

Quinsigamond Community College 2016 MA Small MS4 Permit Overview

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Building better communities with you

Today's Presentation

- What is Stormwater?
- 2016 Small MS4 Permit Program Overview
- QCC Stormwater Management Program

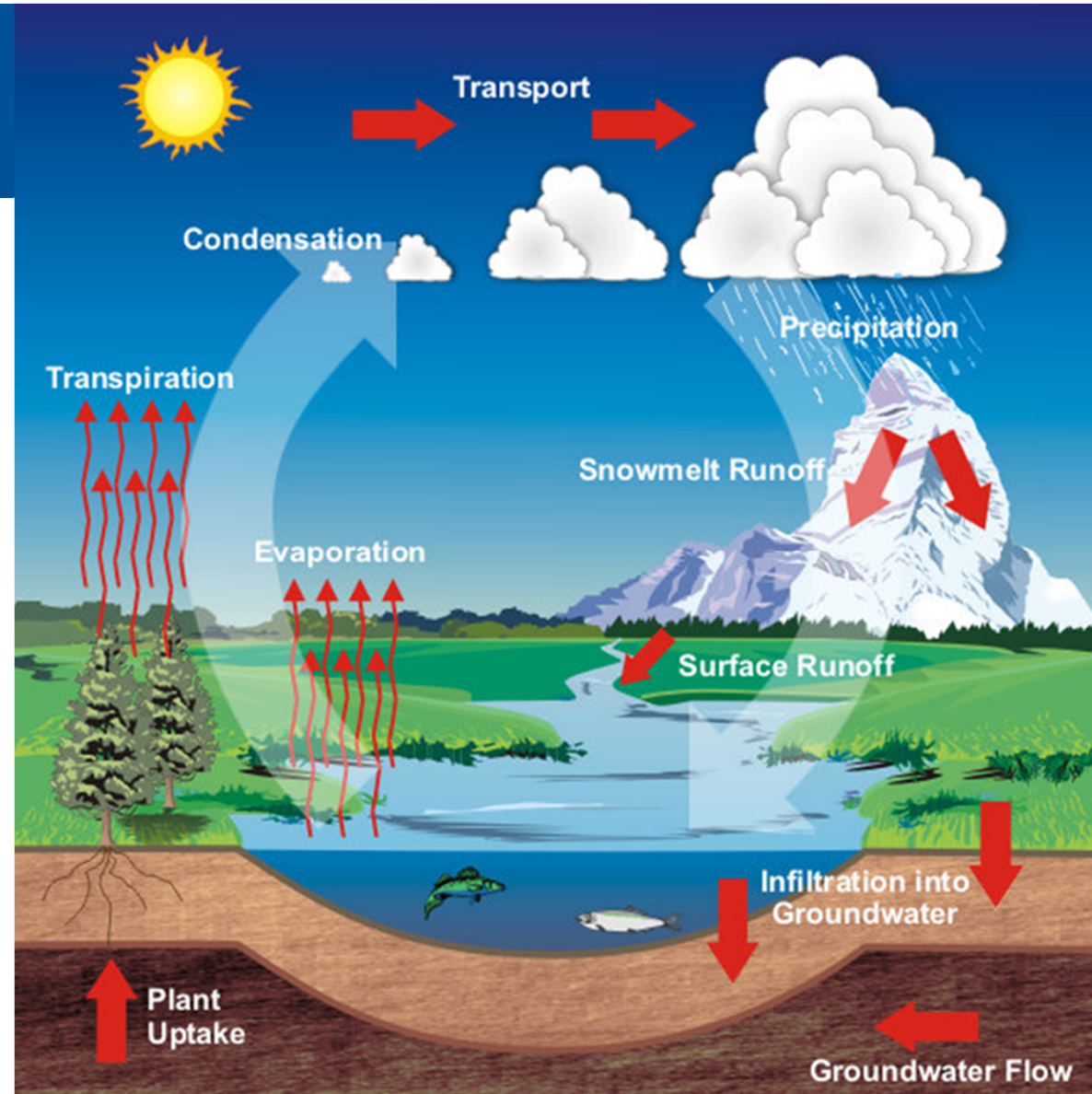


What is Stormwater?



The Water Cycle

**Stormwater =
Surface Runoff**



Water Balance and Development

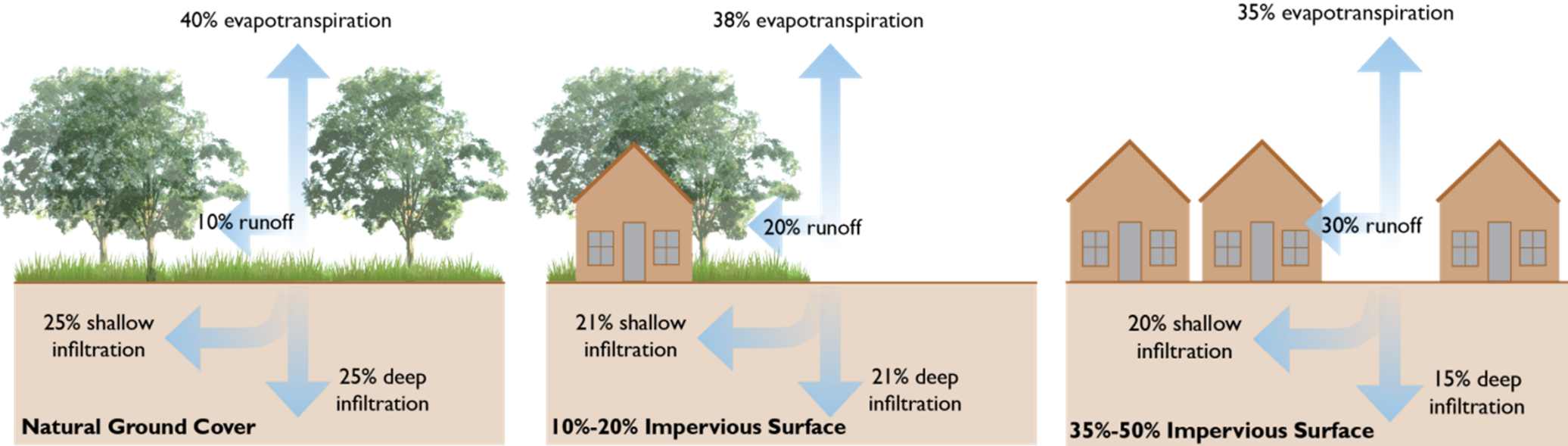
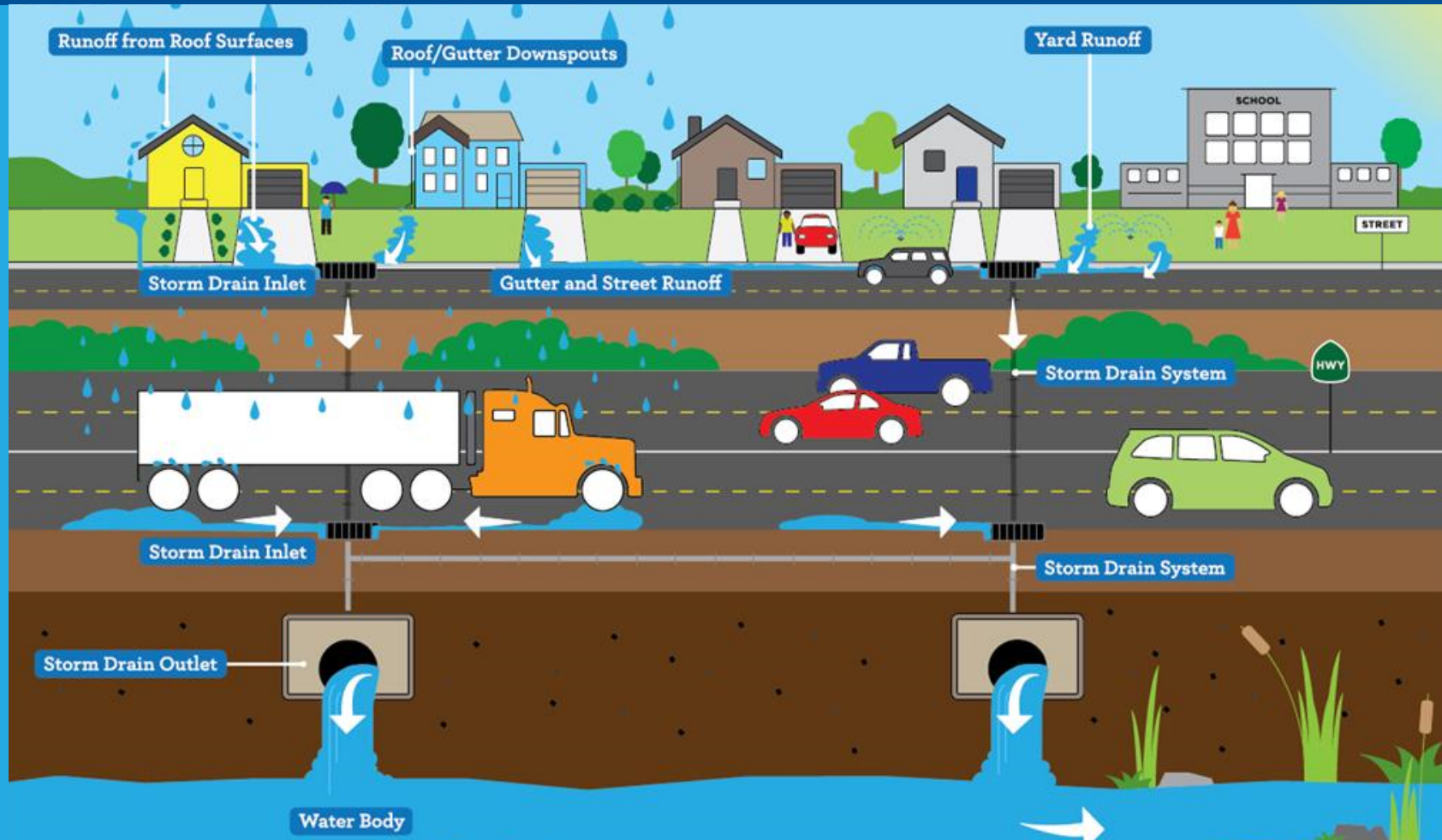


Diagram inspired by a graphic produced by the Federal Interagency Stream Restoration Working Group (FISRWG)

Stormwater Runoff



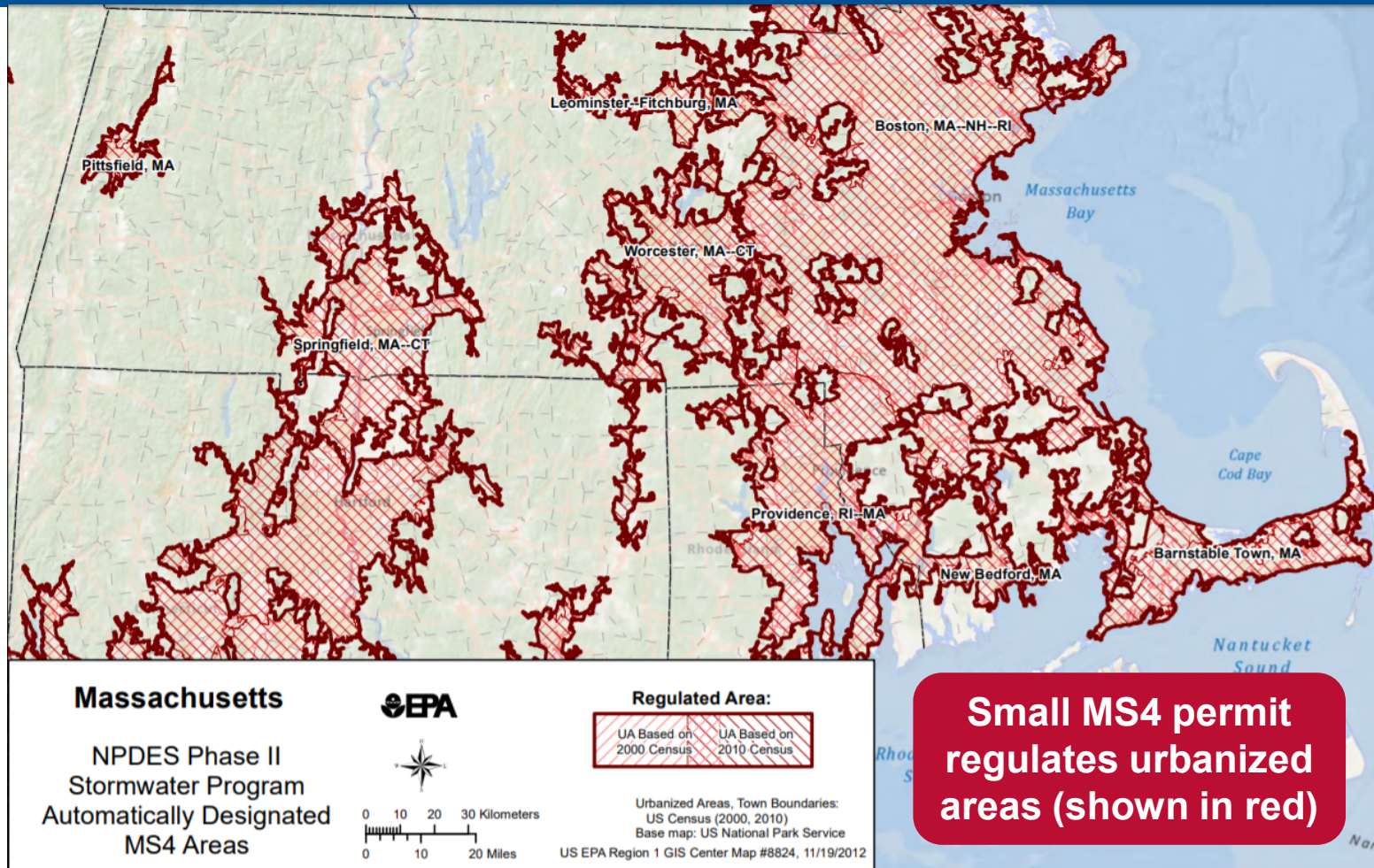
2016 MA Small MS4 Permit Program Overview



What is an MS4?

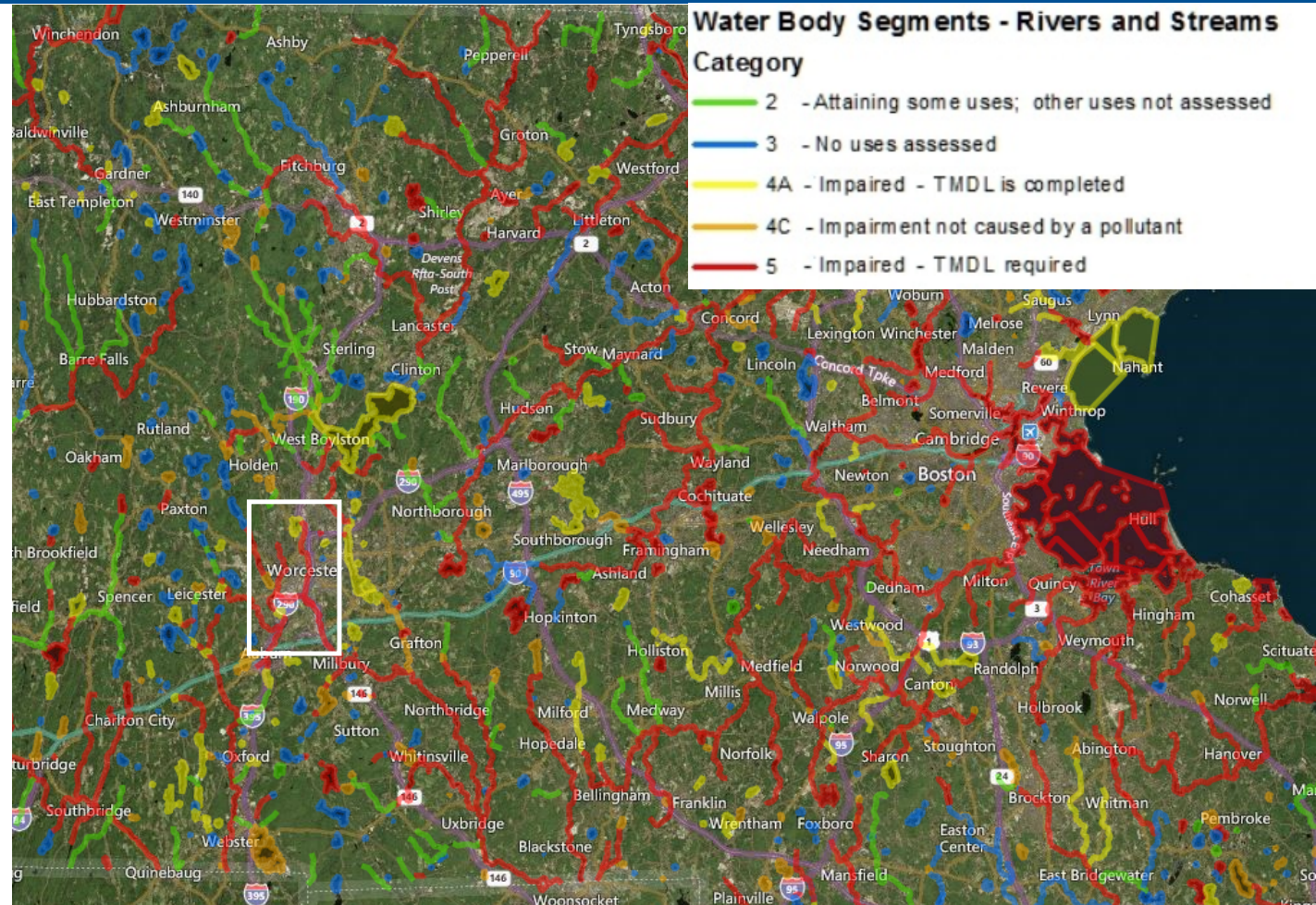
**MS4 =
Municipal
Separate
Storm
Sewer
System**

**An MS4 is a
system of
stormwater
conveyances that
discharges to
waters of the
United States.**



Why is an MS4 permit needed?

Even with the progress over the last 30 years, stormwater discharges are causing or contributing to at least 55% of the impairments in MA.



QCC isn't a municipality...

Why does it need a permit?

Non-Traditional MS4:

Any state facility in an urban area with a separate stormwater system

- Public Colleges
- State Hospitals
- Prisons
- State Parks
- Airports
- Highway Facilities
- **QUINSIGAMOND
COMMUNITY COLLEGE**



Regional Watershed Context



Impaired Waters

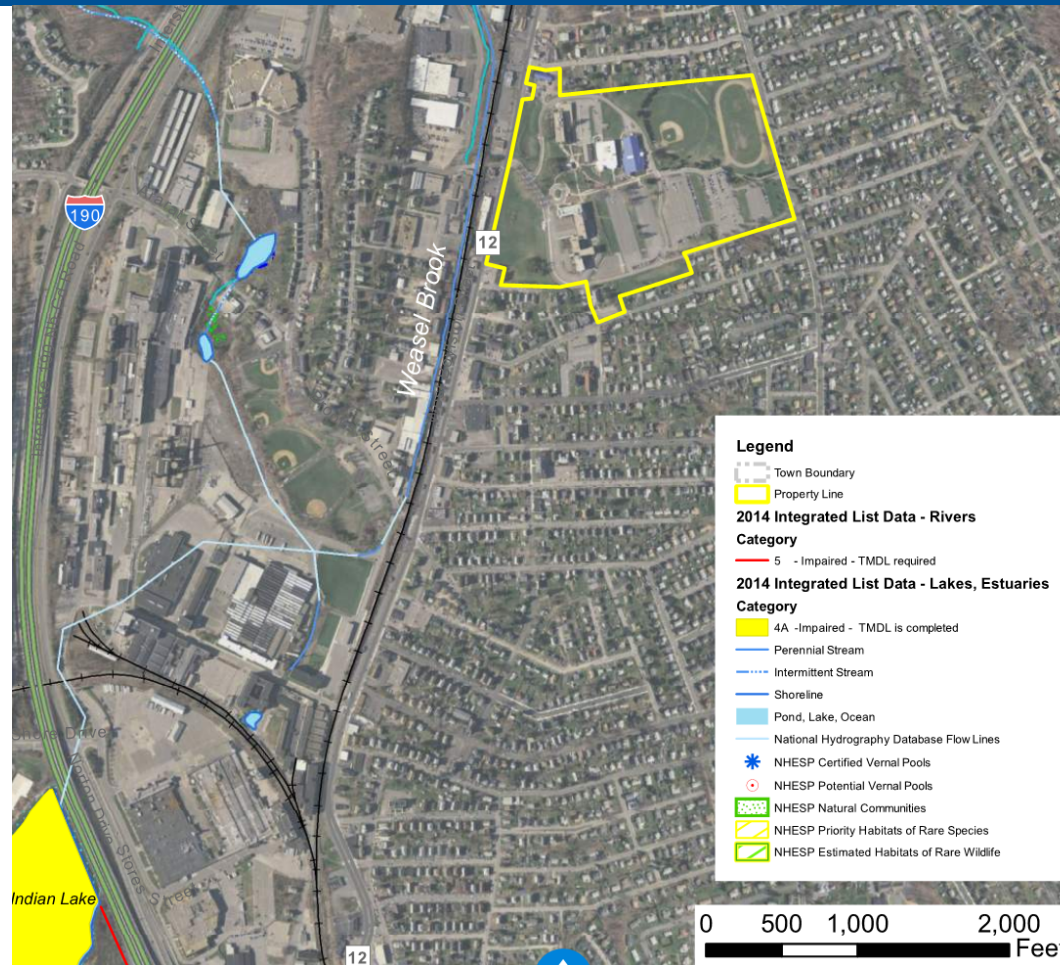
INDIAN LAKE

MILL BROOK

BLACKSTONE RIVER



Impaired Waters



Six Minimum Control Measures

The MS4 Permit requires Permittees to meet specific requirements under the six minimum control measures:

- 1** Public Education and Outreach
- 2** Public Participation
- 3** Illicit Discharge Detection and Elimination
- 4** Management of Construction Site Runoff
- 5** Management of Post-Construction Site Runoff
- 6** Good Housekeeping in Municipal Operations

Public Education and Outreach

Provide educational material about stormwater to four audiences:

Residents

Industry

Commercial

Construction



Provide the targeted audience information about stormwater and how their actions may impact it

2 messages for each audience during the five year permit term



<https://www.mass.gov/guides/stormwater-outreach-materials-to-help-towns-comply-with-the-ms4-permit>

2 Public Participation

Permittees are required to at least annually **provide an opportunity for the public to participate in the development/ implementation of their Stormwater Management Program (SWMP).**

Notices must comply with state public notice requirements.



3 Illicit Discharge Detection and Elimination

Illicit Discharge = Any discharge to an MS4 that is not comprised entirely of stormwater is an illicit discharge (ID).

IDs can be caused by a variety of sources:

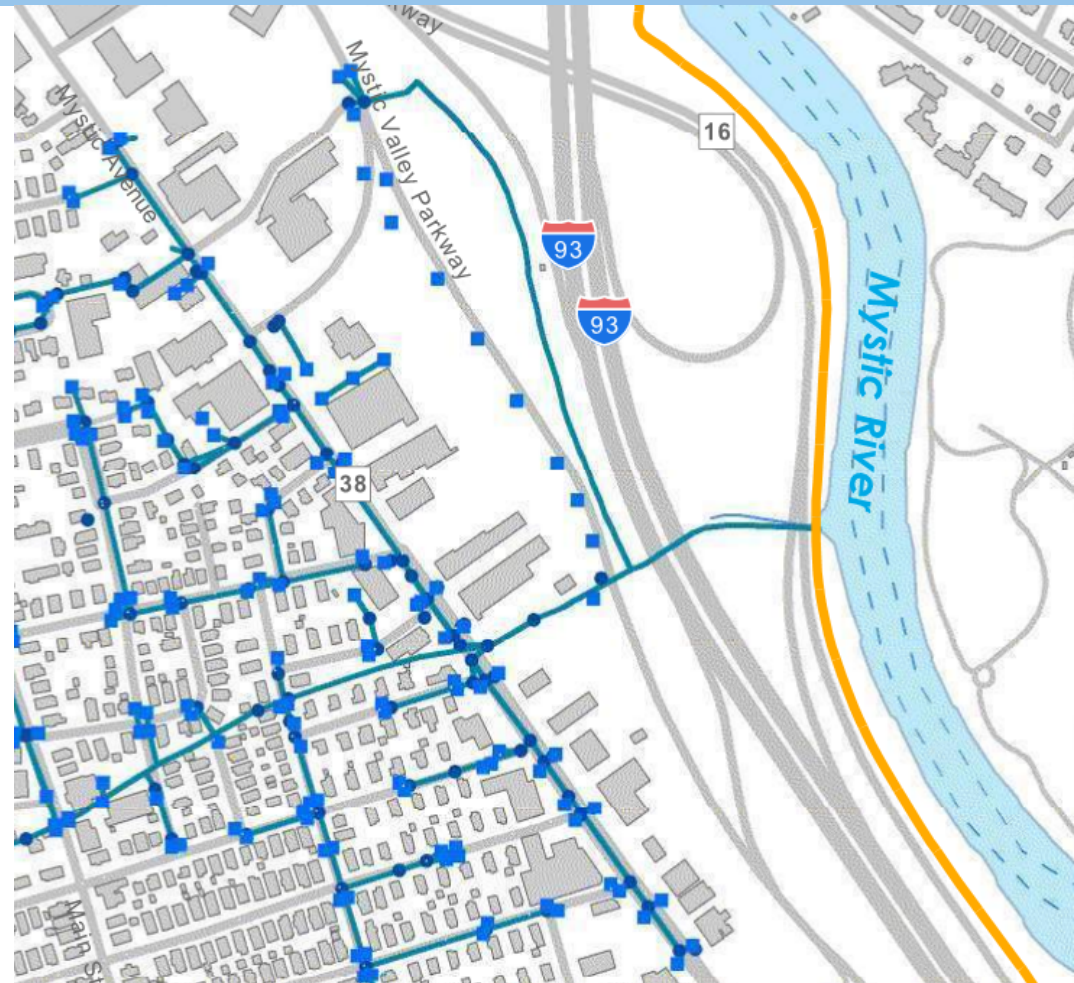
- Leaking sanitary sewers or water mains;
- Illegal sewage connections;
- Illegal floor drain connections;
- Seasonal draining of swimming pools; breakout from failing septic systems; and
- Spills and dumping.



3 Illicit Discharge Detection and Elimination

Permittees are required to proactively and systematically **find and eliminate sources of non-stormwater from their storm sewer system.**

Part of this requirement includes development of **system wide storm sewer system map.**



3 Illicit Discharge Detection and Elimination

By End of Year 4

- Outfalls
- Receiving waters

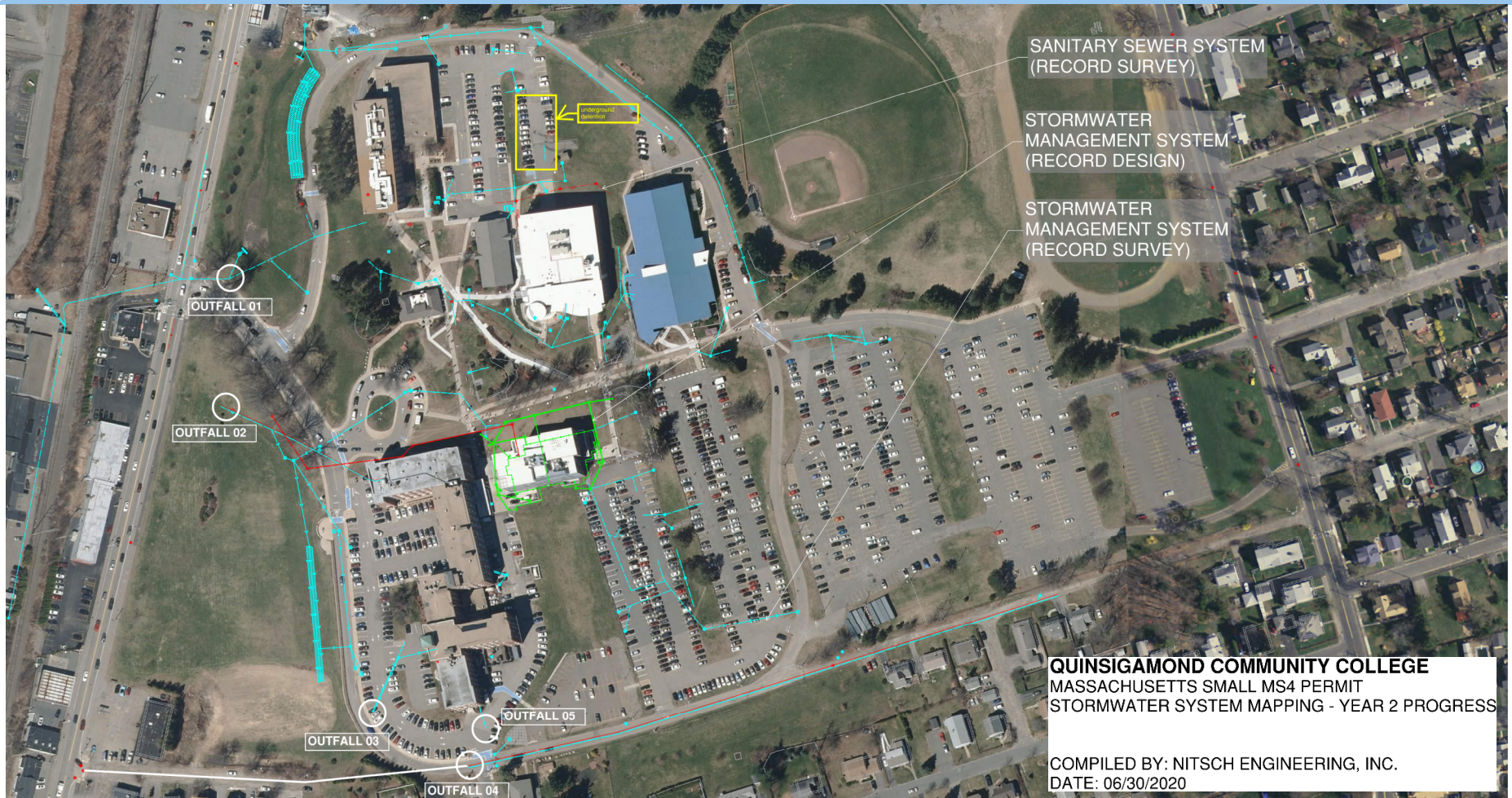
By End of Year 5

- Open channel conveyances
- Interconnections between QCC and Worcester system
- Stormwater treatment facilities owned by QCC
- Initial catchment assessment

By End of Year 10

- Pipes
- Manholes
- Catch basins
- Refined catchment delineations

3 Illicit Discharge Detection and Elimination

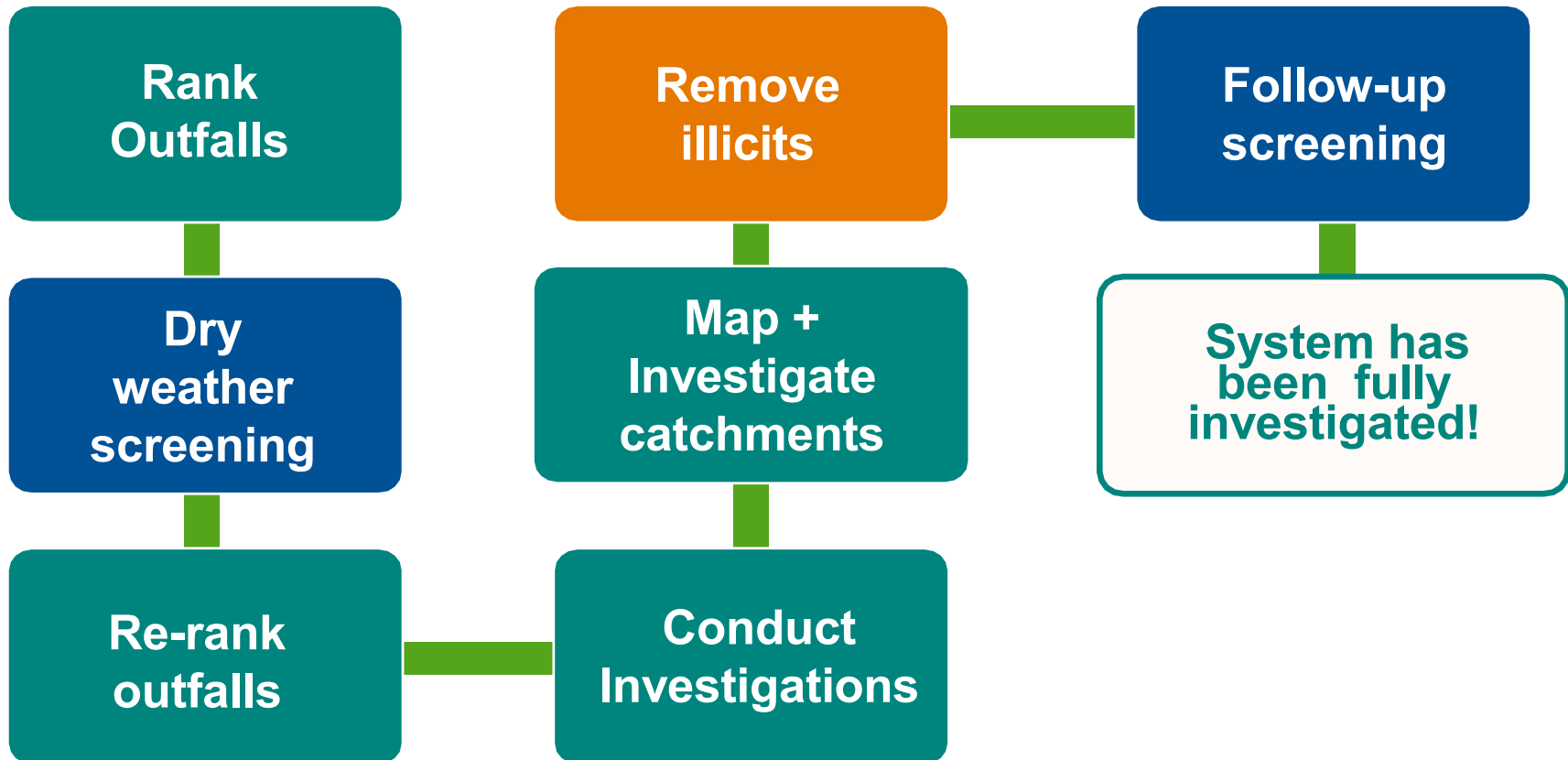


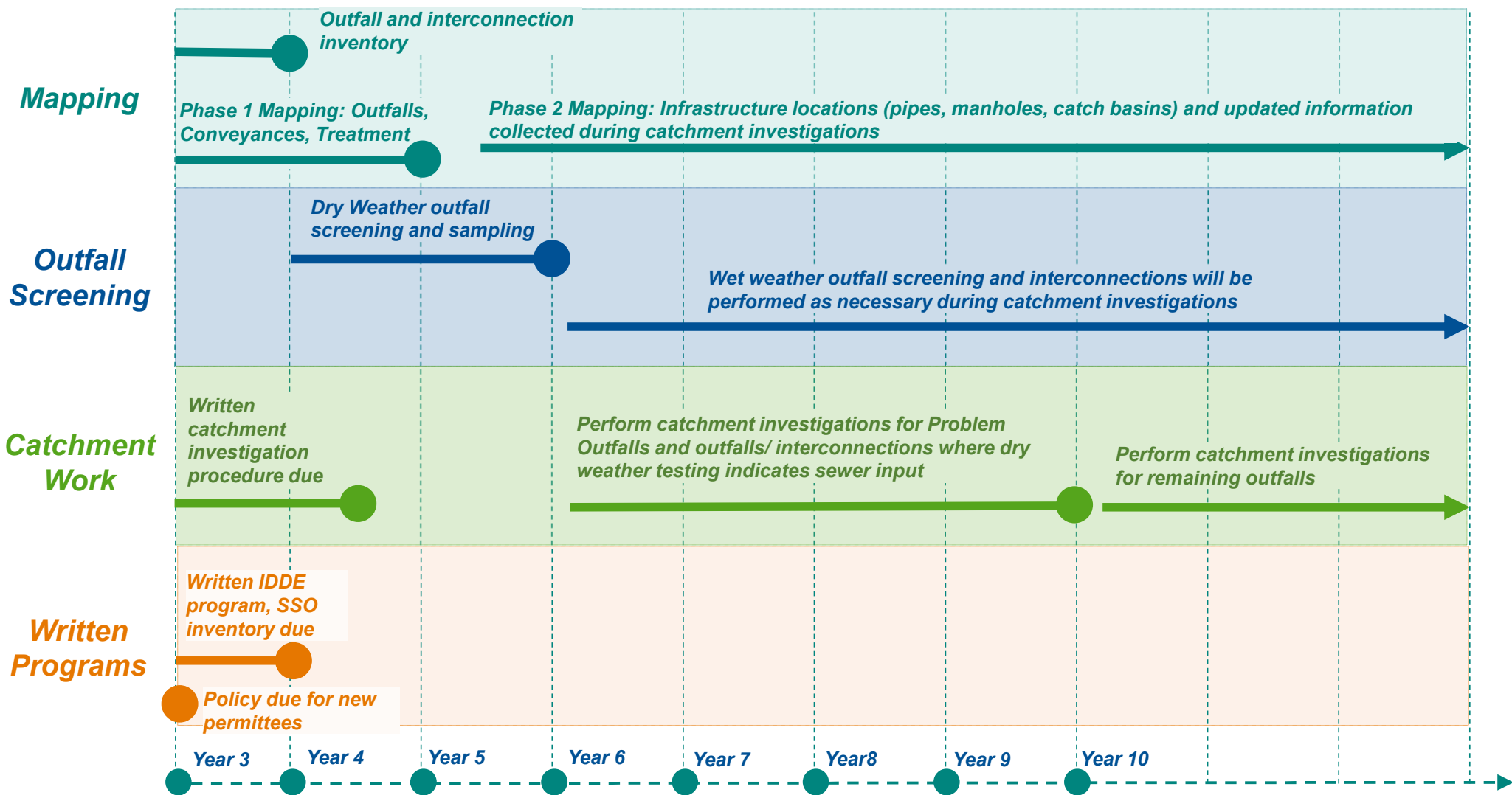
3 Illicit Discharge Detection and Elimination

<p>Legal Authority (2.3.4.a and 2.3.4.6.a)</p>	<p>An ordinance, bylaw or other regulatory mechanism which provides the MS4 operator the legal authority to: prohibit IDs, investigate suspected IDs, eliminate IDs, and enforce the IDDE program (already required under the 2003 Small MS4 Permit).</p>	<p>Catchment Investigations (2.3.4.8)</p>	<p>Requires a written systematic procedure to investigate each catchment with an outfall within 18 months of the permit effective date. Also must identify maps, historic plans, and records; include a manhole inspection methodology; and establish procedures to isolate, confirm, and remove sources of IDs.</p>
<p>Protocol & Responsibilities (2.3.4.6.c)</p>	<p>Identifies who is responsible for eliminating known IDs or other problems.</p> <p>Establishes protocols to: eliminate illicit connections or other problems, document and verify the removal of IDs and track progress towards overall program goals.</p>	<p>Indicators of IDDE Program Progress (2.3.4.9)</p>	<p>Describes the indicators to be used to track progress of the program and gauge its success.</p>
<p>Assessment and Priority Ranking of Outfalls (2.3.4.7)</p>	<p>Assesses the ID and SSO potential of all outfalls and priority rank them as problem, high priority, low priority, or excluded based on a number of criteria.</p>	<p>Ongoing Screening (2.3.4.10)</p>	<p>Consists of dry weather screening and sampling and wet weather screening and sampling once every five years upon completion of all catchment investigations.</p>
		<p>Employee Training (2.3.4.11)</p>	<p>Creates a program of training on how to recognize IDs and SSOs. Training frequency and type must be documented in the annual report.</p>

3

Illicit Discharge Detection and Elimination





4 Management of Construction Site Runoff

Permittees are required to have an **ordinance from management of stormwater discharges from construction sites** that disturb one or more acres of land.

Requirements

- Policy
- Site Inspection Procedures
- Sediment Control Requirements
- Requirements To Control Waste
- Site Plan Review



5 Management of Post Construction Site Runoff (New Development and Redevelopment)

Permittees are required to address stormwater runoff from new development and redevelopment that disturb one or more acres of land.

This control measure encourages the use of low impact design techniques and requires the retention or treatment of runoff on site using green infrastructure practices.



5 Management of Post Construction Site Runoff (New Development and Redevelopment)

NEW DEVELOPMENT

- Comply with Massachusetts Stormwater Standards 1, 2, 3, 5, 6 and 9
- **Fully retain the first 1 inch of runoff from impervious area onsite OR design treatment such that 90% of the average annual load of total suspended solids (TSS) and 60% of the average annual load of total phosphorus generated from the impervious area on the site is removed prior to discharge**

REDEVELOPMENT

- Comply with Massachusetts Stormwater Standards 1, 2, 3, 5, 6 and 9 to the maximum extent feasible
- **Retain the first 0.8 inch of runoff from impervious area onsite OR design treatment such that 80% of the average annual load of total suspended solids (TSS) and 50% of the average annual load of total phosphorus generated from the impervious area on the site is removed prior to discharge**
- Offsite mitigation is allowed

6 Good Housekeeping in Municipal Operations

Permittees are required to implement **good housekeeping practices in campus operations** such as vehicle maintenance, open space, buildings and infrastructure.

Requirements

- O&M Procedures
- Catch Basin Cleaning
- Street Sweeping
- SWPPP



Questions?



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