TOWN OF WESTPORT
Board of Health

Stormwater Quality and Quantity Control
Regulation

Appendix B

1. Applicant Checklist: Submittal of Stormwater Design Plans
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3. Stormwater Management Summary Form

TOWN OF WESTPORT
WESTPORT, MASSACHUSETTS 02790

OFFICE OF BOARD OF HEALTH
856 MAIN ROAD

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November 24

Applicant Checklist
Submittal of Stormwater Design Plans

- **General:**

  - ❑ Contact information. The name, address, and telephone number of all persons having a legal interest in the property, and the tax reference number and parcel number;
  - ❑ Locus map.

- **Pre-Development Conditions:**

  - ❑ Location of existing watersheds and sub-watersheds on the property, as well as upgradient areas contributing runoff to the property;
    - ❑ location of all surface waters and wetlands on or adjacent to the site;
    - ❑ location of all utilities and easements;
  - ❑ Location of all public/private wells and/or wastewater treatment facilities on or within 100 feet of the property;
  - ❑ The delineation of the 100 year flood elevation as indicated on the FIRM maps. If FIRM maps do not exist or if the waterbody or watercourse 100-year flood elevation is not indicated on the map, the elevation shall be calculated utilizing an appropriate methodology such as NRCS TR-55 or TR-20 or HEC2. **Note: The floodplain locations determined by the FIRM maps are approximate. When a specific elevation is given, the location of the floodplain shall correspond to that elevation;**
  - ❑ The existing land uses and principal vegetation types sufficient to determine an appropriate curve number;
  - ❑ The topography described at 1 foot intervals with areas of steep slopes over 15% highlighted;
  - ❑ The soil types on the site and the hydrological soil groups based the most current Natural Resource Conservation Service soils map of the site (available at the NRCS office in Wareham) and verified as required by the Volume 3 of the Handbook or on sites less than 5 acres, a high intensity soil survey performed by a certified soil scientist with a minimum soil map unit of 0.04 acres;
  - ❑ Any areas on the site where infiltration rate is greater than 2.4 inches per hour;
  - ❑ The flow path(s). The flow length for pre-development sheet flow to determine the time of concentration (Tc) or travel time (Tt) shall not exceed 50 feet;

- **Pre-Development Conditions*:-(Continued…)***

  - ❑ The design points for each watershed. The design points shall be at the edge of wetlands, the property line and/or the existing storm drain system, whichever is intercepted by the flow path first. For each pre-development design point there shall be a corresponding post-development design point;
  - ❑ Areas of ponding or swamping.

- **Post-Development Conditions:**

  - ❑ Location of existing watersheds and sub-watersheds on the property, as well as upgradient areas contributing runoff to the property;
  - ❑ Location of all surface waters and wetlands on or adjacent to the site;
  - ❑ Changes in topography at 1 foot intervals;
  - ❑ Location of all utilities and easements;
  - ❑ Location of all public/private wells and/or wastewater treatment facilities on or within 100 feet of the property;
  - ❑ Areas where vegetation will be cleared or otherwise altered;
  - ❑ The proposed development layout including locations of:
    - ❑ roadways, buildings, common parking areas, other impervious surfaces, and undisturbed lands;
    - ❑ land Uses with Higher Potential Pollutant Loads (LUHPPL, as described in the Handbook, Volume 1, Chapter. 1) and;
    - ❑ drainage systems and stormwater treatment facilities;
  - ❑ Areas to be utilized in overland flow, i.e. grass swales and filter strips, showing:
    - ❑ proposed vegetation and;
    - ❑ the soil susceptibility to erosion (using the NRCS classification);
  - ❑ The flow path(s) for the 2-, 10-, 25-, and 100-year 24 hour storm event. The flow length for post-development sheet flow shall not exceed 50 feet;
  - ❑ The design points for each watershed and or sub-watershed;
  - ❑ Location and elevation of soil test pits;
  - ❑ Maximum groundwater levels at the proposed BMPs locations.

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Applicant Checklist
Submittal of Stormwater Report

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ❑ New Development;
- ❑ Redevelopment;
- ❑ Mix of New Development and Redevelopment.

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 Handbook included.

Standard 2: Peak Rate Attenuation

- ❑ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding;
- ❑ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm;
- ❑ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-, 10-, and 25-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ❑ Soil logs and test results for each proposed Best Management Practices ("BMP") control system site (flood, volume and pollution control BMPs) in accordance with the Handbook;
- ❑ Sizing the infiltration, BMPs is based on the following method: Circle the method used;

  Static Simple Dynamic Dynamic Field[1]
- ❑ Runoff from all impervious areas at the site discharging to the infiltration BMP;

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

- ❑ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume;
- ❑ Recharge BMPs have been sized to infiltrate the Required Recharge Volume;
- ❑ Recharge BMPs have been sized to infiltrate the Required Recharge Volume only to the maximum extent practicable for the following reason:
  - ❑ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000;
  - ❑ Solid Waste Landfill pursuant to 310 CMR 19.000;
  - ❑ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable;
- ❑ Calculations showing that the DEP recharge infiltration BMPs will drain in 72 hours are provided;
- ❑ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included;
- ❑ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided;
- ❑ Documentation (mounding analysis as described in Volume 3, Chapter 1 of the Handbook) is provided showing that infiltration BMPs will not break out above the land or water surface of a wetland (e.g., it doesn't increase the water sheet elevation in a Bordering Vegetated Wetland, Salt Marsh, or Land Under Water within the 72-hour evaluation period).

Standard 4: Water Quality

- ❑ A Long-Term Pollution Prevention Plan ("LTPPP") (included with the SMR and with the Wetlands NOI). This plan typically includes the following:
  - Good housekeeping practices;
  - Provisions for storing materials and waste products inside or under cover;
  - Vehicle washing controls;
  - Requirements for routine inspections and maintenance of stormwater BMPs;
  - Spill prevention and response plans;
  - Provisions for maintenance of lawns, gardens, and other landscaped areas;
  - Requirements for storage and use of fertilizers, herbicides, and pesticides;
  - Pet waste management provisions;
  - Provisions for operation and management of septic systems;
  - Provisions for solid waste management;
  - Snow disposal and plowing plans relative to Wetland Resource Areas;
  - Winter Road Salt and/or Sand Use and Storage restrictions;
  - Street sweeping schedules;
  - Provisions for prevention of illicit discharges to the SMS;
  - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;

- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan ("LTPPP");
- List of Emergency contacts for implementing LTPPP.

❑ A LTPPP is attached to SR and is included as an attachment to the Wetlands Notice of Intent;

❑ Calculations documenting that the treatment train meets the 80% TSS removal requirement and the 44% TSS removal pretreatment requirement, are provided. Note: Street sweeping will receive no TSS removal credit;

❑ The BMP is sized (and calculations provided) based on the volume generated by the first 1.25 inches of stormwater runoff. The first flush treatment volume in cubic feet (V_{WQ}) is determined by the following formula:

V_{WQ} = (1.25/12 inches) (R_{WQV}) (Site Area in square feet);

Where-R_{WQV} = 0.05 + 0.009(I);

I = the % impervious area;

❑ If the applicant proposes to use proprietary BMPs, documentation supporting use of proprietary BMP and proposed TSS removal rate must be provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

❑ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan ("SWPPP") has been included with the SR;

❑ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs;

❑ The NPDES Multi-Sector General Permit does ***not*** cover the land use;

❑ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the LTPPP;

❑ All exposure has been eliminated;

❑ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list;

❑ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bio-retention area, a sand filter or equivalent;

Standard 6: Critical Areas

❑ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area;

❑ Critical areas and BMPs are identified in the SR.

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ❑ The project is subject to the Stormwater Management Standards only to the maximum extent practicable as a:
  - ❑ Bike Path and/or Foot Path;
  - ❑ Redevelopment Project;
  - ❑ Redevelopment portion of mix of new and redevelopment;
- ❑ Certain standards are not fully met (Standard No. 1, 8, 9, 10, and 11 must always be fully met) and an explanation of why these standards are not met is contained in the SR;
- ❑ The project involves re-development and a description of all measures that have been taken to improve existing conditions is provided in the SR. The re-development checklist found in Volume 2, Chapter 3 of the Handbook may be used to document that the proposed SMS (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period O&M Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- O&M of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

- ❑ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above have been included in the SR;
- ❑ The project is highly complex and information is included in the SR that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the SR but will be submitted ***before*** land disturbance begins;
- ❑ The project is ***not*** covered by a NPDES Construction General Permit;
- ❑ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the SR;

❑ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

An Operation and Maintenance plan ("O&M Plan") is required at the time of application. The O&M Plan shall be designed to ensure compliance with the Permit, this regulation and that the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 are met in all seasons and throughout the life of the system. The O&M Plan shall remain on file with the Board and shall be an ongoing requirement. The O&M Plan shall include:

❑ The Post Construction O&M Plan is included in the SR and includes the following information:
- ❑ Name of the SMS owners;
- ❑ Party responsible for operation and maintenance and the person(s) responsible for financing maintenance and emergency repairs;
- ❑ Schedule for implementation of routine and non-routine maintenance tasks;
- ❑ Plan showing the location of all stormwater BMPs maintenance access areas;
- ❑ Description and delineation of public safety features;
- ❑ Estimated operation and maintenance budget; and
- ❑ O&M Log Form.

❑ When the responsible party is ***not*** the owner of the parcel where the BMP is located and the SR includes the following submissions:
- ❑ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ❑ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions;
- ❑ Easements shall be recorded with the Bristol County Registry of Deeds prior to issuance of a Certificate of Completion by the Board.

Standard 10: Prohibition of Illicit Discharges

❑ The LTPPP includes measures to prevent illicit discharges;
❑ An Illicit Discharge Compliance Statement is attached;
❑ The Illicit Discharge Compliance Statement is attached.

Standard 11: Volume Control

❑ Sizing the infiltration, BMPs is based on the following method: Circle the method used;
Static Simple Dynamic Dynamic Field[2]

❑ Recharge BMPs alone (without using Greenroofs or Bio-flitration) have been sized to infiltrate the Required Volume. V_{10} or $V_{2;}$

❑ Adequate information has been submitted for strategies used to reduce volume other than infiltration.

[2] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

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Stormwater Management Summary Form

Applicant:_____ Project Name _____

Stormwater Plan Prepared by: _____

Subwatershed # _____

Item	Pre-development	Post-Development
Runoff Curve Number		
Time of Concentration		
Rate 1 yr.		
Rate 2 yr.		
Rate 10 yr.		
Rate 25 yr.		
Rate 100 yr.		
Volume 10 yr.		
Sq. Ft. Impervious		
Water Quality Volume		