

Wetland Regulation Requirements in Water Supply Protection Areas

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| Constituent | Stormwater ¹ | Smith and Granato 2010 ² | Drinking Water | Aquatic Organisms |
|--------------------|-------------------------|--|---|------------------------------------|
| Suspended Sediment | 54.5 mg/L (TSS) | 195 mg/L (SSC) | Max <1 NTU, ≤0.3 NTU 95% samples ³ | 1.3 NTU ³ |
| Zinc | 129 µg/L | 231 µg/L | 5000 µg/L | 120 µg/L chronic 120 µg/L acute |
| Lead | 50.7 µg/L | 20 µg/L | 0 µg/L | 2.5 µg/L chronic 65 µg/L acute |
| Fecal Coliform | 15,000 colonies/100 mL | | Indicator but Total Coliform < 0 | |
| Chloride | 116 mg/L* | 822 mg/L (annual) 2,484 mg/L (Jan - April only) | 250 mg/L (2ndary) | 230 mg/L chronic 860 mg/L acute |

1. RI DEM, 2010, RI Stormwater Design and Installation Standards Manual, page 2-13 (referencing other sources)
2. Smith and Granato 2010, USGS, Scientific Investigations Report 2009-5269, averages used
3. No universal conversion has been established between TSS or SSC with turbidity measures (NTU)

Areas Subject to Wetlands Protection

- Banks
- Bordering Vegetated Wetlands
- Lands Under Water
- Lands Subject to Flooding
- Riverfront Areas
- Salt Marshes
- Other Coastal Resource Areas
- Buffer Zones



Authorization Required For New Development or Redevelopment



when an Activity is proposed
in a wetland resource area or
buffer zone



Protection of Interests of the Act:

310 CMR 10.05(6)(b) require issuing authorities of wetlands permits to impose conditions:

- **on the QUALITY and QUANTITY of Discharges from Point Sources**
- **to Control EROSION and SEDIMENTATION**

310 CMR 10.05(6)(k) requires:

- **Compliance with 10 Stormwater Management Standards plus related requirements**

Stormwater Req. Summary

| | |
|---|-----------------------|
| No Scour to Resource Areas/No new untreated discharges to wetland resource area | 310 CMR 10.05(6)(k)1 |
| Attenuate peak runoff rate | 310 CMR 10.05(6)(k)2 |
| Provide stormwater recharge | 310 CMR 10.05(6)(k)3 |
| Remove TSS (surrogate) | 310 CMR 10.05(6)(k)4 |
| Protect critical areas (e.g. public drinking water supplies) | 310 CMR 10.05(6)(k)6 |
| Eliminate illicit discharges | 310 CMR 10.05(6)(k)10 |
| Comply with TMDL | |

Specific Req. in Public Drinking Water Areas (when a wetland permit is required)



- **Source control and pollution prevention plan (310 CMR 10.05(6)(k)4a)**
- **Stormwater discharges to Zone I or A are prohibited, unless essential to operation of the public water supply (310 CMR 10.05(6)(k)6)**
- **No stormwater BMPs allowed in Zone A**
- **Specific treatment and pretreatment practices required**
- **1-inch water quality volume req. to size treatment practices**
- **44% TSS removal required for infiltration pretreatment**
- **Practices for shut down and containment needed**

Hydro-modifications



- Stormwater recharge required to provide quantity
- MassDEP Underground Injection Control (UIC) registration required to protect groundwater quality for Class V wells (310 CMR 27.00)

Illicit Discharges

Any non-stormwater discharge prohibited except for:

| | |
|---|---|
| Water Line Flushing, | Water from Crawl Space Pumps |
| Landscape Irrigation, | Footing Drains |
| Diverted Stream Flows | Lawn Watering |
| Rising Ground Waters | Individual Resident Car Washing |
| Uncontaminated Ground Water Infiltration | Flows from Riparian Habitats and Wetlands |
| Uncontaminated Pumped Ground Water | Dechlorinated Swimming Pool Discharges |
| Discharge from Potable Water Sources | Street Wash Water |
| Foundation Drains | Residential Building Wash Waters, without Detergents |
| Air Conditioning Condensation | Fire fighting activities during emergency situations |
| Irrigation Water, Springs | |


Last Thoughts



- **Jurisdiction, jurisdiction, and jurisdiction**
- **New development versus redevelopment**
- **Existing stormwater discharges**

Documents Req. With Wetlands NOI

- ☐ Stormwater Report with Narrative and Computations for Each Standard
- ☐ ESSD/LID Measures Considered
- ☐ Complete Evaluation for Redevelopment activities, small housing projects (if applicable)
- ☐ Long Term Pollution Prevention Plan
- ☐ Construction Period Control Plan
- ☐ STP Long Term O&M Plan
- ☐ Illicit Discharge Compliance Statement



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
 - ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☒ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
 - ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
 - ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
 - ☐ Bioretention Cells (includes Rain Gardens)
 - ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
 - ☐ Treebox Filter
- ☒ Water Quality Swale
 - ☐ Grass Channel
 - ☐ Green Roof
 - ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
 - ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
 - ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Wetland Off-Ramp Stormwater Report Checklist.doc • 04/01/08

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Challenges and Opportunities

