MS4

Program Update

And Closing Comments

Jim Murphy
NJDEP Division of Water Quality
SWMDR Training Module 4
September 3, 2020
Introduction

Topics
- Rule Amendments
- MS4 Permit Renewals
- Permit Overview
- NJDEP Assistance/Guidance
- MS4 Audit Program
- BMP Manual Updates
Amendments to Stormwater Management Rules

- March 2, 2020: Adoption of Rules
  - One year delayed operative date, effective 3-2-2021
  - Current rules are in effect until 3-1-2021
  - Same timeframe municipalities have to update ordinances in accordance with MS4 permits
MS4 Permit Universe – Tier A & B

Permittees

- Tier A Municipalities (462)
  - urbanized or along or near the coast
- Tier B Municipalities (104)
  - rural and non-coastal
- Permits Renewed 2018
Public Complex Permittees

- Sixty-Nine Permittees (69)
  - Colleges
  - Universities
  - Hospitals
  - Prisons
- Permit Renewed 2019
Highway Agencies

- Thirty-Three Permittees (33)
  - Counties
  - 3 NJDOT (North, Central, South)
  - Transportation Agencies
    - Turnpike
    - Parkway
    - Bridge Commissions

- Permit Renewed
  - 1/1/2020

MS4 Permits:

https://www.nj.gov/dep/dwq/msrp_home.htm
National Map of Regulated MS4s

Public Education and Outreach

Involve Public in Reducing Pollutants in Stormwater

- Implement Public Education Program
- Increased annual points from 10 to 12
- Maintain Documents
- Certify Annually

Now Allows For:
- Updated activities (social media, web pages, etc.)
- More Opportunities Available to Align with Current Municipal Activities
Post Construction Runoff Control

Review of Stormwater Management Designs for Major Development

• Local Review to Ensure consistency with NJ Stormwater Rules
  - Quantity, Quality, GW Recharge
• Utilize Attachment D Checklist to ensure compliance with Design and Performance requirements under the Stormwater Rules
• Maintain Records and Certify Annually
• Updated BMP Manual for easier comprehension and understanding of design requirements
• Updated Training videos on Stormwater BMPs
• **FREE** DEP training for local review of stormwater designs ("Engineers training")
## General Information

1. **Project Name:**
2. **Municipality:**
3. **County:**
4. **Block(s):**
5. **Lot(s):**
6. **Site Location (State Plane Coordinates = NAD83):**
7. **Date of Final Approval for Construction by Municipality:**
8. **Date of Certificate of Occupancy:**

## Site Design Specifications

1. **Area of Disturbance (Acres):**
2. **Area of Proposed Improvements (Acres):**
3. **List all Hydrologic Soil Groups:**
4. **Please identify the amount of each Best Management Practices (BMPs) utilized in design below:**
   - Evaporation Systems
   - Constructed Wetlands
   - Dry Wells
   - Extended Detention Basins
   - Infiltration Basins
   - Combination Infiltration/Detention Basins
   - Manufactured Treatment Devices
   - Permeable Paving Systems
   - Seepage Mappers
   - Vegetative Filter Strips
   - Wet Ponds
   - Grass Swales
   - Subsurface Gravel Wetlands
   - Other

## Storm Event Information

1. **Storm Event: Rainfall (Inches and Duration):**
   - 2 yr: ___________
   - 10 yr: ___________
   - 100 yr: ___________
   - WQ DS:
2. **Runoff Computation Method (Circle one):**
   - NRCS: Dimensionless Unit Hydrograph
   - NRCS: Delmarva Unit Hydrograph
   - Rational
   - Modified Rational
   - Other
   - Other

## Basin Specifications (answer all that apply)

1. **Type of Basin:**
2. **Owner (Circle one):**
3. **Public**
4. **Private: If so, Name:**
5. **Phone number:**
6. **Basin Construction Completion Date:**
7. **Design Soil Permeability (in/hr):**
8. **Seasonal High Water Table Depth from Bottom of Basin (ft):**
9. **Date Obtained:**
10. **Groundwater Recharge Methodology (Circle one):**
    - 2 Year Difference
    - NGRS
    - Other
    - NA
11. **Groundwater Modeling Analysis (Circle one):**
    - Yes
    - No
    - If Yes Methodology Used:
12. **Maintenance Plan Submitted:**
    - Yes
    - No
    - Is the Basin Deed Restricted:**
    - Yes
    - No

## BMPs Used

1. **Basin only Information**
Community Wide Ordinances and Measures

• Retains Six Existing Ordinance Requirements
• Catch Basin Inspection and Cleaning
  o At least every Five Years
  o Focus on Problematic Areas Certify Annually
• Street Sweeping
  o Miles swept & tons collected
• Maintain Records and Certify Annually
• Less Prescriptive
• Discretion to Municipality to Prioritize
Municipal Maintenance Yards and Ancillary Operations

- Expanded List to Cover Common Activities at MMY
  - Aggregate Materials and Construction Debris Storage
  - Street Sweepings, Catch Basin Clean Out Material
  - Yard Trimmings & Wood Waste Management
- Containment of Vehicle Wash water
  - Maintain Logs
    - Annual Engineers Inspection & Certification
    - Storage Tank Use & Pump Out Log
    - Integrity Testing every 3 Years
  - Attachment E of the Permit
- Maintain Records and Certify Annually
Employee Training

- Specific to the Employee’s Job Title and Duties
- Within Three (3) Months of Commencement of Duties
- Every Two (2) Years Thereafter
- Maintain Records and Certify Annually
- More Specific/Targeted
- DEP Training Materials Posted On-line
PP/GH-Training Requirements

Stormwater Management Design Review

• Required Training for Stormwater Management Design Reviewers  
  - (e.g. Municipal Engineers)
• Training Required Every Five Years
• Register/DEP Maintains Records
• FREE NJDEP Training – Twice per Year
Board & Council Member Training (Tier A & B)

- Required Training by All Board and Council Members
- Overview of Stormwater Permit Requirements
- “Asking the Right Questions”
- Maintain Records and Certify Annually
- FREE On-line Class (45 minutes)
Localized Stream Scouring

- Develop, Update, Implement a Program
- Inspect Every Outfall Once Per 5 Years (Tier A & B)/Annually (R11)
- Mapping App
- Document Inspections
  - Location
  - IF Scouring
    - Repairs Prioritized
    - Repairs Scheduled
Mapping, Illicit Discharge and Scouring

Illicit Discharge Detection and Elimination

- Develop, Update, Implement, and Enforce Ongoing Program
- Inspect Every Outfall Once Per 5 Years (Annually for R11)
- Mapping App
- Document Inspections
  - Location
  - Illicit Connection Inspection Report Form
Other Control Measures – Maintenance

Maintenance of Stormwater BMPs (e.g. basins, MTDs, GI, etc.)

- Maintain all publicly owned stormwater BMPs
- Ensure maintenance of all privately owned BMPs built after 1984
  - Location
  - Illicit Connection Inspection Report Form
- Inspection and Maintain per maintenance Plan to Ensure proper function and operation
  - Maintain a Log
  - Location Information
  - Date
  - Findings
  - Maintenance Performed
- Prioritize Repairs
Other Control Measures – Maintenance

Maintenance of Stormwater BMPs (e.g. basins, MTDs, GI, etc.)

Assistance:

• Mapping Application and License
• Extensive new O & M checklist and guidance posted on-line
• Town-wide Land Use GP for basin maintenance
• Letter from Department to support municipality gaining information about and access to private stormwater facilities
Incorporation of TMDL information into SPPP

- Identify impaired waterways in municipality
- Identify and develop strategies to address sources of pollutants
- Update SPPP annually to include optional measures
- Prioritize stormwater facility maintenance & repairs
- TMDL Look-up Tool posted on-line
- Summarized strategies already posted
<table>
<thead>
<tr>
<th>Summary of Minimum Standard (See Part IV for specific permit requirements)</th>
<th>Permit Cite</th>
<th>Measurable Goal (See Part IV for specific permit requirements)</th>
<th>Implementation Schedule</th>
<th>New Requirement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Involvement and Participation Including Public Notice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide for public notice under the Open Public Meetings Act, statutory procedures for enactment of ordinances, and Municipal Land Use Law when providing for public participation in the development and implementation of a stormwater program, and maintain records necessary to demonstrate compliance.</td>
<td>IV.B.1.a &amp; d</td>
<td>Certify in each annual report that all public notice requirements have been met and relevant records kept. Reference in the SPPP the location of associated municipal records.</td>
<td>EDPA</td>
<td>No</td>
</tr>
<tr>
<td>Provide the current SPPP to the public upon request.</td>
<td>IV.B.1.b.i</td>
<td>Certify in each annual report that the SPPP was made available to the public.</td>
<td>EDPA</td>
<td>No</td>
</tr>
<tr>
<td>Post the current SPPP on the municipality’s website.</td>
<td>IV.B.1.b.ii</td>
<td>Certify in each annual report that the SPPP has been posted on the municipality’s website (to the extent required by Part IV.F.1.f) and that the posted SPPP is current.</td>
<td>EDPA + 90 days</td>
<td>Yes</td>
</tr>
<tr>
<td>Post the current Municipal Stormwater Management Plan (MSWMP) and related ordinances on the municipality’s website.</td>
<td>IV.B.1.b.iii</td>
<td>Certify in each annual report that the MSWMP and related ordinances have been posted on the municipality’s website and that the posted documents are current.</td>
<td>EDPA + 90 days</td>
<td>Yes</td>
</tr>
<tr>
<td>Local Public Education and Outreach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation of a Public Education and Outreach Program by conducting activities that total a minimum of 12 points on an annual basis.</td>
<td>IV.B.2.a</td>
<td>Certify in each annual report that the minimum point value has been met and report point totals in the Annual Report. Maintain records of materials and activities from Attachment B, including dates of activities and any other relevant documentation (e.g. brochures, pictures, sign-in sheets, press clippings).</td>
<td>EDPA</td>
<td>Modified</td>
</tr>
<tr>
<td>Label storm drain inlets, maintain the legibility of those labels, and replace labels that are missing or not legible along sidewalks that are adjacent to municipal streets; and within plazas, parking areas or maintenance yards operated by the municipality.</td>
<td>IV.B.2.b</td>
<td>Certify in each annual report that storm drains have been properly labeled and/or maintained. Records tracking storm drain inlet label status shall be kept with the SPPP.</td>
<td>EDPA</td>
<td>No</td>
</tr>
</tbody>
</table>
NJDEP Mapping and Inventory Assistance
NJDEP Mapping and Inventory Assistance

Mapping App
- All Drop Down Menus
- Smart Phone/Tablet/GIS
- Multiple Collection Methodologies
- Guidance Pending
- In Person Training and Assistance

Mapping App – Feature Classes
- Outfall Pipe
- Stormwater Management Basin
- Subsurface Infiltration/Detention System
- MTDs
- Green Infrastructure
- Storm Drain Inlet
TMDL Look-Up Tool

Total Maximum Daily Load (TMDL) Look-Up Tool

The tool was developed to assist New Jersey’s municipal stormwater coordinators with the development of plans and strategies to reduce stormwater discharges from Municipal Separate Storm Sewer Systems. It should also prove useful to others with an interest in water quality issues that affect our state.

To use the TMDL Look-Up Tool, go to the dropdown feature below and locate your municipality. The tool will display a list of watersheds and established, approved or adopted TMDL information associated with the selected municipality. To view the TMDL document and find implementation strategies, click on the associated link: View the TMDL Document. Once you have opened the TMDL document you can locate the implementation section using the table of contents.

County: Mercer
Municipality: Select

Please click Reset for a new search.

A Guide to Abbreviations used in the TMDL
Hg = Mercury
TP = Total Phosphorus
DO = Dissolved Oxygen
TSS = Total Suspended Solids
Total Maximum Daily Load (TMDL) Information for Selected Municipality:

Applicable Stream TMDL(s)
- Total Maximum Daily Loads for Fecal Coliform to Address 28 Streams in the Northwest Water Region
  - Fecal Coliform - 2003: Assunpink Creek, Shabakunk Creek, Little Shabakunk: View the TMDL Document
  - Total Maximum Daily Loads for Fecal Coliform to Address 48 Streams in the Raritan Water Region
    - Fecal Coliform - 2003: Duck Pond Run: View the TMDL Document
    - Total Maximum Daily Loads for Fecal Coliform to Address 48 Streams in the Raritan Water Region
      - Fecal Coliform - 2003: Stony Brook: View the TMDL Document
- Total Maximum Daily Load for Mercury Impairments Based on Concentration in Fish Tissue Caused Mainly by Air Deposition to Address 122 HUC 14s Statewide
  - Mercury - 2010: Stony Bk (Province Line Rd to 74d46m dam): View the TMDL Document

Applicable Lake TMDL(s)
None

Applicable Shellfish TMDL(s)
None

Amendment to the Atlantic, Cape May, Lower Delaware, Lower Raritan-Middlesex, Mercer, Monmouth, Northeast, Ocean, Sussex, Tri-County, Upper Delaware and Upper Raritan Water Quality Management Plans

Total Maximum Daily Load for Mercury Impairments Based on Concentration in Fish Tissue Caused Mainly by Air Deposition to Address 122 HUC 14s Statewide
New/Updated BMP Chapters

- Bioretention Systems
- Standard Constructed Wetlands
- Dry Wells
- Extended Detention Basins
- Infiltration Basins
- MTDs
- Pervious Paving Systems
- Blue Roofs
Comment Period Closed 5/1/20

• Chapter 5 – Stormwater Mgmt Quantity and Quality Standards and Computations
• Chapter 12 – Soil Testing Criteria

Recently Posted Final Updates

• Chapter 13 – Groundwater Table Hydraulic Impact Assessments for Infiltration BMPs
• Appendix D – Model Municipal SCO
**Edits in Progress**

- Chapter 3 – Munic. and Regional SW Mgmt Planning
- Chapter 4 – Stormwater Pollutant Removal Criteria
- Chapter 9 – GI BMPs
- Chapter 10 – GI BMPs with Waiver
- Chapter 11 – Non-GI BMPs

New/Updated BMP Chapters (cont’d.)

Sand Filters
Vegetative Filter Strips
Wet Ponds
Grass Swales
Subsurface Gravel Wetlands
Rain Garden
Cistern
Green Roofs

Newest…
9.4 EXTENDED DETENTION BASINS

An extended detention basin is a stormwater management facility that temporarily stores and attenuates stormwater runoff. In addition, extended detention basins provide pollutant treatment for runoff from the Water Quality Design Storm through settling. When designed in accordance with this chapter, the total suspended solids (TSS) removal rate is 40 - 60%, depending on the duration of runoff detention.

N.J.A.C. 7:8 Stormwater Management Rules - Design and Performance Standards

<table>
<thead>
<tr>
<th>Nonstructural Strategies</th>
<th>Not Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quantity</td>
<td>Yes, when designed for the 2-, 10- and 100-year design storms</td>
</tr>
<tr>
<td>Groundwater Recharge</td>
<td>Not Allowed</td>
</tr>
<tr>
<td>Water Quality</td>
<td>40 - 60% TSS Removal, depending on duration of detention</td>
</tr>
</tbody>
</table>

Water Quality Mechanisms and Corresponding Criteria

<table>
<thead>
<tr>
<th>Settling</th>
<th>Minimum Detention Time for Calculation of TSS Removal Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 hours</td>
</tr>
<tr>
<td></td>
<td>Maximum Detention Time for Calculation of TSS Removal Rate</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
</tr>
</tbody>
</table>
Stormwater Maintenance Guidance and Website

Templates and Field Manuals

One Template of Maintenance Plan
Fourteen Templates of Field Manuals for Fourteen Types of Stormwater Management Measures
One Template of Maintenance Log

Maintenance Website - Resources and Information

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NJ STORMWATER.ORG
Stormwater in New Jersey

Maintenance Guidance

The guidance on this page is intended to assist design engineers and responsible parties with complying with the maintenance requirements for stormwater management measures. The Maintenance Guidance can be customized to allow for specific considerations in design, site conditions, and responsible party needs.

State Permits Potentially Required During Maintenance

Click here for State Permits

Rainfall Information

The National Climatic Data Center provides current and historical precipitation information, which can assist maintenance crews with assessments.

Click here for Rainfall Information

Stormwater Training for Maintenance of Stormwater Management Measures

Click here for Stormwater Training
Manufactured Treatment Devices (MTD) Certification Process

Stormwater Manufactured Treatment Devices

An MTD is required to be NJCAT verified and NJDEP certified when the MTD is used to satisfy the requirements of the Stormwater Management rule (N.J.A.C. 7:8), as a result of triggering the requirements for major development.

For projects receiving New Jersey Environmental Infrastructure Financing Program (NIEFFP) funding, an MTD must be either: 1) NJCAT verified and NJDEP certified or 2) installed using the NIEFFP MTD Funding Policy.

An MTD which is not NJCAT verified or NJDEP certified may be used as long as the MTD is not intended to satisfy the requirements of the Stormwater Management rule and is not subject to NIEFFP MTD Funding Policy.

Please note that any MTD installed should be listed on the MS4 permittee’s inventory of stormwater management measures and must be properly maintained by the responsible party. Other state, federal and local requirements may apply.

Verification Process

The Technology Verification Program specifically encourages collaboration between vendors and users of technology. Through this program, teams of academic and business professionals form to implement a comprehensive evaluation of vendor specific performance claims. The result of successfully completing this program is documentation of independent third party confirmation of claims that provides valuable information to business and governmental decision-makers.
MS4 Permit Audit Program

Audit Selection Process (Annual Reports/Supplemental Questionnaires; Enforcement Consulted; Construction Permits; Impaired Waterbodies)

Audit Process (Schedule Date of Audit; Request for Documents; Pre-Audit Preparation; On-Site)

Conduct On-site Audit

Issue Audit Findings Report

MS4 Permit Audit
Goals of the MS4 Audit Program

- Permit Compliance
  - Compliance Assistance
    - Education
    - Training
    - Outreach
  - Effectiveness of the Permit
    - Permit Modifications
    - Rule Changes
    - BMPs
    - Guidance
MS4 Audit Selection

• Advance Notice and Coordination
  o Minimum 30 days notice
  o www.nj.gov/dep/dwq/tier_a_guidance_other.htm

• Solicitation of Project Plans

• On-site Discussion and Review
  o 1 or 2 Days
  o Stormwater Coordinator/Twp. Engineer, etc.

• Areas of Focus
  o MS4 Permit Conditions - SBRs, Ordinances, etc.
  o Post Construction Requirements under NJAC 7:8
Moving Forward

• Ongoing MS4 Stormwater Audits
• Outreach Activities
  o Mapping App
  o Engineers Training
• Appendix A = Permit Summary Table
• Tools Are the Key
  o Training
  o Updated BMPs
  o GI Guidance Document
  o Inspection/Field Manual Templates
  o Mapping
Important Links

NJDEP Stormwater Web Page

- [http://www.nj.gov/dep/dwq/fd.htm](http://www.nj.gov/dep/dwq/fd.htm)
  - BMP Manual
  - Stormwater Training
  - TMDL Look-up Tool
  - Maintenance Guidance
  - MS4 Permit Documents
  - Mapping and Inventory
  - Educational Resources

- MTDs
  - [https://www.njstormwater.org/treatment.html](https://www.njstormwater.org/treatment.html)

- Tools Are the Key
  - [http://www.nj.gov/dep/dwq/msrp_home.htm](http://www.nj.gov/dep/dwq/msrp_home.htm)
Important Reminders

Course Survey

• Will be emailed within the next two weeks
  • Complete and Send Back

• Survey Required for Course Certificate of Completion
  • No Survey = No Certificate

• Provide Copy of Certificate to Stormwater Program Coordinator

• Complete this Course Every Five Years

• Handouts Available on the NJDEP Webpage
  o https://www.njstormwater.org/training.htm
Questions?

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