



Photo: Center for Watershed Protection

# CT MS4 IDDE Overview

**David Dickson & Amanda Ryan**  
**UConn CLEAR**

## The part of Amanda Ryan will be played by . . .

- MS4 Educator
- Coast Guard Reserve
- Deployed to Puerto Rico
- Expect to return in late November
- In the meantime . . .



# IDDE Overview Outline

- A couple things to keep in mind
- Big picture
- What & Where
- Major requirements and deadlines



Knox County Government, IL

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Knox County Government, IL

## NEMO/DEEP Partnership



# NEMO

Center for Land Use Education & Research



- 5 year MOA
- Provide multi-faceted support to MS4 towns

# You are not alone

Always available:

- Meeting with Amanda at your town
- MS4 Website:  
[www.nemo.uconn.edu/ms4](http://www.nemo.uconn.edu/ms4)
- MS4 Listserv :  
<http://s.uconn.edu/ctms4list>

The screenshot displays the NEMO website interface. At the top, it features the UConn logo and navigation links. The main heading is "Connecticut MS4 Guide". Below this is a navigation menu with options: Home, Basics, SWM Plan, Implementation, Tools, About, MS4 News, FAQs, NEMO, and CLEAR. The main content area is divided into three columns:

- MS4 Basics:** About stormwater, the new MS4 permit, & deadlines.
- Stormwater Management Plan:** Developing your stormwater management plan.
- Implementation:** Implementing the 6 minimum control measures in your plan.

Below the main content are three sections:

- News & Updates:** Contains several articles, including "Green infrastructure demonstration sites at East Lym...", "Completing the Watershed Table on Your Registration ...", "MS4 Management Software Demos", "Webinar - Getting Started with Your SWM Plan", and "NEMO's MS4 Circuit Rider is Here!".
- MS4 Calendar:** Shows the "Connecticut MS4 Calendar" for Monday, September 25, with events for Wednesday, September 27 (IDDE Workshop), Tuesday, October 10 (MS4 Mapping Webinar), and Friday, October 20.
- MS4 Map:** A map of Connecticut showing MS4 watersheds.

At the bottom of the page, it says "Powered by feedwind".

# You are not alone

Coming up:

- New Haven MS4 LID tour: Friday October 20<sup>th</sup>
- Mapping webinar: October 24<sup>th</sup>
- Annual Report template: Early November 2017

The screenshot shows the 'Connecticut MS4 Guide' website. At the top, it features the UConn logo and the text 'UNIVERSITY OF CONNECTICUT'. Below this is the 'CENTER FOR LAND USE EDUCATION AND RESEARCH & CT NEMO' logo. The main navigation bar includes links for Home, Basics, SWM Plan, Implementation, Tools, About, MS4 News, FAQs, NEMO, and CLEAR. The featured topics section contains three cards: 'MS4 Basics' (About stormwater, the new MS4 permit, & deadlines), 'Stormwater Management Plan' (Developing your stormwater management plan), and 'Implementation' (Implementing the 6 minimum control measures in your plan). The 'News & Updates' section lists several articles, including 'Green infrastructure demonstration sites at East Lym...', 'Completing the Watershed Table on Your Registration ...', 'MS4 Management Software Demos', 'Permitting: Several folks have been asking if there is a software program available to help manage MS4 activi...', 'Webinar -- Getting Started with Your SWM Plan', and 'NEMO's MS4 Circuit Rider is Here!'. The 'MS4 Calendar' shows events for Wednesday, September 27 (IDDE Workshop), Tuesday, October 10 (2:00pm MS4 Mapping Webinar), and Friday, October 20. The 'MS4 Map' section displays a map of Connecticut with red lines indicating MS4 locations. The footer includes the NEMO logo and the text 'Powered by feedwind'.

## Second – Maximum Extent Practicable (MEP)



Flickr user: Phil Roeder

- a serious attempt to comply
- practical solutions may not be lightly rejected

### • Mitigating factors:

- |                           |                                |
|---------------------------|--------------------------------|
| • Water condition         | • Ability to finance           |
| • Local concerns          | • Beneficial uses of waterbody |
| • MS4 size                | • Hydrology                    |
| • Climate                 | • Geology                      |
| • Implementation schedule | • O & M capacity               |

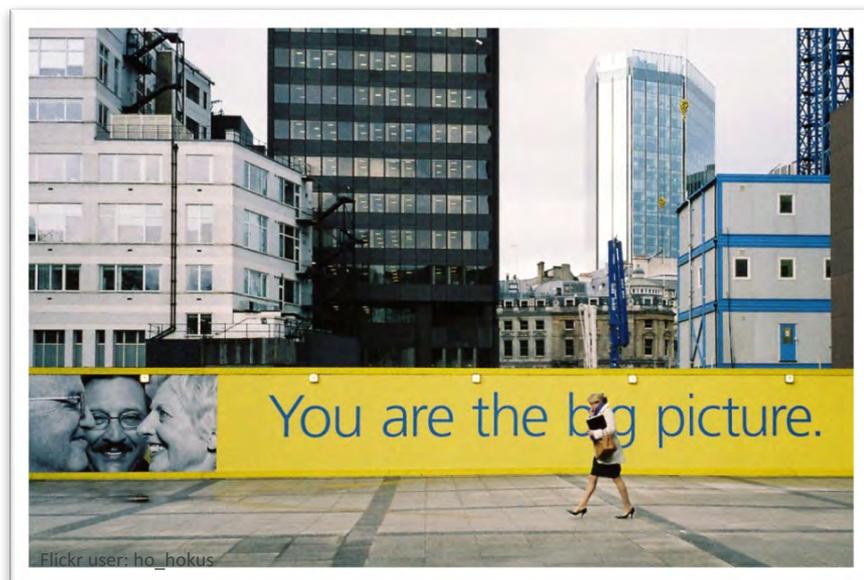
# IDDE Overview Outline

- A couple things to keep in mind
- **Big picture**
- Where IDDE applies
- Major requirements and deadlines



Coastal Waccamaw Stormwater Education Consortium

## Big Picture – What is the point of IDDE?



Identify, remove, & prevent  
non-stormwater discharges  
to MS4

## Big Picture – What is an illicit discharge?



- Unpermitted discharge that does not consist entirely of stormwater or uncontaminated groundwater
- Can be consistent or intermittent
- Direct or indirect
- Examples:
  - illegal floor drain connection
  - leaking sanitary sewers
  - illegal sewage connections
  - Failing septic system overflow
  - spills & dumping

# Big Picture – What is NOT an illicit discharge?



## Exceptions:

- Firefighting flows
- Footing drain/sump pump flows
- Uncontaminated groundwater
- Lawn watering runoff
- Street washing/sweeping
- Natural flows

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# Major components of IDDE

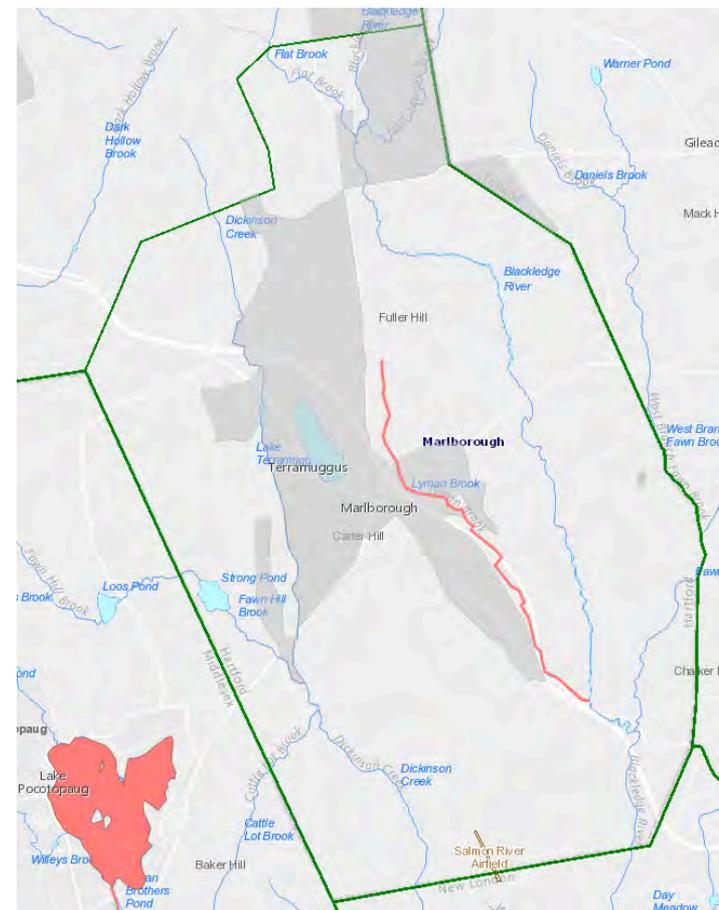
- 1.** Legal authority and regulatory mechanism to prohibit illicit discharges and enforce this prohibition
- 2.** Storm system mapping
- 3.** Inventory and ranking of outfalls
- 4.** Dry weather outfall screening
- 5.** Catchment investigations
- 6.** Identification/confirmation of illicit sources
- 7.** Illicit discharge removal
- 8.** Follow-up screening
- 9.** Employee training

# Scope: Where IDDE applies

Only in “Priority Areas”!

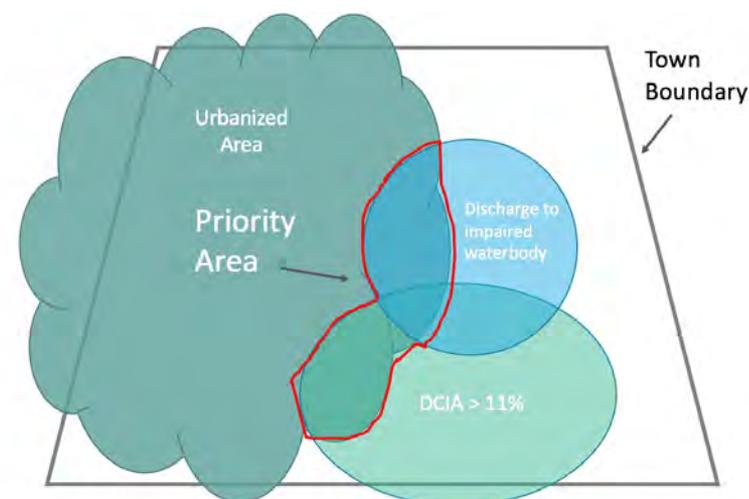
Except:

- inventory / map of **ALL** your outfalls and interconnections (everywhere)
- **ALL** reports of illicit discharge anywhere should be investigated and removed



# Where are the priority areas?

1. Urbanized area
2. Catchment that discharge to impaired water body
3. Catchment with directly connected impervious area > 11%





# IDDE Overview Outline

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Coastal Waccamaw Stormwater Education Consortium

# IDDE timeline

Activity	Due	Permit page
Employee training	Annually each year	App B p13
Citizen Reporting program	July 2017	22
Record Illicit discharge abatement actions	July 2017	23
Inventory of SSOs (5 year look back)	October 2017	App B p2
Written IDDE program	July 2018 (July 2019)	22 & App B p4
Establish IDDE legal authority	July 2019	23 & App B p5
Map all MS4 outfalls	July 2019 (July 2020)	23 & App B p2
Assess & prioritize catchments	July 2019 (July 2022)	App B p5
Dry wx outfall sampling (for high & low priority outfalls)	July 2020 (July 2022)	App B p8
Detailed MS4 mapping	July 2020 (July 2022)	App B p3

# Employee IDDE training

- Annual requirement
- Recognize illicit discharges & SSOs
- Report frequency & type of training in Annual Report

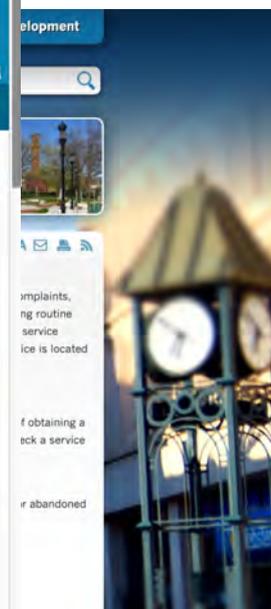
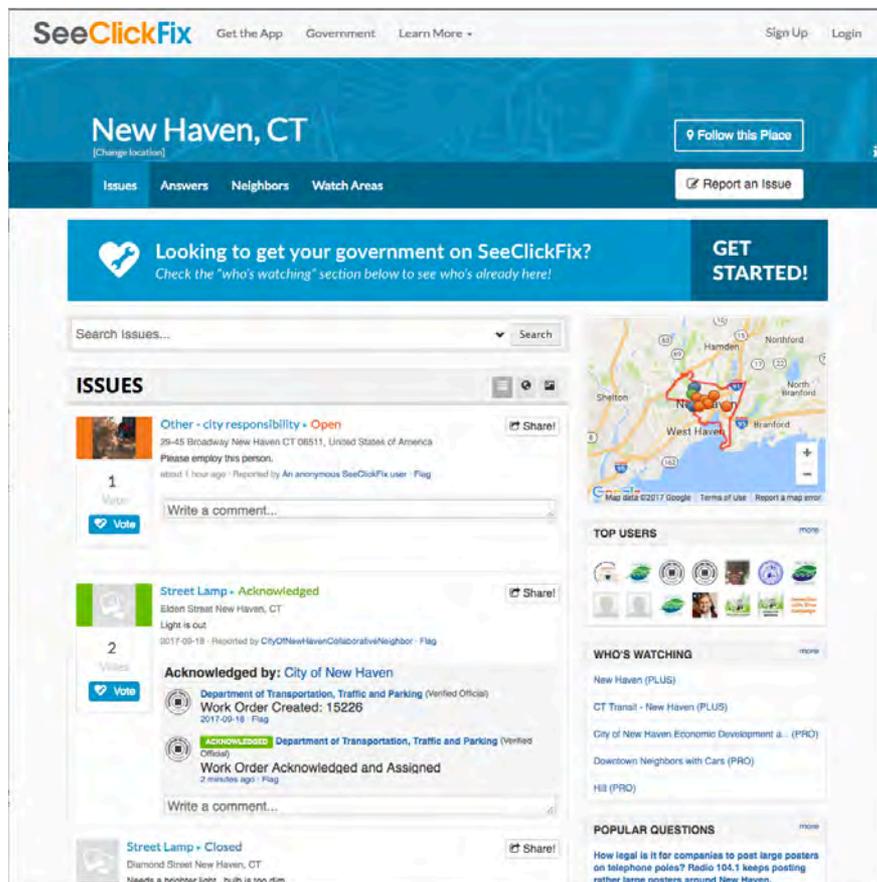


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# Citizen Reporting program

- Clear instructions to public
- Provide email or number
- Investigate reports



# IDDE timeline

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# Maintain records

Annual Report template has fields for all the things you need to track and report:

- Responses to Illicit discharges
- Citizen reports
- SSOs

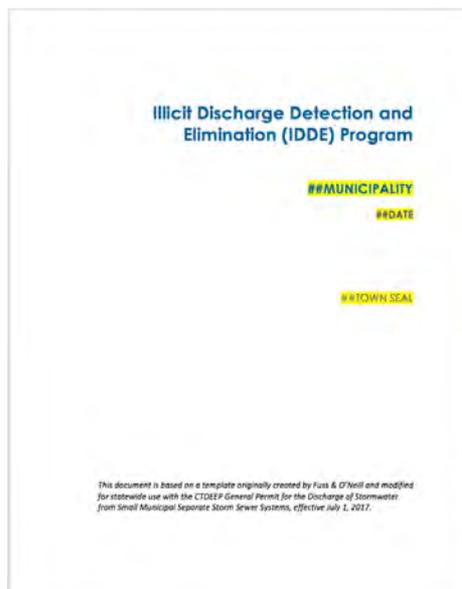
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# Develop written IDDE plan

- Legal Authority
- Identify responsibilities
- Outfall screening and Illicit discharge detection protocol:

- Assess & prioritize ‘catchments’
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures



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# Inventory and map MS4 infrastructure



## Detailed MS4 mapping

- Priority areas
- Pipes, catch basins, manholes, stormwater treatment structures...

\* More on this later today and October 24<sup>th</sup> Mapping webinar

# IDDE timeline

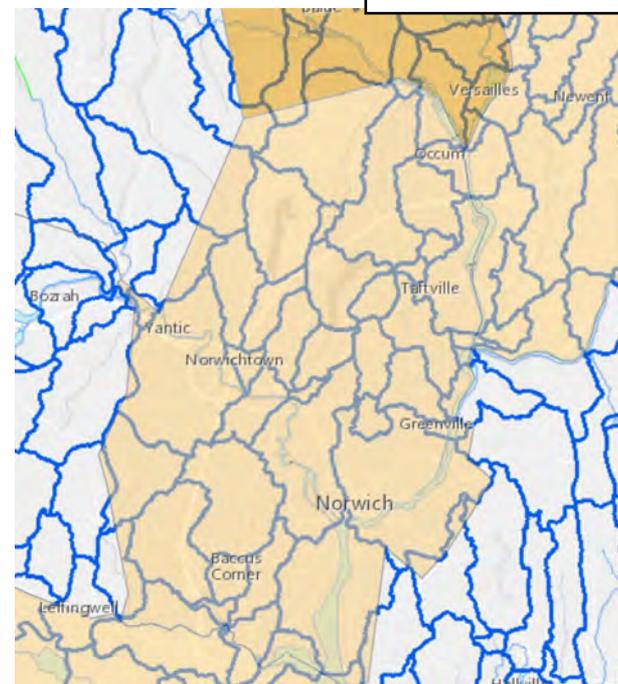
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Outfall screening and Illicit discharge detection protocol

# 1. Assess & prioritize catchments

- Catchment = outfall
  
- Each outfall categorized as:
  1. Excluded
  2. Problem
  3. High priority
  4. Low priority
  
- Then prioritize outfalls within each category

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures



# Catchment Categories

## Excluded

- Undeveloped areas with no dwellings or sanitary sewers
- Parks, sports fields, green space drainage (no services)
- Cross-country drainage through undeveloped land

## Problem

- Known or suspected illicit discharges
  - sampling results
  - visual/olfactory inspection

# Catchment Categories

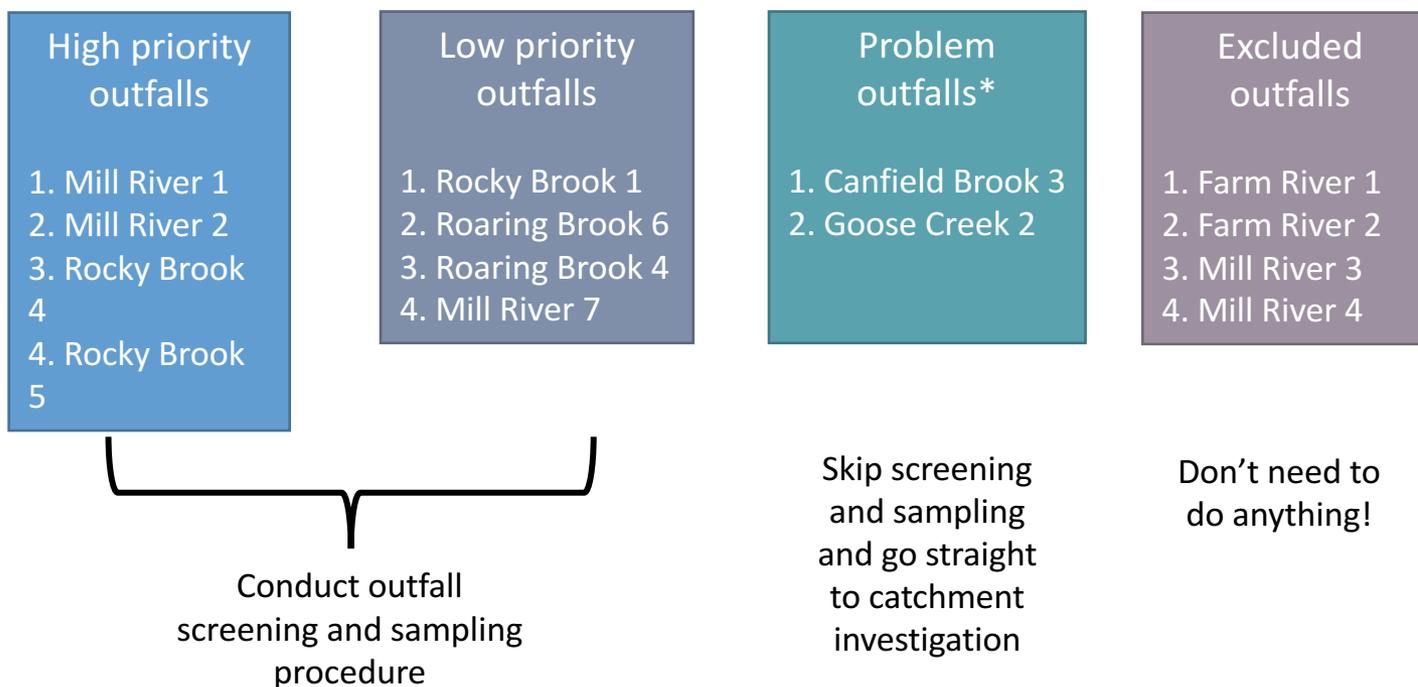
## High Priority

- Discharging to area of public health concern
  - Beaches
  - Recreation areas
  - Drinking water supply
  - Shellfish beds
- Screening indicates sewer input

## Low vs. High Priority screening factors

- Past complaints/reports
- Poor dry weather WQ
- Density of generating sites w/ potential to generate illicit pollutants
  - Car dealers, car washes, manufacturing areas, garden centers)
- Septic to sewer conversion areas
- Historic combined sewer
- Density of aging septic
- Long culverted streams

# Assess & prioritize catchments



## 2. Outfall (& interconnection) screening and sampling procedure

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

- **Baseline screening (dry weather)**

- 1.** Screen High priority outfalls
- 2.** Then screen Low priority outfalls
- 3.** Re-rank outfalls based on results (and on annual basis)

### High priority outfalls

1. Mill River 1
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

### Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
3. Roaring Brook 4
4. Mill River 7

### 3. Catchment Investigation Procedure

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

- Review maps & records for catchment
  - Identify any System Vulnerability Factors
- Storm drain network investigation
  - Dry weather investigation at all key junction manholes AND
  - Wet weather investigation at outfalls for all catchments with 1 or more SVFs
- Isolate & verify source

High priority outfalls

- ~~1. Mill River 1~~
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
- ~~3. Roaring Brook 4~~
4. Mill River 7

Problem outfalls\*

1. Canfield Brook 3
2. Goose Creek 2

## 4. Remove (and confirm) source

- When source of illicit discharge is found, exercise authority as necessary to require its removal
- Within 1 year of removal of all illicit discharges in a catchment area, complete confirmatory outfall or interconnection screening

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

### High priority outfalls

1. Mill River 1
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

### Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
- ~~3. Roaring Brook 4~~
4. Mill River 7

### Problem outfalls\*

1. Canfield Brook 3
2. Goose Creek 2

## 5. Follow-up screening

- Assess & prioritize 'catchments'
- Outfall & interconnection screening / sampling procedure
- Catchment investigation procedure
- Remove (and confirm)
- Follow-up screening
- Illicit discharge prevention procedures

- After all catchment investigations and illicit discharges removed and confirmed –
- re-prioritize each outfall & interconnection and conduct ongoing screening once every 5 years

High priority outfalls

- ~~1. Mill River 1~~
2. Mill River 2
3. Rocky Brook 4
4. Rocky Brook 5

Low priority outfalls

1. Rocky Brook 1
2. Roaring Brook 6
- ~~3. Roaring Brook 4~~
4. Mill River 7

Problem outfalls\*

1. Canfield Brook 3
2. Goose Creek 2

## Now, on to the details . . .

