NPDES MS4 & IDDE Training for Boxford DPW and Staff

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Town Hall

Topics to Discuss Today

- What is stormwater and why does it matter?
- What is NPDES, MS4, & IDDE?
- Tips on managing IDDE
- Good Housekeeping and Best Management Practices at Town Facilities and work sites

What is Stormwater & Why Does it Matter?

- Stormwater is the runoff generated from rain or snow/sleet melt that eventually drains into the Town's system or MS4 and ultimately ends up as a point source or non-point source discharge.
- The importance of managing stormwater is that it is the leading cause of pollution to our rivers, lakes and streams today. As runoff carries with it any pollutants such as oil, fertilizers, bacteria, trash, etc. it all eventually sets into those water bodies.

So What?! Why am I here?

- Boxford's drainage system is regulated by the Environmental Protection Agency (EPA) under the NPDES- Phase II MS4 Permit Program of the Clean Water Act
- Part of that permit requires Annual employee training to maintain compliance with the MS4 permit

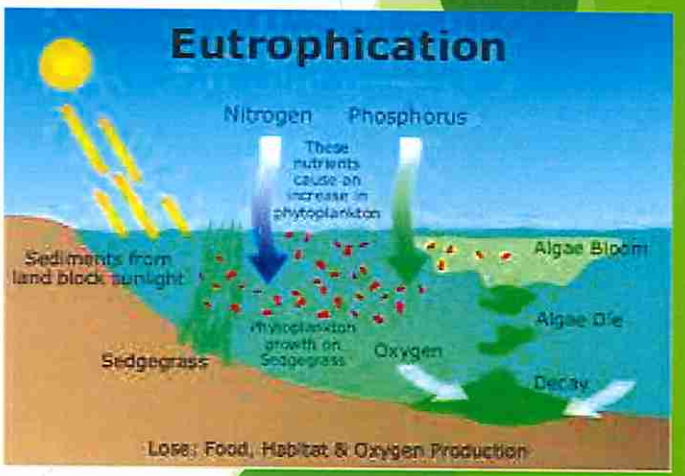
What is NPDES and MS4?

- National Pollutant Discharge Elimination System
  - Established by Clean Water Act of 1972 that prohibits discharging "pollutants" through a "point source" into water of the U.S. unless you have a NPDES permit to do so.

- A Municipal Separate Storm Sewer System
  - Roads with Drainage
  - Town streets
  - CBs
  - Curbs
  - Gutters
  - Ditches or Swales

Why do I care about MS4?

- Its OUR job to manage our MS4 system
- Pollution to our Natural Resources
  - Create toxic drinking water
  - Ruins recreational uses of waterbodies
  - Growth of algae and bacteria
  - Eutrophication
  - Kills fish and other aquatic life to disrupt ecosystems



MS4 Requirements

- Boxford must manage stormwater to reduce the discharge of pollutants from our MS4 through six minimum control measures:
  - Public Education & Outreach
  - Public Involvement and Participation
  - **Illicit Discharge Detection and Elimination**
  - Construction Site Stormwater Runoff Control
  - Post Construction Stormwater Management
  - Municipal Pollution Prevention and Good Housekeeping

What is an Illicit Discharge?

Any Discharge, either direct or indirect, to a MS4 system that is not comprised of stormwater:

Indirect Discharges:

- Spills and dumping
- Infiltration of Septic Gray Water
- Construction/Post Construction runoff issues
- Litter
- Grass clippings

Direct Discharges:

- Non-stormwater conduits/pipes connected to the MS4
- Slop sink tied into sump pit
- Floor drains
- Septic system line daylighting

But what about all those other things? Answer: Exemptions!

- Irrigation
- Diverted streams
- Rising groundwater
- Pumped groundwater
- Foundation Drains
- Air conditioning condensation
- Residential Car Washing
- Street wash/sweeping water
- & More

Common Illicit Discharges

- Industrial Waste
- Sewage/Septic Systems
- Hazardous Waste
- Automotive Fluids
- Paint /Mineral Spirits/Thinner
- Soap and Surfactants
- Grease and Oils

How to Identify a possible Illicit Discharge?

- Foam or suds (Surfactants)
- Oil Sheen
- Highly discolored water
- Odors
- Anything that looks completely out of place should be investigated

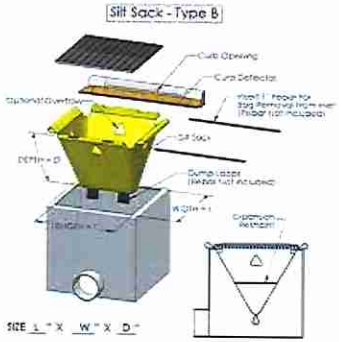
What do we do when we find one?

- Assess safety!
- Call Dave, Eric, or me. Don't do anything on your own.
- We will collectively decide on a course of action.
- Always document for future reference. (i.e. notes and pics)

Stormwater Mapping

- GIS mapping of the town's drainage system is part of the IDDE program and NPDES permit
- A portion of the town's system has been mapped; but it still needs to be updated
- Training in early October on Mobile APP that will help document and help with compliance

Good Housekeeping Techniques



- Construction and work sites
  - Sediment and Erosion Control
  - Silt sacks in CBs
- Paving Operations
  - No Diesel fuel down the CBs!
  - Remove excess debris and Hot Mix
- Mowing and Turf Maintenance
  - Use only what we need for nutrients
  - Bag or remove clippings from impervious surfaces

Proper Erosion Control BMPs

Construction Exit

A stone pad located where traffic leaves a construction site to eliminate the transport of soil to public streets.

A

Excellent stone coverage.
No mud tracking onto roadway.

C

Fair stone coverage.
Some mud tracking onto roadway.

F

Very poor stone coverage.
Significant mud tracking and flowing onto roadway.

Sediment Barrier

Silt fence or straw bales used to slow runoff velocity. The barriers cause sediment deposition at the structure, and filters sediment from runoff.

A

Excellent silt fence installation.

C

Silt fence adequate; but NEVER stack silt fences.

F

Complete barrier failure.
Significant quantities of sediment passing this barrier.

Rock Filter Dam

Stone filter dam installed across small streams to reduce water velocity and filter sediment at the structure.

A

Excellent application with two filter dams.
Look for signs of structure working such as sediment trail.

C

Good application, but height inadequate.

F

Poor application. Virtually unmaintainable without significant disturbance.
Removal of feature at completion very difficult.

Any Questions?