

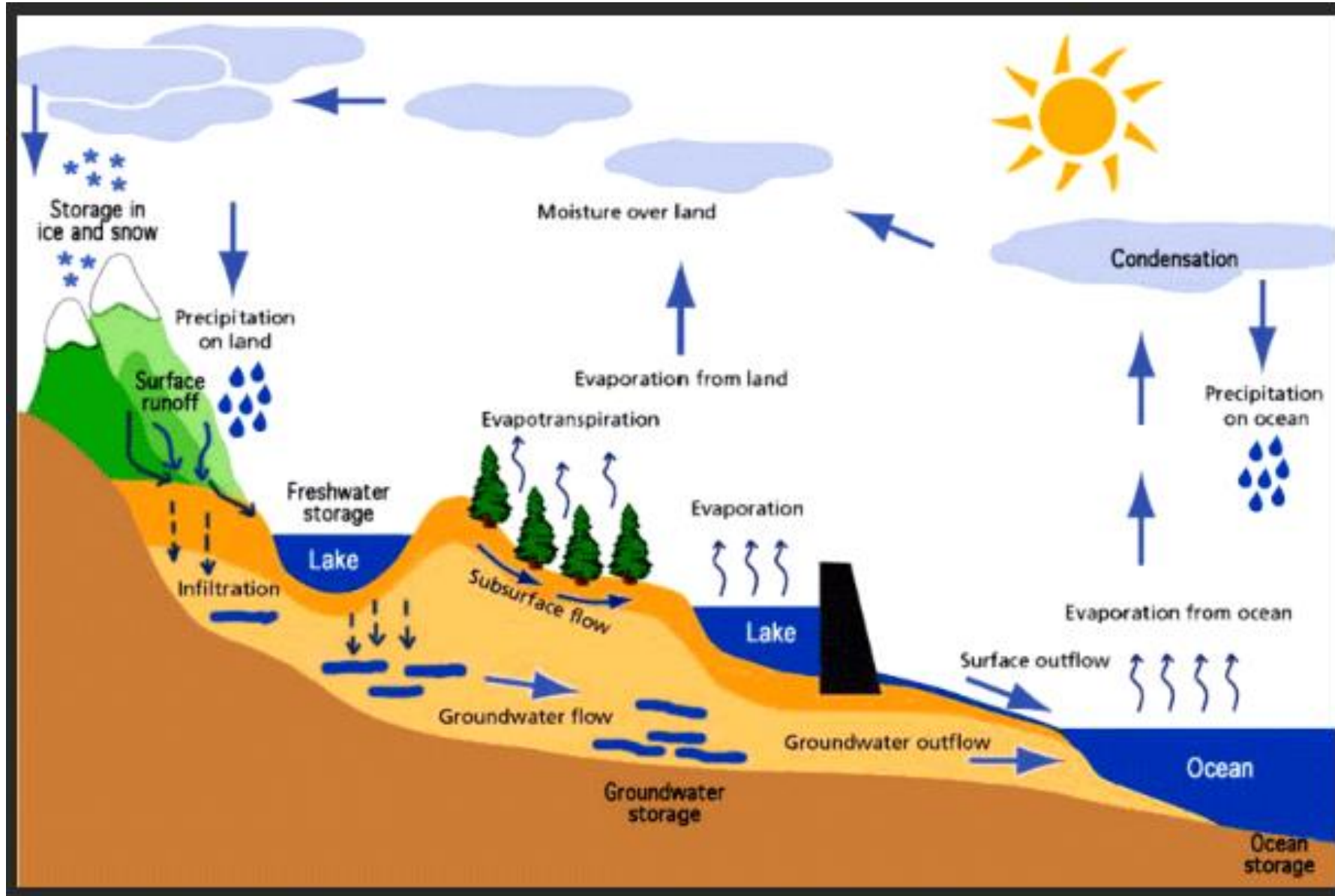
**IDDE/HOUSEKEEPING TRAINING
PRESENTATION**

TOWN OF CARMEL NEW YORK

TRAINING OBJECTIVES

- **Introduction to Stormwater Overview**
- **Town of Carmel MS4 Permit Program**
- **Illicit Discharge Detection and Elimination (IDDE)**
- **Good Housekeeping/Pollution Prevention**
- **Questions for Further Discussion**

HYDROLOGIC CYCLE



THE PROBLEM



REGULATORY OVERVIEW

ORIGIN OF THE STORMWATER REGULATIONS: CLEAN WATER ACT (CWA) HISTORY

Key Dates

- 1948 Water Pollution Control Act
- 1956 Federal Water Pollution Control Act
- 1965 Water Quality Act
- 1972 Federal Water Pollution Control Act Amendments
- 1977 Amendments
- 1987 Water Quality Act



CWA

GOALS

SEC. 101. (a) The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this Act—

- 1** it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;
- 2** it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;
- 3** it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;
- 4, 5, 6, 7 Paraphrased:** National policies for financial assistance to construct POTWs, development of area/state management and planning processes, research to develop pollution control technology, and development of programs to address nonpoint sources.

THE PROBLEM



As a result of the 1969
Cuyahoga River Fire

- The goal of the **Clean Water Act (CWA)** was to reduce pollution in all U.S. waters to "restore and maintain the chemical, physical, and biological integrity of our nation's waters." The law called for interim goals of the Clean Water Act were to achieve "**fishable and swimmable**" waters by 1983 and "**zero discharge of pollutants** into navigable waters by 1985."

EXAMPLES OF POLLUTION IN STORMWATER

- Nutrients such as phosphorus and nitrogen
- Bacteria from animal wastes and illicit connections to sewerage systems
- Oil and grease from automobiles causes sheen and odor
- Sediment from construction activities
- Careless application of pesticides, herbicides and fertilizers
- Litter
- Excessive metals such as copper, zinc, and aluminium
- Organics cause depletion in oxygen

STORMWATER POLLUTION



WHAT TO DO FOR MUNICIPALITIES? - MS4 PROGRAM

M – Municipal

S – Separate

S – Storm

S – Sewer

S – System

MS4 PROGRAMS

- **Phase I Rule (1991): Medium (100,000 – 250,000) and Large MS4s (> = 250,000)**
- **Phase II Rule (1999): Small MS4s (< 100,000) – Town of Carmel, NY**

MS4 PROGRAM GOAL: REDUCTION TO THE MAXIMUM EXTENT PRACTICABLE (MEP)

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) GENERAL MS4 DISCHARGE PERMIT



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

Permit No. GP-0-15-003

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: May 1, 2015


Expiration Date: April 30, 2017

Modification Dates

July 15, 2015 - Correction of Table IX.C and Appendix 2 to reflect GP-0-10-002 October 2011 Modification

January 13, 2016 - Additional reporting for covered entities in the watersheds listed in Part IX

Stu Fox
Deputy Chief Permit Administrator


Authorized Signature _____ Date 1 / 12 / 16

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-17

- SPDES Permit Number: GP-0-15-003
- Effective Date: May 1, 2015
- Expiration Date: April 30, 2017
- Replaces and Updates GP-0-10-002

SPDES GENERAL PERMIT - ALLOWABLE NON-STORMWATER DISCHARGES



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT
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- Water Line Flushing
- Landscape Irrigation
- Diverted Stream Flows
- Rising Ground waters
- Uncontaminated Ground water/Groundwater Infiltration
- Potable Water Sources
- Air Conditioning Condensate
- Irrigation Water and Springs
- Crawl Space and Basement Sump Pumps Water, and Footing Drains
- Lawn/Landscape Watering Runoff

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- Individual Residential Car Washing Waters
- Riparian Habitats and Wetlands Flows
- Dechlorinated Swimming Pool Discharges
- Dechlorinated Reservoir Water Discharges
- Residual Street Wash Water
- Firefighting Activities
- Any SPDES Permitted Discharge

TOWN OF CARMEL STORMWATER MANAGEMENT PLAN



Town of Carmel

Stormwater Management Plan

NYSDEC Stormwater Permit: NYR20A294

Town of Carmel Engineering Department

60 McAlpin Avenue

Mahopac, NY 10541

Revised March 2019

CARMEL SPDES MS4 PERMIT NUMBER: NYR20A294

MINIMUM CONTROL MEASURES

1. Public Education & Outreach
2. Public Involvement & Participation
- 3. Illicit Discharge Detection and Elimination (IDDE)**
4. Construction Site Runoff Control
5. New & Redevelopment (Post Construction)
- 6. Good Housekeeping and Pollution Prevention**

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)



IDDE EXAMPLES

Any substance entering storm drain system not entirely composed of stormwater.

- – Illegal Floor Drain Connections
- – Broken Sanitary Sewer Lines
- – Sanitary Cross-Connections
- – Sanitary Sewer Overflows
- – Car Washwater
- – Grass Clippings, Pet Waste, or Other Material Dumped into Catch Basins

IDDE TYPES

- Continuous
 - Cross connected sewer
- Intermittent
 - Cross connected residential laundry
- Transitory
 - dumping



STORMWATER MANAGEMENT PLAN – IDDE ELEMENTS



Town of Carmel

Stormwater Management Plan

NYSDEC Stormwater Permit: NYR20A294

MS4 Mapping (75% of the Outfalls to Date)

1. Location of Outfalls, Receiving Waters, and Structural BMPS
2. Attributes including Tributary Conveyances, Associated Drainage Areas, Land Use
3. Data Dictionary to Facilitate Proactive Maintenance

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STORMWATER MANAGEMENT PLAN – IDDE ELEMENTS



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IDDE Program Implementation Procedures/Activities

1. Locating Priority Areas
2. Field Assessment Activities
3. Characterization of Potential Environmental Threat
4. Source Tracing
5. Source Discharge Removal

STORMWATER MANAGEMENT PLAN – IDDE ELEMENTS



Town of Carmel

Stormwater Management Plan

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Informing the Public

Annual Program Evaluation

Staff Training

IDDE DETECTION ELEMENTS - EXAMPLE PROGRAM PROTOCOL

1. Inventory and Rank Outfalls

3. Re-rank Outfalls

5. Map & Investigate Catchments

7. Followup Screening

2. Dry Weather Screening

4. Conduct Investigation

6. Remove Illicits

8. System Fully Investigated



IDDE ELEMENTS – EXAMPLE PRIORITY RANKING CRITERIA

- Past Discharge Complaints/Reports
- Poor Receiving Water Quality (Impairment/TMDL)
- Density of Generating Sites
- Age of Development and Infrastructure
- Sewer Conversion
- Historically Combined Systems
- Surrounding Density of Aging Septic Systems
- Culverted Streams Longer Than a Simple Road Crossing

IDDE ELEMENTS – EXAMPLE OUTFALL/CATCHMENT RANKING

Ranking grouped into the following categories:

- **Problem:** Known or suspected illicit discharges based on existing info
- **High Priority:** Discharging to an area of concern or previous evidence of an illicit discharge
- **Low Priority:** Lack of screening or system vulnerability factors
- **Excluded:** No potential for illicit discharges

IDDE ELEMENTS – EXAMPLE DRY WEATHER OUTFALL INSPECTION/SAMPLING

Basic Information

- Unique identifier
- Receiving water
- Date of most recent inspection
- Dimensions
- Shape
- Material (concrete, PVC)
- Spatial location (latitude & longitude with a minimum accuracy of +/-30 feet)
- Physical condition

Evidence of Non-Stormwater Flows

- Odor: sewage, sulfur, sour, rancid, petroleum/gas smells
- Visual: color, turbidity (cloudy water), floatables (suds, toilet paper), or oil sheen

IDDE ELEMENTS – EXAMPLE DRY-WEATHER CONSIDERATIONS

One Week Prior to Screening

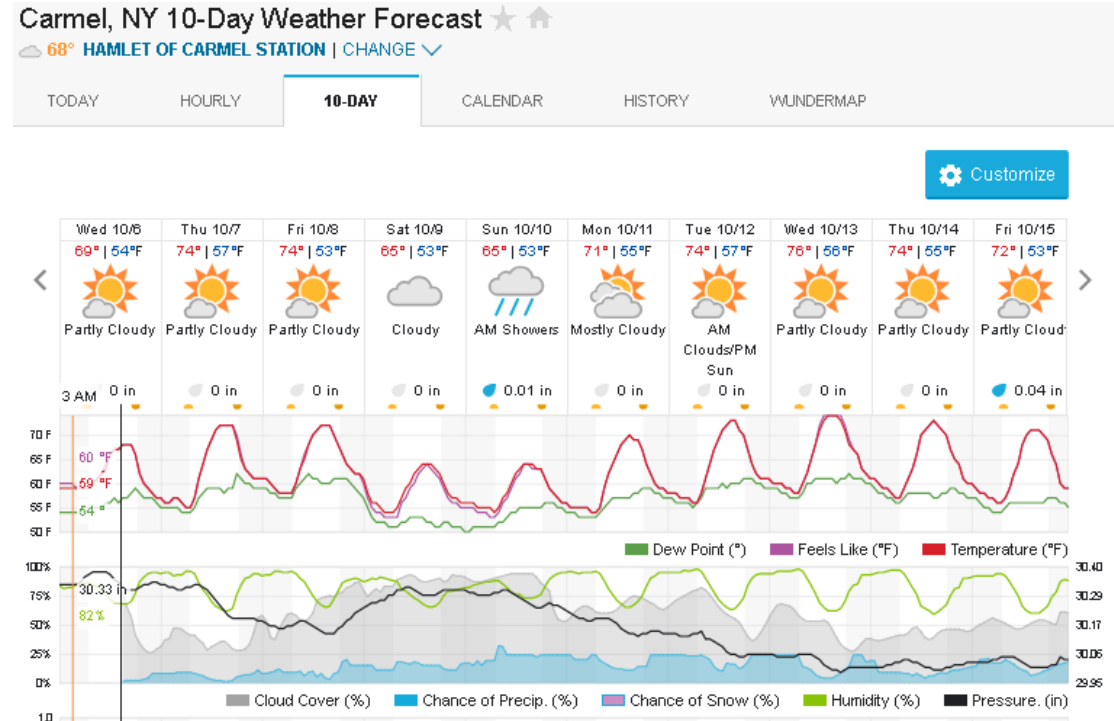
1. Look at Extended Forecast

<https://www.wunderground.com>

2. Put in “Carmel, NY”

3. Review “10-Day Weather Forecast to Schedule Dry-Weather Event

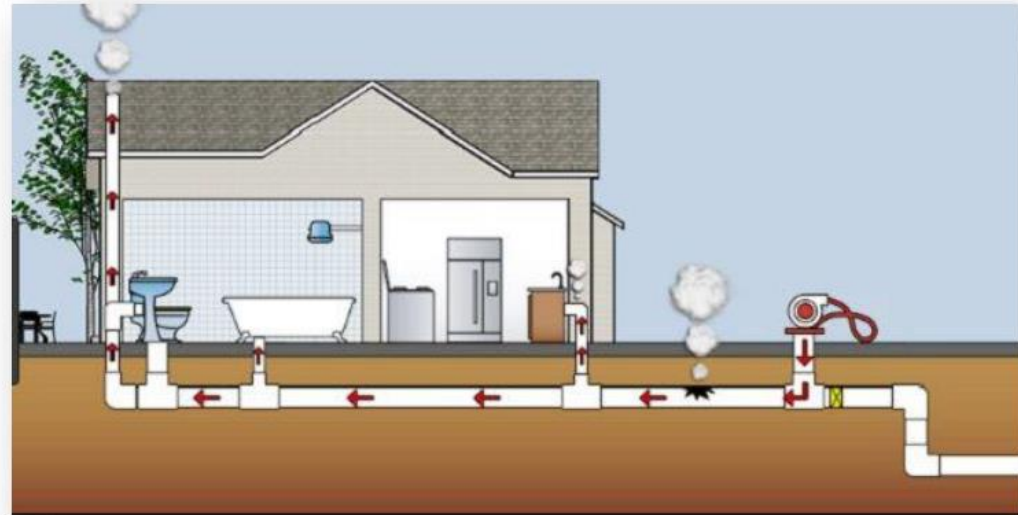
4. Document Procedures and Results



IDDE ELEMENTS – EXAMPLE SOURCE IDENTIFICATION



IDDE ELEMENTS – EXAMPLE SOURCE IDENTIFICATION



IDDE ELEMENTS – EXAMPLE SOURCE IDENTIFICATION

1. Identify and Remove Illicit Discharge
2. Work With Property Owner and/or Use By-Law Enforcement
3. Follow-up Inspection/Sampling



POLLUTION PREVENTION/GOOD HOUSEKEEPING (PP/GH)



STORMWATER MANAGEMENT PLAN – PP/GH POLICIES/PROCEDURES



Town of Carmel

Stormwater Management Plan

NYSDEC Stormwater Permit: NYR20A294

For Municipal Operations, the policies and procedures address:

- a. Application of Fertilizer, Pesticides and Herbicides
- b. Sediment and Erosion Control
- c. Landscape Maintenance and Vegetation Disposal
- d. Trash Management

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STORMWATER MANAGEMENT PLAN – PP/GH POLICIES/PROCEDURES



Town of Carmel

Stormwater Management Plant

NYSDEC Stormwater Permit: NYR20A294

Annual Inspections

Heavy Post-Storm Inspections

Annual Catch Basin Inspections

Reduction of Stormwater Impacts Activities

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STORMWATER MANAGEMENT PLAN – PP/GH POLICIES/PROCEDURES



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Reduction of Stormwater Impacts Activities

- a. Pipe Cleaning
- b. Cleaning of Culverts that Convey Stormwater to Ditches
- c. Maintenance of Ditches
- d. Street Cleaning
- e. Road Repair and Resurfacing
- f. Snow and Ice Control
- g. Maintenance of Roadside Vegetation
- h. Dust Control

PP/GH ELEMENTS – EXAMPLE PP/GH ACTIVITIES

Create an Inventory of Municipal Operations

Develop SOPs for Specific Activities

Develop Good Housekeeping Manual

Implement a Staff Training Program

PP/GH ELEMENTS – EXAMPLE INVENTORY

- Streets, Roads, Highways, and Parking Lots
- Maintenance and Storage Yards
- Waste Transfer Stations
- Parks
- Fleet or Maintenance Shops
- Wastewater Treatment Plants
- Stormwater Conveyances (open and closed)
- Riparian Buffers
- Stormwater Storage or Treatment Units (e.g., basins, constructed wetlands, etc.).



PP/GH ELEMENTS – EXAMPLE INVENTORY: ACTIVITIES

- Inlet/Outlet Cleaning
- Lawn/Grounds Care
- Storm System Maintenance, Inspection, and Repair
- Park and Open Space Maintenance
- Municipal Building Maintenance
- New Construction and Land Disturbances
- Right of Way Maintenance
- Vehicle Maintenance, Operation, Fueling, and Washing
- Material Transfer Operations, including Leaf/Yard Debris
- Pickup and Disposal Procedures



PP/GH ELEMENTS – EXAMPLE GOOD HOUSEKEEPING SOPs

- Vehicle Fueling
- Vehicle Maintenance
- Vehicle Washing
- Winter Road Management



QUESTIONS FOR FURTHER DISCUSSION



QUESTIONS FOR FURTHER DISCUSSION

- What are the available Town of Carmel tools available to locate/evaluate outfalls during dry-weather events?
- What is the best way to perform and document inspections?
- What is the process for notifying Town of Carmel supervisors regarding a potential illicit discharge?
- What are the steps involved in evaluating and correcting an illicit discharge?
- What tools are available to assist in conducting stormwater facilities and catch basins?
- What SOPs are available for Good Housekeeping practices?