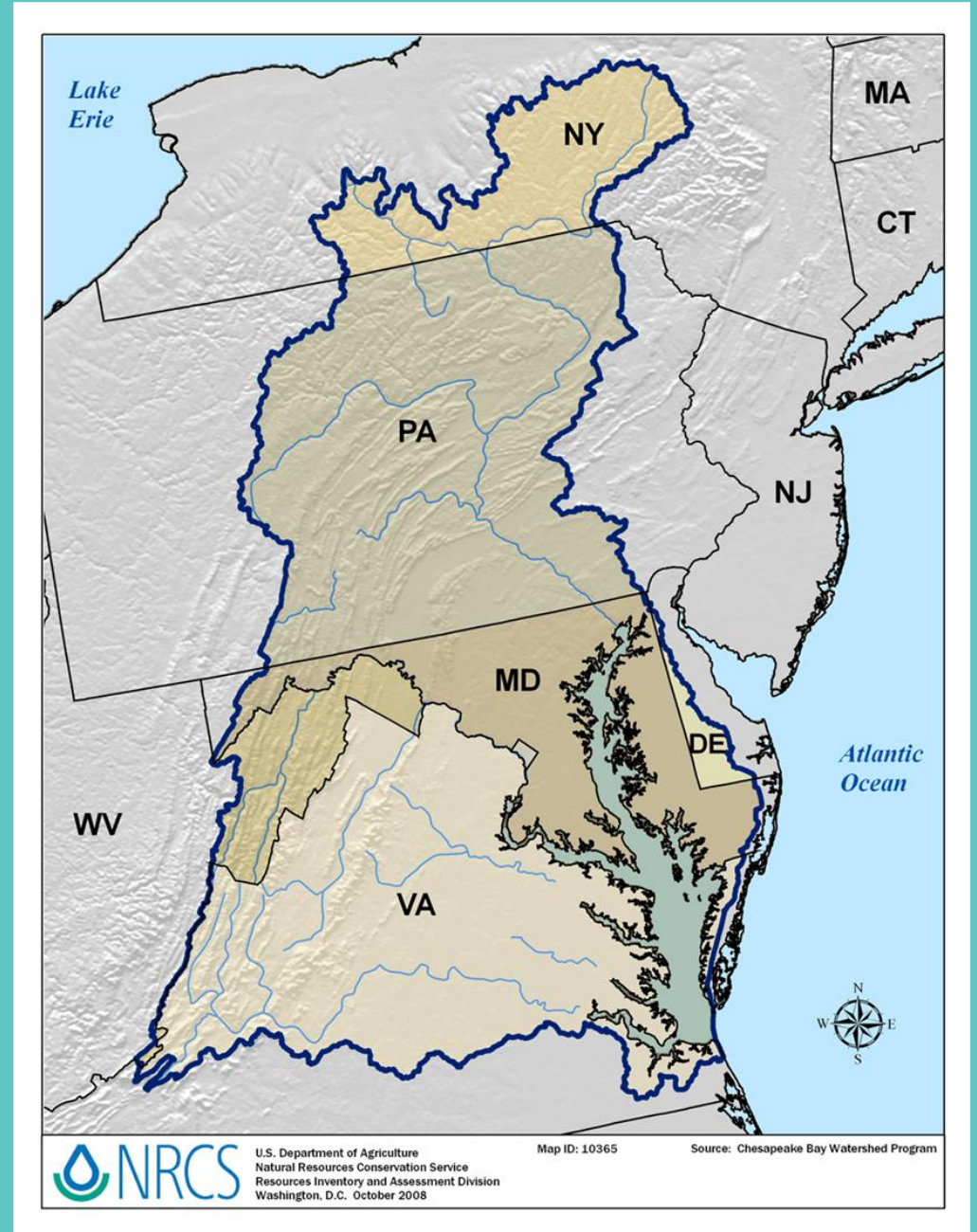
**Chesapeake Bay
Foundation V. US EPA**

**8 TMDLs created: EPA,
DC, DE, MD, NY, VA,
WV, and PA**

- State Level Pollution guidelines

**PA Watershed
Implementation Plan**

- Phase III WIP, currently





MCM#3

Illicit Discharge Detection and
Elimination



MCM#3 BMPs



BMP 1

Develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated small MS4.



BMP 2

The permittee shall develop and maintain maps(s) that show permittee and urbanized area boundaries, the location of outfalls and observation points and the surface waters that receive discharges from those outfalls.



BMP 3

The permittee shall develop and maintain maps that show the entirety of the stormwater system, i.e., pipes, roads, curbs and BMPs



I.D. Priority Areas

Outfall Screening
Procedures

Procedures for Finding &
Eliminating illicit discharges



BMP #1

Written IDDE Plan:

1. Procedures for identifying priority areas:

Areas with a higher likelihood of illicit discharges, illegal connections, & illegal dumping

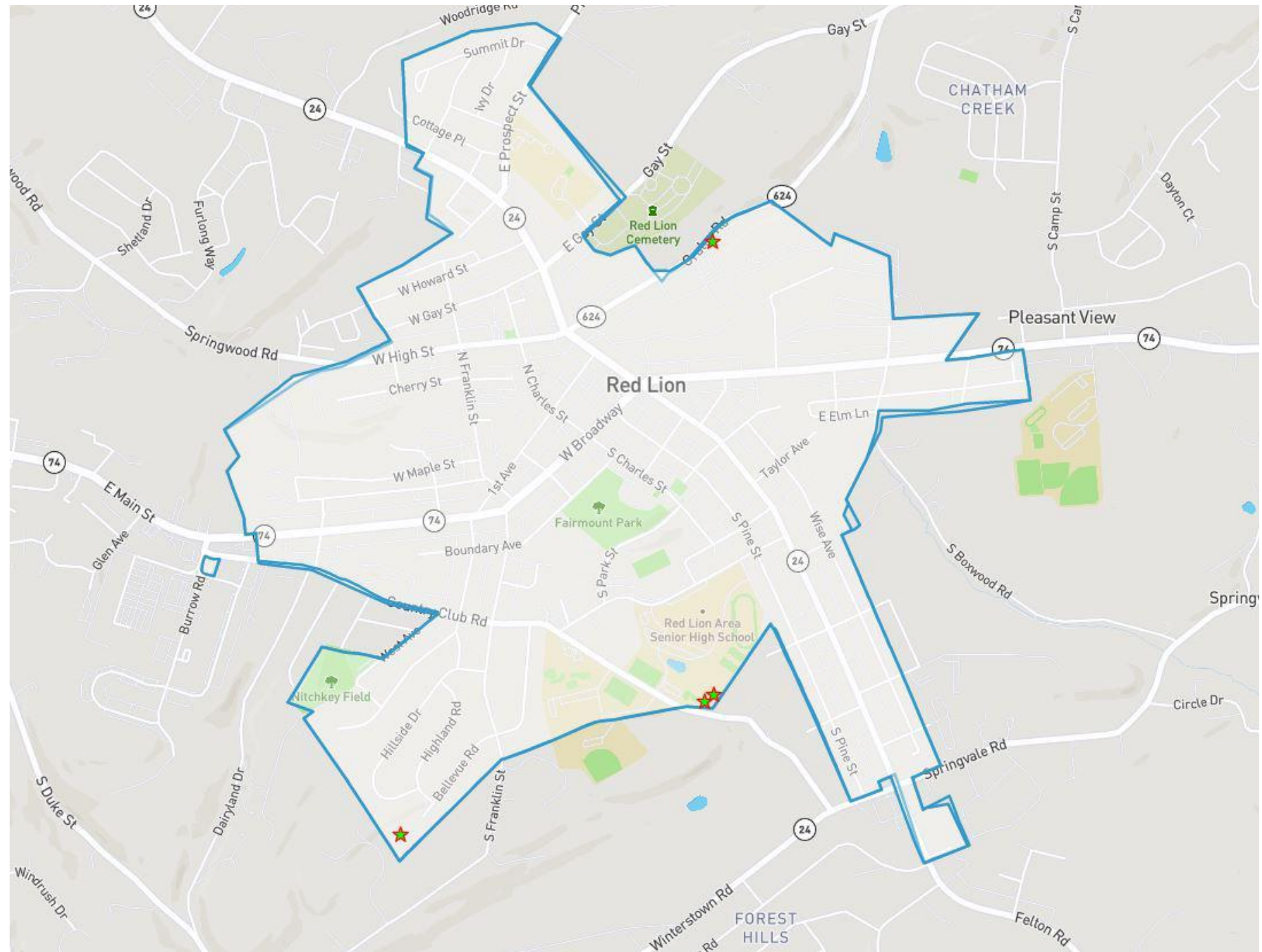
- Areas with older infrastructure
- Concentration of high-risk activities - manufacturing/industrial activities, active construction
- Previous water pollution problems

2. Procedures for screening outfalls: See Handout.

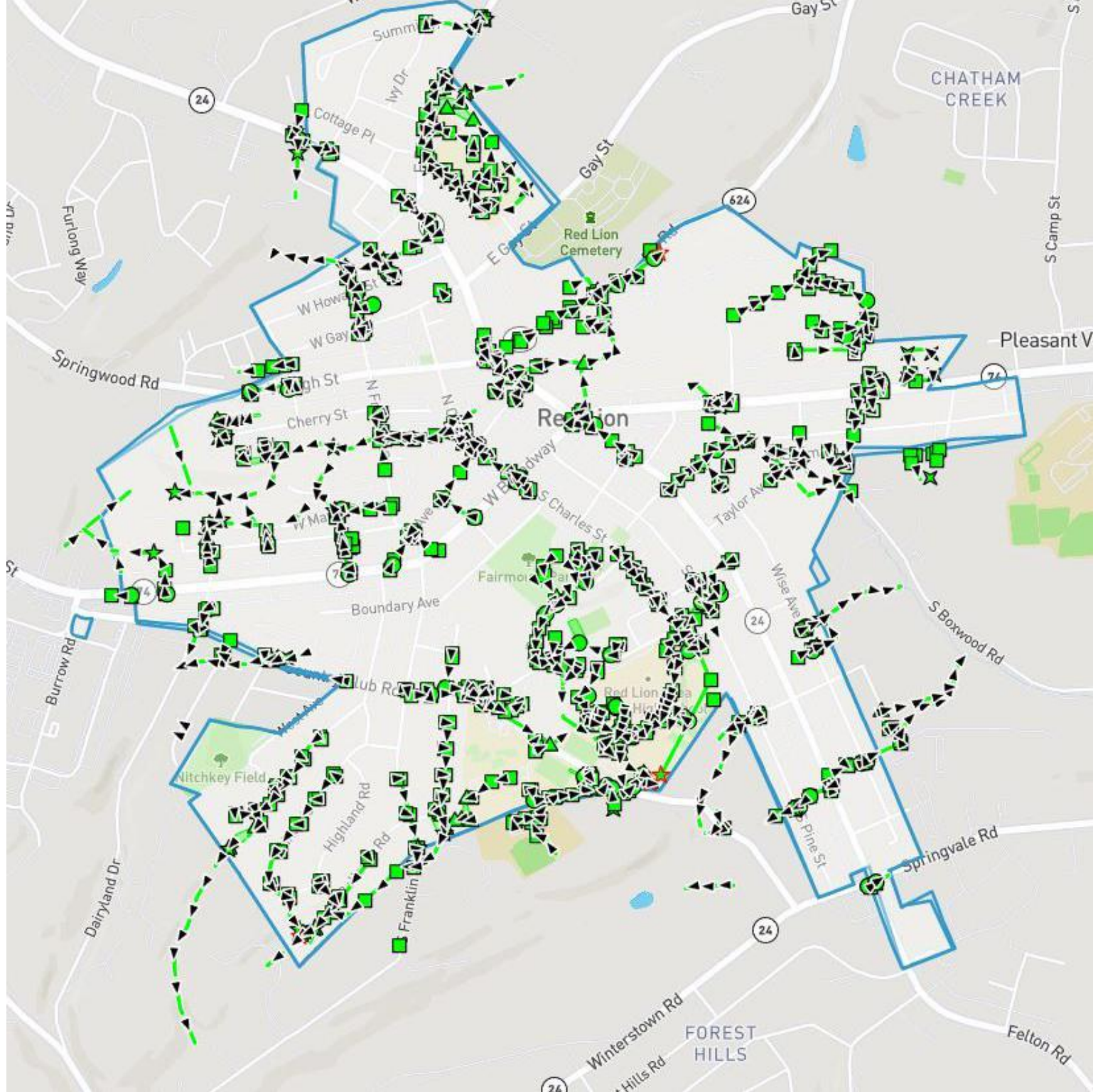
3. Procedures for identifying a source of illicit discharge.

4. Procedures for eliminating source of illicit discharge.

BMP #2 - Outfall Map



BMP #4 - MS4 Map





MCM#3 BMPs



BMP 4

Conduct Dry Weather Screenings of outfalls and respond to reports of potential illicit discharges and implement appropriate enforcement actions.



BMP 5

Enact a stormwater ordinance that prohibits non stormwater discharges to the small MS4.



BMP 6

Provide education outreach to public employees, business owners and employees, property owners, the public, and elected/appointed officials about the program and how to detect and eliminate illicit discharges.



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Authorized vs. Illicit Discharges



Allowed Discharges

The PAG-13 Permit Guidance, authorizes the following non-stormwater discharges to surface waters of the commonwealth:

- Discharge Flows from Fire Fighting Activities
- Discharges of potable water sources with NO detectable traces of Total Residual Chlorine (TRC)
- Non-contaminated irrigation, lawn & landscape drainage and flows from riparian habitats and wetlands
- Diverted stream flows and springs
- HVAC Condensation and Geothermal System water
- Residential vehicle wash water with no cleaning agents
- Non-contaminated hydrostatic test water discharges with no TRC.

Discharges NOT Allowed



- Dumping of motor vehicle fluids
- Household Hazardous Wastes
- Grass Clippings
- Leaf Litter
- Animal Wastes
- Unauthorized Discharges of Sewage Waste
- Industrial Waste
- Restaurant Waste
- Literally, ANYTHING in stormwater that isn't straight H₂O



Illicit Discharges Types & Causes:



Sewage

- Break in the ROW
- C'l. or Ind. Direct Connection
- Infrequent Discharge, i.e. RV Dumping
- Faulty Septic System



Wash Water

- Direct connections from uses
- Power Wash/Car Wash
- Commercial Washing
- Household Maintenance Activities



Liquid Wastes

- Vehicle Fluids
- Oil & Solvents
- Spills and other industrial wastes



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Detecting and Investigating

Illicit Discharge - Detection

Methods:

1. Field Screening of Outfalls
2. Municipal Boots on the Ground
3. Resident Hotline/Website

Resources is Involved

- 3rd Party
- Municipal Staff
- Volunteers
- Mix of some or all
- Public Works
- Prop/Bldg. Insp Inspectors
- Police & Fire First Responders
- General Public
- Administrative Staff

MCM's Involved

- MCM's 1, 2, & 3
- MCM's 3 & 6
- MCM's 3 & 6

Illicit Discharge – Detection

Field Screening Steps:

Step 1 – Acquire necessary mapping equipment and staff

Step 2 – Determine when to conduct field screening

- During Dry Season and Leaf Off Conditions
- After a Dry Period of at Least 48-hours
- Low Ground Water Levels

Step 3 – Identify where to conduct Field Screening

- Outfalls near high value natural resources
- Outfalls with active construction sites in the their drainage area
- Outfalls with a history of previous illicit discharge concerns

Step 4 – Conduct Field Screening



Field Screening Process

1.

Inspection Form - or - CSDatum

2.

Photograph

3.

Log Characteristics

- Presence of Dry Weather Flow
- Signs of Illicit Discharge - Smell, Color, Oily Sheen, Debris

4.

Sampling

- Only to help identify and/or locate the source
- If necessary, call Lab for guidance



IDD&E Reporting Process: Identified Source & Contaminate

1.

Investigate & Verify Complaint

2.

If verified, can the pollutant or source be identified?

3.

If identified, sampling is not necessary

4.

Follow enforcement procedures in Stormwater Ordinance until Illicit Discharge is eliminated.

5.

Coordinate with Municipal Engineer, as needed

6.

Consult with DEP Water Specialists, as necessary



IDD&E Reporting Process: Unknown Source & Contaminate

1.

Verified complaint with unknown source and/or contaminates

2.

Coordinate with lab of choice to collect appropriate samples

3.

Conduct one or more of the following to identify source of contaminate:

- Drainage Area Investigation
- Trunk Line Investigation
- On-site discharge investigation
- Septic System Investigations

4.

Once Identified, follow enforcement process



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Preventing and Eliminating



Residential Behaviors that Generate Illicit Discharges:

1.

Deferred Maintenance on Septic System

2.

Vehicle Fluid Changing

3.

Lawn Care Maintenance

4.

Car Washing

5.

Household Hazardous Wastes

Residential Prevention Programs



1.

Mandatory Inspection for On-Lot Disposal Systems

2.

Provide residents with vehicle fluid disposal options

3.

Storm drain stenciling

4.

Educational Campaign around safe car washing products

5.

Household Hazardous Wastes storage and disposal programs

Non-Residential Generating Sites

Table 27: Common Discharges Produced at Generating Sites

Generating Site	Activity Generating the Discharge
Vehicle Operations (Maintenance, Repair, Fueling, Washing, Storage)	<ul style="list-style-type: none">• Improper disposal of fluids down shop and storm drains• Spilled fuel, leaks and drips from wrecked vehicles• Hosing of outdoor work areas• Wash water from cleaning• Spills
Outdoor Materials (Loading/unloading, Outdoor storage)	<ul style="list-style-type: none">• Liquid spills at loading areas• Hosing/washing of loading areas into shop or storm drains• Leaks and spills of liquids stored outside
Waste Management (Spill prevention and response, Dumpster management)	<ul style="list-style-type: none">• Spills and leaks of liquids• Dumping into storm drains• Leaking dumpsters
Physical Plant Maintenance (Building Repair, Remodeling and maintenance, Parking lot maintenance)	<ul style="list-style-type: none">• Discharges from power washing and steam cleaning• Rinse water and wash water discharges during cleanup• Runoff from degreasing and re-surfacing
Turf and Landscaping (Turf Management Landscaping/Grounds care)	<ul style="list-style-type: none">• Non-target irrigation• Improper rinsing of fertilizer/pesticide applicators
Unique Hotspot Operations (Pools, Golf Courses, Marinas, Construction, Restaurants, Hobby farms)	<ul style="list-style-type: none">• Discharge of chlorinated water from pools• Dumping of sewage and grease



Non-Residential Prevention Programs

1.

Business Outreach and Education

2.

Spill Prevention and Response Planning

3.

Employee Training

4.

Site Inspections



Questions?

Contact Information:

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Helpful Links

PAG-13

Illicit Discharge Detection
& Elimination Manual

Illicit Discharge Complaint
Form

