



# New York City Watershed Regulations

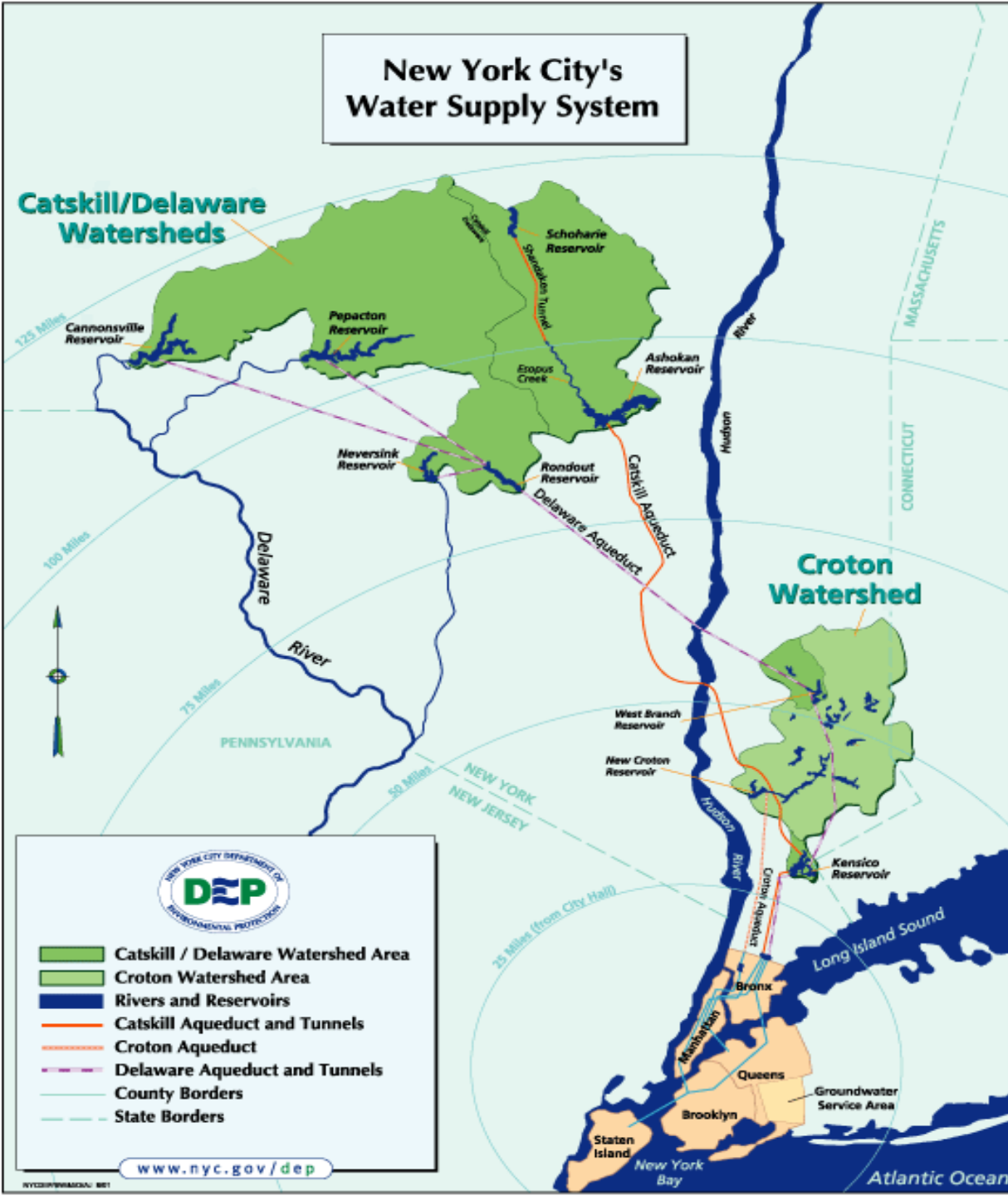
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Stormwater Programs  
DEP Regulatory & Engineering Programs  
Bureau of Water Supply

Today

- Primarily a surface water supply
- 19 reservoirs & 3 controlled lakes
- System Capacity: 550 billion gallons
- Serves 9 million people (1/2 of population of New York State)
- Delivers approx. 1.3 billion gallons per day to the City
- Source of water is a 2,000 square mile watershed in parts of 8 upstate counties

New York City's Water Supply System





## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ The Watershed Regulations generally prohibit the construction of an impervious surface within the limiting distance of 100 feet of a watercourse or wetland, or 300 feet of a reservoir, reservoir stem or controlled lake. Section 18-39(a)(1)

## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ An impervious surface is defined as an area that substantially prevents the infiltration of water into the soil at that location.

Examples include:

- pavement, concrete, asphalt, roofs or other hard surfacing material

Impervious surfaces do not include:

- dirt, crushed stone, wood decking or gravel surfaces.

## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ This restriction does not apply to: Creation of an impervious surface within the limiting distance, in special districts, in the Catskill and Delaware System (WOH) that are within a village, designated hamlet, village extension or area zoned for commercial or industrial use with a DEP approved SWPPP. Section 18-39(a)(3)

## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ A Stormwater Pollution Prevention Plan (SWPPP) is required for controlling stormwater runoff during and after land disturbance or construction, and for treatment of runoff from impervious surfaces.
- ❖ Stormwater treatment is achieved with temporary erosion and sediment control measures and post-construction stormwater management measures.

## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ Section 18-39(b)(3) states SWPPPs must be prepared and implemented for the following activities:
  - ✓ Plans for the development or sale of land that will result in the disturbance of five (5) or more acres of land
  - ✓ Land clearing or grading project involving two (2) or more acres located, at least in part, within 100 feet of a watercourse or wetland, or on a slope exceeding 15%
  - ✓ Construction of a subdivision\*

\*The Watershed Regulations definition of a “Subdivision” (116) is any tract of land which is divided into five (5) or more parcels of five (5) acres or less, for sale or for rent as residential lots.

- ✓ The construction of a new industrial, municipal, commercial or multi-family residential project that will result in the creation of an impervious surface totaling 40,000 square feet or more\*\*

\*\*Construction (19) means any building, demolition, renovation, replacement, restoration, rehabilitation or alteration of any new or existing structure or road.

## Regulated Activities Requiring DEP Approval

### I. Stormwater Pollution Prevention Plans (SWPPP) and Impervious Surfaces

- ❖ Section 18-39(b)(3) states SWPPPs must be prepared and implemented for the following activities:
  - ✓ The construction of a *gasoline station*.
  - ✓ The construction of a *new paved road*.
  - ✓ A one time expansion, within 100 feet of a watercourse or wetland, up to a limit of 25% of the impervious surface at an existing commercial or industrial facility
  - ✓ and the construction of an impervious surface located within 100 feet of a watercourse or wetland, or within 300 feet of a reservoir, reservoir stem or controlled lake in the following areas:
    - A village,
    - designated hamlet,
    - village extension or
    - area zoned commercial or industrial within the WOH watershed

## 2010 WRR Amendments ~ Highlights

**WR&R now includes a definition for drainage area and design point.**

- ❖ (33) Drainage Area means all land and water area from which runoff may travel to a common design point.
- ❖ (27) Design point means a point where stormwater runoff enters a watercourse or wetland or leaves the site of an activity...

- ❖ (c)(5) To the maximum extent practicable... a SWPPP shall be designed:
  - ✓ (c)(5)(i) To minimize the alteration of the existing drainage areas and to maintain the volumes of flow at design points at preconstruction levels...
  - ✓ (c)(5)(ii) To minimize loss of annual recharge to groundwater by maximizing the use of stormwater infiltration practices where suitable soil conditions exist.



- ❖ (c)(6) If an activity requiring a stormwater pollution prevention plan will result in impervious surfaces covering twenty percent (20%) or more of the drainage area for which stormwater management practices are designed, the stormwater pollution prevention plan shall provide for stormwater runoff from that drainage area to be treated by two different types of stormwater management practices in series..., Continued...
  
- ❖ (c)( 6) Continued... except that only one (1) stormwater management practice is required if either:
  - ✓ (c)( 6)(i) the stormwater management practice is a stormwater infiltration practice; or
  
  - ✓ (c)( 6)(ii) the activity requiring an SWPPP is in the West of Hudson watershed within a village, hamlet... or in the East of Hudson watershed within a Designated Main Street Area.

## Regulated Activities Requiring DEP Approval

### II. Individual Residential Stormwater Permit (IRSP) Section 18-39(a)(5)

An individual residential stormwater permit is required for:

- ❖ (i) Construction of a new individual residence, not located within a subdivision, and located within the limiting distance of 100 feet of a perennial stream or wetland

However, all new individual residences are prohibited within 300 feet of a reservoir, reservoir stem or controlled lake

## Regulated Activities Requiring DEP Approval

### II. Individual Residential Stormwater Permit (IRSP) Section 18-39(a)(5)

- ❖ Watercourse (128) means a visible path through which surface water travels on a regular basis, including an intermittent stream, which is tributary to the water supply.
- ❖ A drainage ditch, swale or surface feature that contains water only during and immediately after a rainstorm or a snowmelt shall not be considered to be a watercourse.

DEP will physically flag the limits of reservoirs, reservoir stems, controlled lakes and watercourses, including intermittent and perennial watercourses, within the watershed.







# DISCUSSION





- ❖ Limit clearing and grading to only those areas necessary to complete the task
- ❖ Flag the “limits of disturbance” with orange construction fence prior to start of construction
- ❖ Note and protect the sensitive resources within close proximity of the proposed activity such as streams, wetlands, reservoirs

- ❖ Install a stabilized construction entrance and perimeter sediment control measures, such as silt fence prior to land clearing and grading
- ❖ Protect existing waterways and closed conveyance systems
- ❖ Construct and fully stabilize temporary sediment traps and basins in accordance with approved details prior to mass clearing and grading

- ❖ Phase construction to limit duration of soil exposure
- ❖ Divert clean runoff around the area of disturbance
- ❖ To the extent possible, avoid grading on steep slopes
- ❖ Stabilize exposed soils immediately



- ❖ Perform weekly inspections and routine maintenance of practices
- ❖ Assess the condition of practices and exposed areas before and after storm events
- ❖ Plans are typically adjusted, as necessary, to accommodate previously unknown site features, hazards and limitations - **Alert regulators prior to implementing any change in sequence, schedule or plan**

# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# Rolled Erosion Control Blanket





# DISCUSSION



2016/12/27



# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# Rosen Property Rain Garden





# Pine Island Rain Gardens





# DISCUSSION





# DISCUSSION





# DISCUSSION



2017/10/12



# Neversink Ball Fields





# DISCUSSION



2015/09/23



# DISCUSSION



2015/08/19



# DISCUSSION



2016/05/10



# DISCUSSION



2015/07/15



# DISCUSSION





# DISCUSSION





# DISCUSSION



2017/09/14



# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION



2016/07/15



# DISCUSSION



2016/12/01





2017/09/14



# DISCUSSION



2016/12/01



# DISCUSSION



2017/09/14



# DISCUSSION



2017/09/14



# DISCUSSION



2017/09/14



# Windham Ski Area





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION



2015/09/30



# DISCUSSION



2016/08/09











# South Kortright School



2017/07/20







# DISCUSSION





# Pine Grove Storage Units



2015/09/04



# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION



2017/08/25



# Margaretville School Bus Garage SW Retrofit





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION





# DISCUSSION



2016/08/05



# DISCUSSION



2016/08/05



# DISCUSSION





- ❖ When seasonal high groundwater levels are too high, infiltration and biofilters are ruled out.
- ❖ When water tables fluctuate greatly its hard to maintain a permanent pool. Liners can bubble up
- ❖ Left with sand filters which are very expensive coupled with dry basins for peak control which are discouraged because they are not aesthetically pleasing and are prone to scour



- ❖ Paving Parking Lots/Spot Elevations
- ❖ Unstabilized areas and Gravel Parking Lots Delivering Sediment to Filtering Units
- ❖ Compacted Filters/Backblading Media
- ❖ Landscapers Making Filters into Basins
- ❖ Geotextile in Biofilters
- ❖ Clogged Infiltration Basins from use during Construction
- ❖ Weir Blowout
- ❖ **LACK OF MAINTENANCE!!**



# Questions?



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