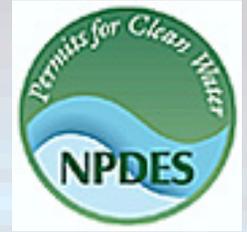


# City of Cambridge Stormwater Management Program



Phase II NPDES  
Stormwater Management Program  
Public Meeting  
March 27, 2008

# Brief Overview



- **National Pollutant Discharge Elimination System (NPDES) permit program authorized by the Clean Water Act (CWA)**
  - **1972: first round of NPDES permits**
    - Regulate point discharges from municipal, industrial, and other facilities that discharge directly into surface waters
  - **1990: Phase I NPDES Stormwater Management Program**
    - Stormwater discharges from medium and large municipal separate storm drainage systems with populations greater than 100,000 people
  - **1999: Phase II NPDES Stormwater Management Program**
    - Stormwater discharges from small municipal separate storm drainage systems with populations of at least 50,000 and density of 1,000 people per square mile
      - Cambridge is Phase II Community

# Program Objective

Reduce discharges of pollutants from a regulated stormwater system (MS4) to the *maximum extent practicable*, to protect water quality.



Runoff Discharges  
to Nearby Waters



# What does this mean for Cambridge?

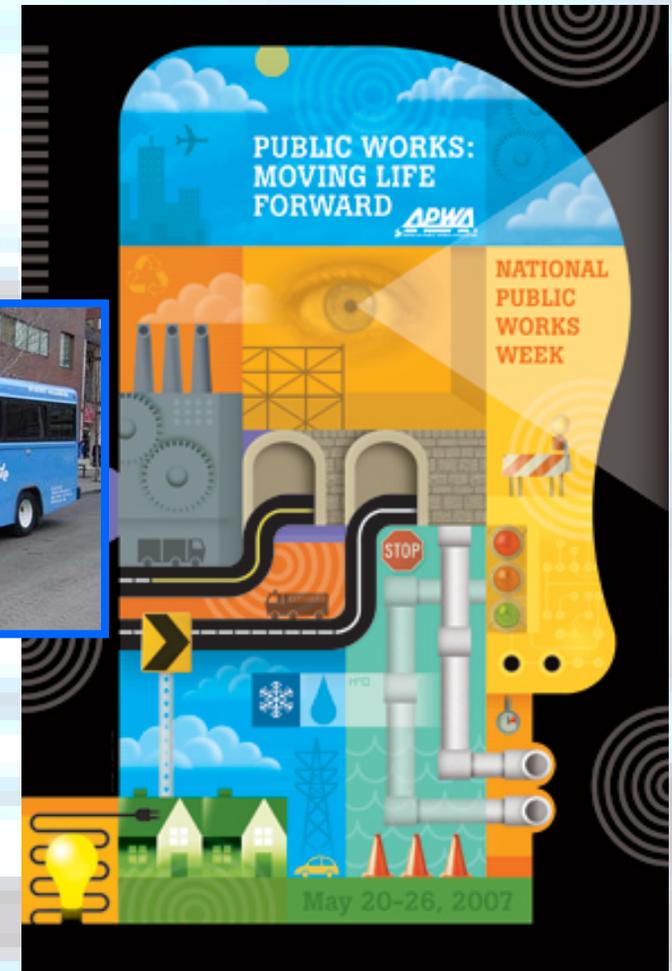
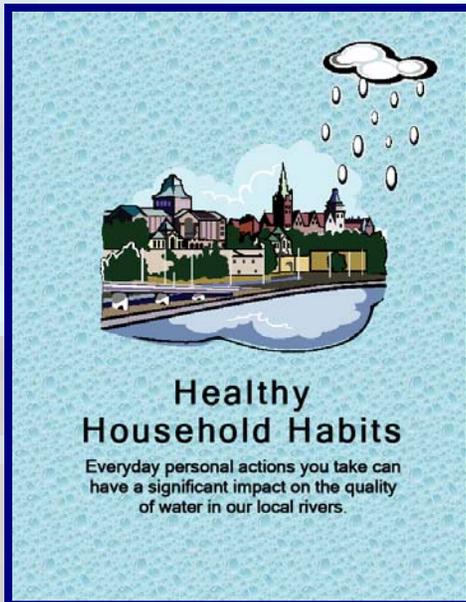
- Phase II community
- NOI submitted July 2003
- Currently completing Year 5
- New 5-year permit not yet available

# Stormwater Management Program

- Address 6 Minimum Control Measures
  1. Public education/outreach
  2. Public involvement/participation
  3. Illicit discharge detection/elimination
  4. Post-construction stormwater management
  5. Construction Site stormwater runoff control
  6. Pollution prevention/good housekeeping for municipal operations
- Develop and implement Best Management Practices to address each program area

# #1. Public Education & Outreach

Conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater



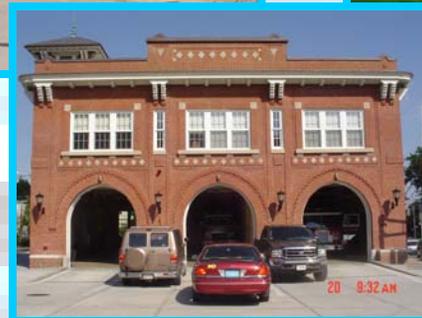
## #2. Public Participation & Involvement

Provide opportunities for the public to participate in stormwater program



# #6. Pollution Prevention & Good Housekeeping for Municipal Operations

Develop an Operations & Maintenance program to prevent or reduce pollutant runoff from municipal operations



# #3. Illicit Discharge Detection & Elimination

Prohibit, identify and remove illicit connections and discharges

**Must prohibit through an ordinance or regulatory mechanism non-stormwater discharges into the stormwater system and implement appropriate enforcement procedures and actions**



# #4. Construction Site Runoff Control

Reduce pollutants from construction sites that disturb  $\geq 1$  acre

**Develop an ordinance or other regulatory mechanism to require sediment and erosion controls at construction sites, develop sanctions to ensure compliance, develop procedures for inspection and enforcement**



# #5. Post Construction Stormwater Management

Address runoff from new and redevelopment projects that disturb  $\geq 1$  acre through the use of BMPs

**Develop an ordinance/regulatory mechanism and procedures to ensure long-term Operation and maintenance of BMPs and ensure BMPs will prevent or minimize impacts to water quality**



# Amended Sewer Use Regulations

## CMC Chapter 13.16

- Revised Chapter 13.16 – Wastewater and Stormwater Drainage System (January 28, 2008)
- Expands chapter sections to include stormwater drainage system where necessary
- Provides the Commissioner of Public Works with the authority to regulate public and private sanitary sewers, combined sewers and stormwater drainage systems
- The Commissioner shall also promulgate regulations and guidance documents regulating such activities
- Increases violations to reflect current allowable fines under state law (\$20 - \$5,000)

# New Regulations and Guidance

- Draft Wastewater and Stormwater Drainage Use Regulations
- Draft Land Disturbance Regulations
- Draft Guidance Documents



# Wastewater and Stormwater Drainage Use Regulations (Draft)

- Serves as rule book on enforcement of illicit connections
- Addresses design, discharge/connection requirements and prohibitions for all infrastructure types in Cambridge
  - Sanitary Sewers
  - Combined Sewers
  - Stormwater Drainage
  - Combined Sewer Overflows
- Reinforces authority to inspect discharges to public systems
- Establishes enforcement actions and penalties for violations



# Land Disturbance Regulations (Draft)

- Applies to projects where pollution potential is greatest
  - Disturbs one or more acres of land
  - Exceeds fifty thousand square feet of gross floor area
  - Have a project parcel(s) equal to or greater than one acre in size
  - Includes outdoor parking for ten cars or more
  - Requires a special permit form the planning board
  - As required by the City Engineer when project may have an adverse impact on municipal infrastructure or receiving waters



# Construction/Post Construction requirements for land disturbances:

- Land Disturbance Permit and plan review procedures
- Standards for 3 required plans:
  - Stormwater Management Plan
  - Erosion and Sediment Control Plan (including O&M Plan for temporary BMPs during construction)
  - O&M Plan (for permanent BMPs after construction is completed and site is stabilized)
- Required inspections during construction
- Compliance and Enforcement

# Stormwater Management Plan



- Overall plan to prevent and reduce the release of pollutants from a site.

- **Stormwater Quality Goals:** Post-development stormwater quality must be equivalent to or better than pre-development stormwater quality (leaving the site).

- Treating full water quality volume.
- 80% TSS and 98% trash and floatable removal or stormwater quality as determined by City Engineer.
- Hot spots and critical areas require implementation of specific BMPs.
- Low Impact Development techniques must be evaluated and considered.
- Source controls must be identified and implemented.

- **Stormwater Quantity Goals:** Post-development peak discharge rates must be equivalent to or less than pre-development peak discharge rates (leaving the site).

- Post  $\leq$  Pre for peak discharge.
- Stormwater discharges cannot have a negative impact on adjacent/abutting properties.
- Stormwater must be infiltrated, treated, or stored.



# Erosion & Sediment Control Plan

- Plan for erosion and sediment control measures during construction activities. Plan also includes an Operation and Maintenance Plan for temporary BMPs installed and operated during construction activities
- **Goals**
  - Minimize to the maximum extent practicable sediments or pollutants leaving the site, entering the public right-of-way or being deposited into any water body or the storm drainage system.
  - Ensure that temporary BMPs on site during construction are properly working and maintained, and that inspections and repairs are performed regularly.
  - No visible/measurable sediment or pollutant shall exit the site.
  - Temporary BMPs (silt fence, hay bales, etc.) shall be maintained until permanent BMPs are established.

*Mulch*



*Inlet Protection*



*Stabilized Entrance*



*Silt Fence*



# Operation & Maintenance Plan (for permanent BMPs)

- Plan for long term operation and maintenance of best management practices (BMPs) in place after construction has finished.
- Goals:
  - Ensure that BMPs are properly operated and maintained after construction is finished, including when there is a transfer of ownership.
  - Identify responsible parties for maintenance, inspections, recordkeeping and reporting tasks associated with O&M of BMPs.



# Guidelines

- Emphasis on Low Impact Development BMPs
- References the MA DEP Handbook
- Incorporates Cambridge site conditions

# Next Steps

- Finalize regulations and guidance
- Post information on the web site
- New Permit
  - Address TMDL for bacteria and phosphorus
  - Awaiting guidance from EPA/DEP

Comments/Questions

