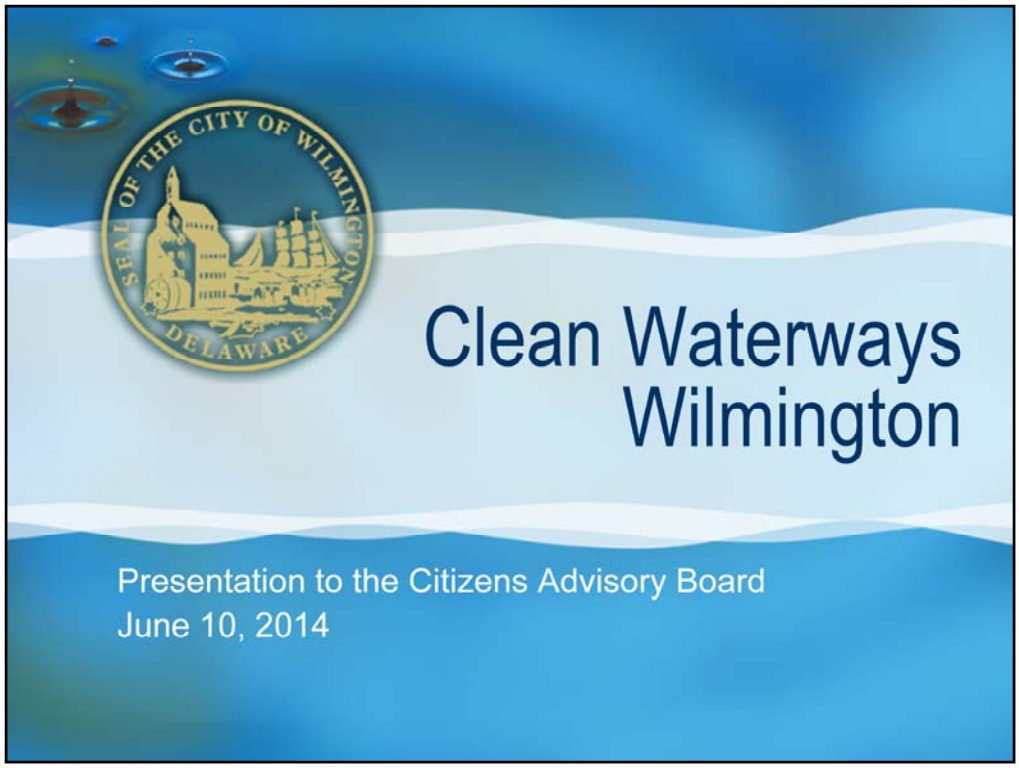


Purpose of this meeting is to provide a broad overview of the Clean Waterways Wilmington Program and to discuss the SWPP&MP which was submitted to DNREC on May 7th and is required to be finalized by August 7th

History of Clean Water Act

In 1972 the Clean Water Act was enacted with the objective to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

Targeted point source discharges to rivers such as industrial discharges and Publicly owned treatment works.

WWTP NPDES Permit covers outfall to Delaware River and all CSOs on the Brandywine and Christina Rivers through the LTCP

Non point sources – 1987 congress added a provision to the Clean water act that required NPDES permits for storm water from industrial activities and for large and medium size urban areas - MS4 permit

City is currently co-permittee with6 other entities NCC and DELDOT main permit holders on phase I MS4 permit (1st permit was issued in 2001, 2nd permit was issued May 2014)

Public Works position has been that we would like to obtain a separate phase II permit

New permit has carved out an option for the City to create its own management plan and submit to DNREC we have drafted this plan an outline was submitted to DNREC in November 2013 and the draft plan was submitted May 2014

Integrated Planning Framework adopted by EPA Oct 2011

allows permitting authorities to issue integrated permits and approve integrated programs

we have developed Clean Waterways program which aligns with this goal

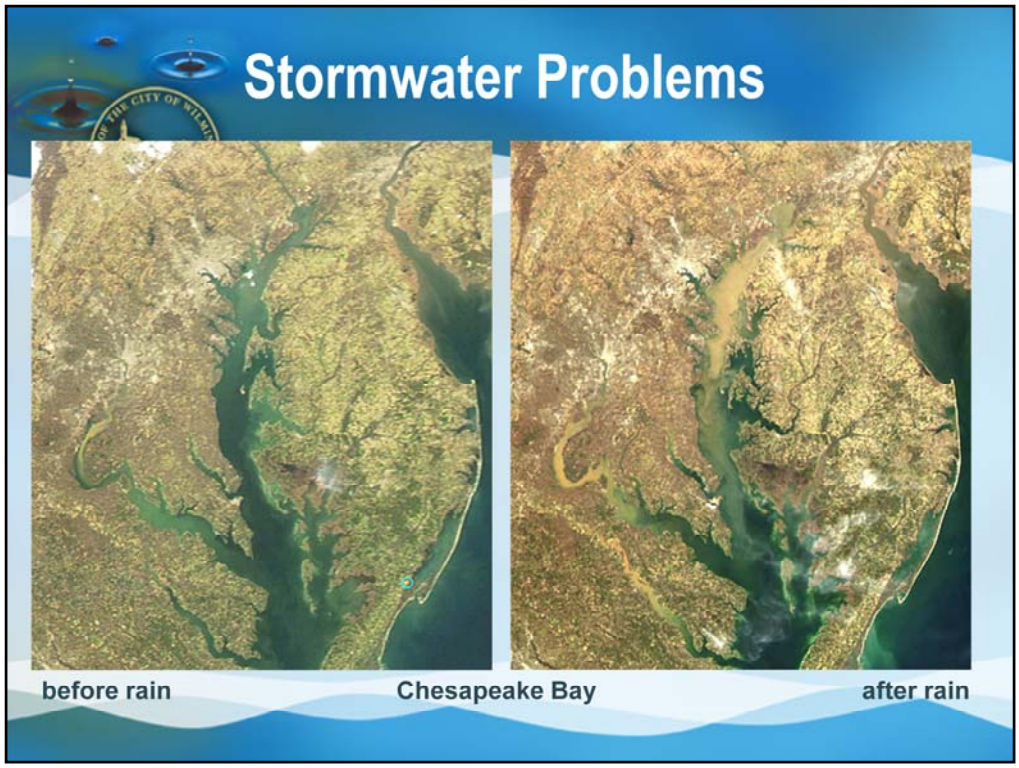
Presentation Overview

- Why Manage Stormwater?
- Regulatory Requirements
- Clean Waterways Wilmington
- SWPP&MP
- Next Steps

2

We all know it's going to rain. What we need to understand is how the entire stormwater system will behave when it rains? And how our individual actions affect that system?

The City's goal is to create a system that places minimal impact on our waterways when it rains. The kinds of things that we do to create that system can also benefit the City and its residents in many other ways.



So why do we need to do anything new to manage stormwater? There are 3 basic reasons:

First, the way stormwater has been historically handled still creates lots of problems. The volume, speed, and quality of stormwater runoff into streams creates water quality problems, degrades stream health, and reduces water recharge.

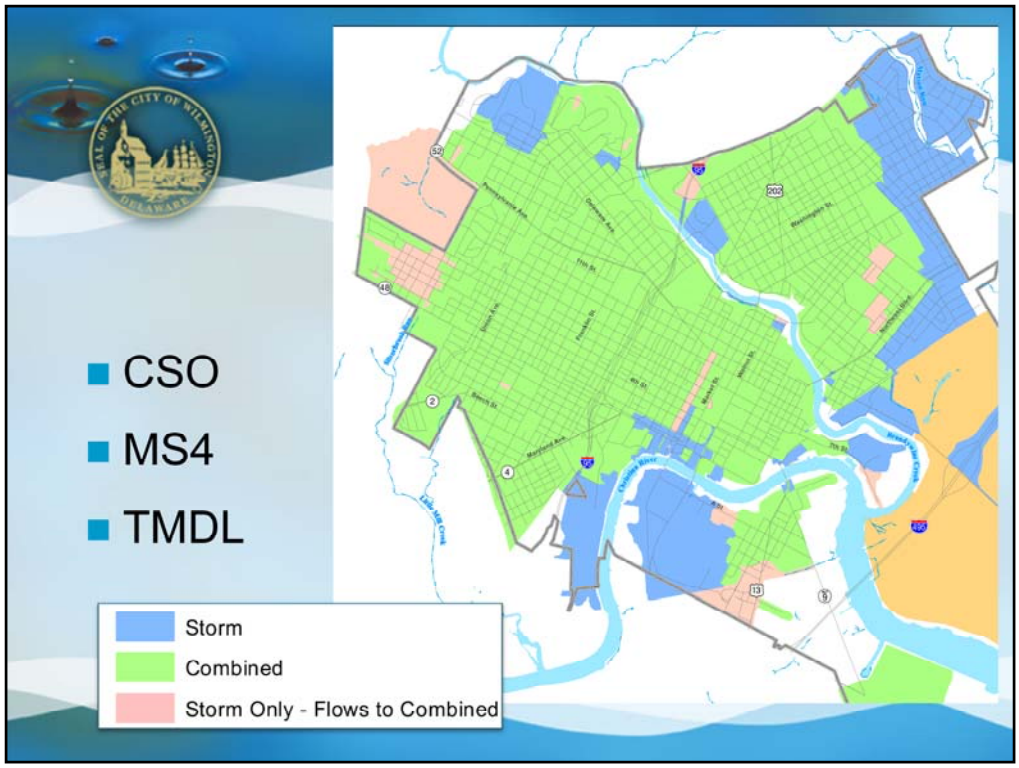
As an example, you can see in this picture that stormwater runoff puts large amounts of sediment into the bay.

The stormwater problem doesn't just affect larger regional issues, but it also has direct impacts to city infrastructure and for city residents.

- Flooding
- polluted runoff into catch basin

The **second reason** why we need to seek new approaches to stormwater management is that regulatory requirements are becoming tougher so the methods we've used in the past won't meet all of the new requirements

And **finally** there are also many positive quality of life benefits to changing how we handle stormwater.



So far we've talked about the quality of life benefits related to how we handle stormwater. Wilmington must also fulfill many different regulatory requirements related to stormwater. And these requirements are changing and becoming more stringent.

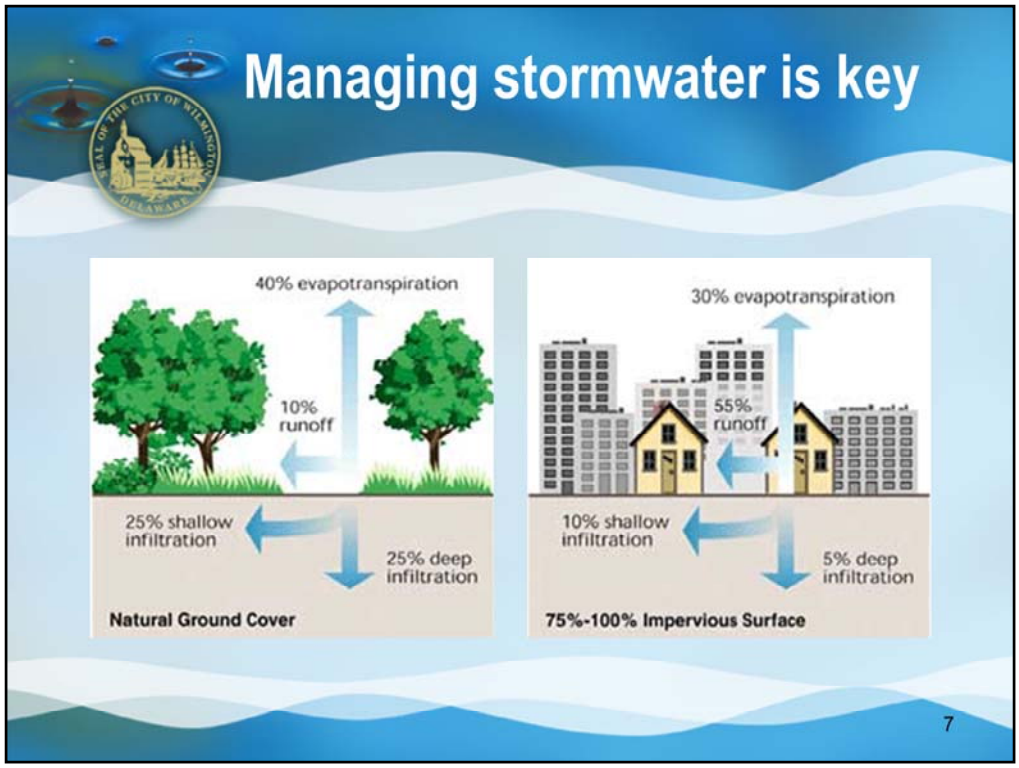
Wilmington's system includes both combined sewers and separate sanitary/storm sewers.

The CSO system is federally mandated to reduce both frequency and volume of overflows to the waterways when it rains. Our Final LTCP projects that with the full implementation of the Real Time Control system we will achieve a 92% capture rate and we will implement source controls through green infrastructure to reach as close to 100% as possible.

The new MS4 permit requires as additional regulatory requirements which we will discuss in detail later.

Total Maximum Daily Load or TMDL requires that the City meet designated in stream water quality limits for bacteria and specific nutrients,

Also PCB TMDL requires track down of PCB sources.



How we manage stormwater is the key to all of these problems.

This is especially important in the City, where a typical city block generates 5x as much runoff as a woodland area of the same size.

One of the goals of the new approach to stormwater is to make the urban area perform more like natural areas – so that when it's raining, there's minimal impact on our waterways - runoff is managed at the source as doesn't make it to the waterways

The City has already invested nearly 30 million in capital projects to achieve compliance with Combined Sewer Overflow regulations. This was achieved using traditional infrastructure improvements such as sewer separation, WWTP upgrades, an underground storage tank in Canby Park with a capacity of 2.7 million gallons, and Real-time Control – which optimizes in-system storage using predicted and actual rainfall data/ Optimized system O&M.

In 2007 the City implemented the first Storm Water Utility in the State of Delaware. This utility facilitates the equitable recovery of the City's integrated storm water management costs from all the parcels within the City's limits. We have also implemented an Urban Forestry Program which included a revision to City code to help protect the urban forest and increase the tree canopy by planting more street trees in Wilmington. Planting just 100 trees is equivalent to the environmental benefits of converting one acre of urban land to forest, which reduces pollutants entering our waterways and improves air quality.

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Over the past few years Public Works has initiated and completed several GI projects –

- Spencer Plaza
- Vandever Tree Trenches
- CSO 4A plan

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S. Wilmington Wetlands Park

Public Works Planning

Economic Development

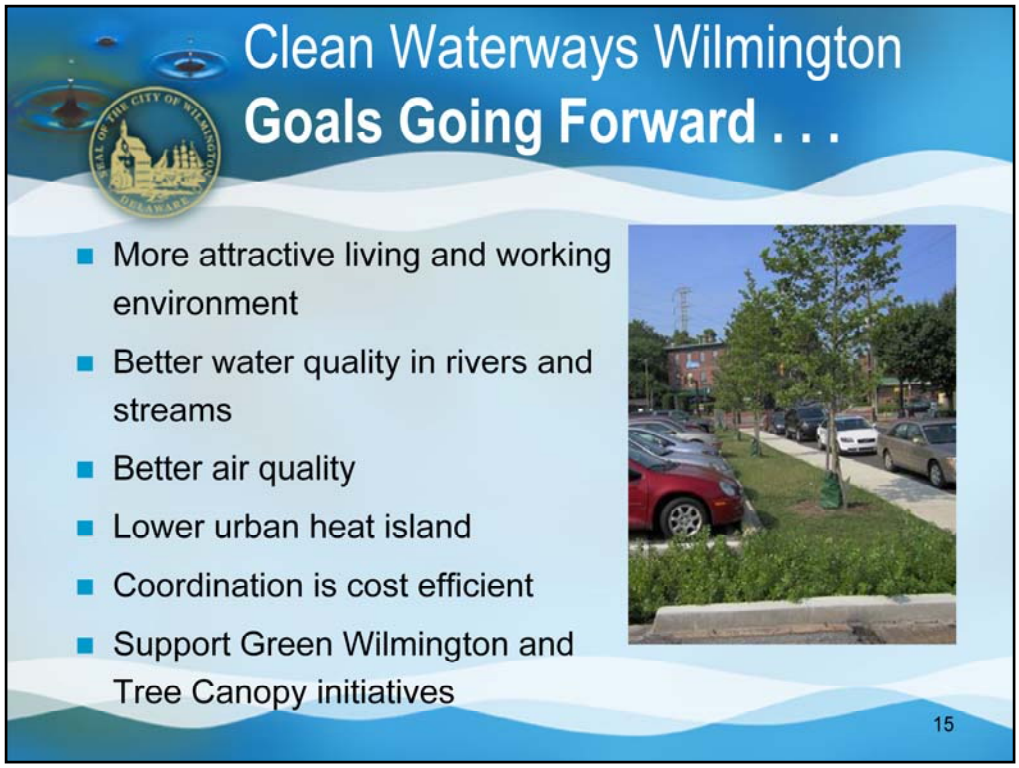
In 2011 the first urban retrofit project to mitigation stormwater in the City of Wilmington was completed at the ACME Markets grocery store in Trolley Square. This project was implemented through a multi-agency effort including the DCH, New Castle County Conservation District, City Departments of ED, Planning, L&I, and PW. This 9,000 square foot system captures an estimated 70 percent of the site's annual rainfall, providing relief to the city's combined stormwater and sewer system and helping to preserve the integrity of the region's drinking water.

The benefits of this project include: Neighborhood beautification, increased property values and tax base, reduced heat island effect from reduced pavement, Change stormwater runoff to stormwater infiltration, which reduces pollutants, volume of runoff, and speed of runoff, all of which makes our streams and rivers healthier.

The Wilmington's Green Jobs Program engages the City's youth by providing green-collar work opportunities.

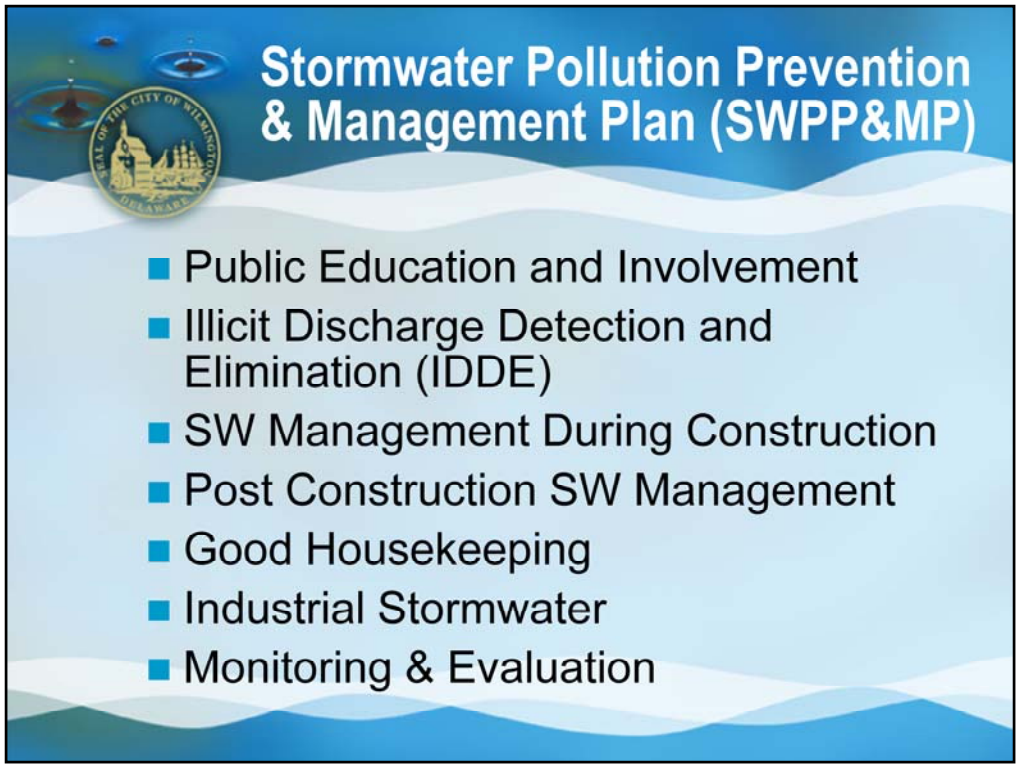
Going forward we're developing a new paradigm for an integrated approach to managing stormwater. The goal Clean Waterways in Wilmington Program is to coordinate all of the City's wet-weather management functions under one overarching program in order to facilitate a watershed based approach to **project prioritization; maximize water quality improvements**, **and promote efficient use of City resources.**

•This will be important when implementing Water Quality Improvement Plans – which will require capital funds to complete retrofit projects



These goals will be achieved through the integrated implementation of the:

- Final Long-term Control Plan (FLTCP)
- Stormwater Pollution Prevention & Management Plan (SWPP&MP)
- Delegated Agency Authority
- PCB Pollutant Minimization Plan
- Capital Planning and Asset Management



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Public Education & Participation

- Public review and comment on SWPP&MP
- Develop and disseminate messaging
  - Printed materials
  - Web-site
  - Social Media
  - Community Events
  - 2 workshops annually

- Conduct survey to measure progress
- Partner with NCC/DelDOT as appropriate

Promote behavior change &
empower the public to be part of the solution

Illicit Discharge Detection and Elimination – IDDE

- Ordinance Updates
- Waste Collection Programs
- Water Quality Hotline
- Dry weather outfall inspections
- Floatables Reductions/catch basin cleaning

Prevent pollutants to sewer system and waterways

Management of SW from Construction Activities

Delegated Agency

- Ordinance and Code revisions
- 3-step Stormwater Plan Review
- Construction Site Inspections
- Annual BMP Maintenance Inspections

Reduce stormwater pollution during construction and manage runoff from new/re-development

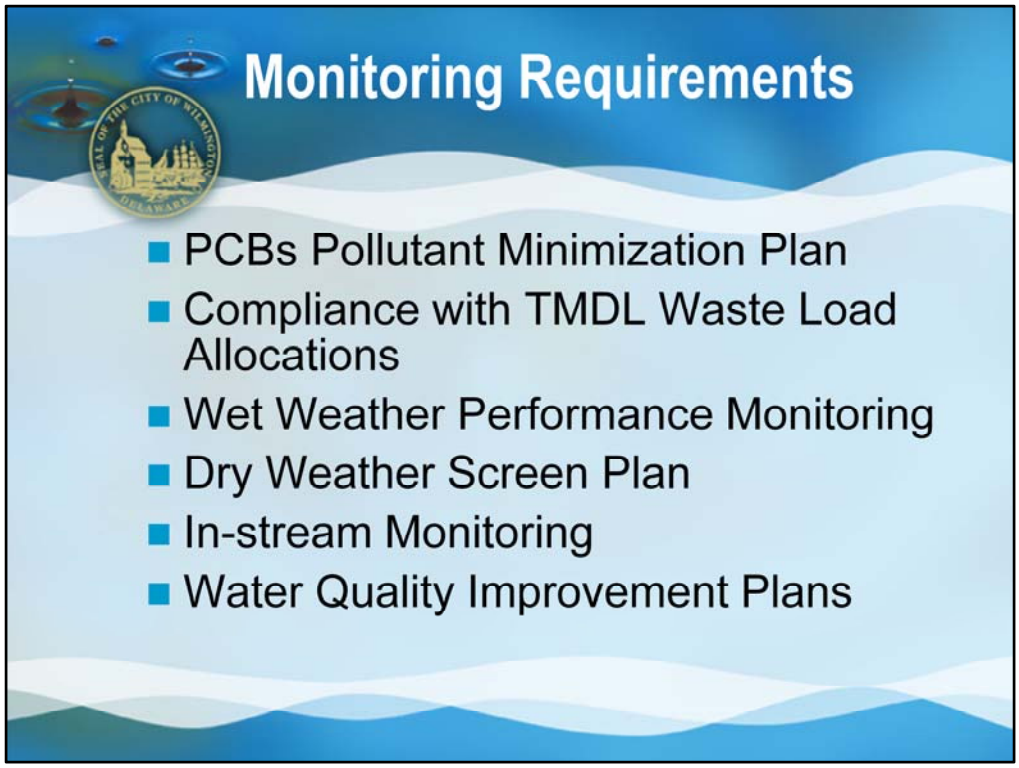
Focus on Public Facilities Maintenance and Street sweeping

Annual Training

- All employees implementing the SWPP&MP must be trained
- SOPs
- General Pollution Prevention

Proper Implementation and Awareness


Industrial Stormwater
Complete Inventory Update Annually
Assist DNREC with "High Risk" Industrial Facility Inspections


Monitoring Requirements
PCBs Pollutant Minimization Plan
Compliance with TMDL Waste Load Allocations
Wet Weather Performance Monitoring
Dry Weather Screen Plan
In-stream Monitoring
Water Quality Improvement Plans

Next Steps…

- Finalize SWPP&MP – Summer 2014
  - Present to CAB
  - Present to PW Committee
  - Issue Press Release and Post on website for a 30 day comment period
  - Submit final version to DNREC August 2014
- Begin to Implement the Plan – Fall 2014
- Submit application for Phase II MS4 Permit – Spring 2015