

Proposed Stormwater Updates to the Massachusetts Wetlands and 401 Regulations (310 CMR 10.00 and 314 CMR 9.00)

Public Information Sessions - January 18 & 23, 2024
Public Hearings – January 31 & February 1, 2024

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&

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Agenda

- Overview of regulation changes, Standards 2, 3 and 4 and 7
- Detailed Discussion of Standards 2, 3 and 4 and 7
- Overview of New Standard 11
- Overview of Environmentally Sensitive Site Design (ESSD) Credits
- Preview of Draft Stormwater Handbook
- Questions and Answers



Stormwater Regulation Update for Wetlands Protection Act (310 CMR 10.00) and Water Quality Certification (314 CMR 9.00)

Goals of Stormwater Management Updates

- Update outdated precipitation data with current data that reflects increasing storms
- Align with EPA's MS4
- Promote Nature-Based Environmentally Sensitive Site Design (ESSD) and Low Impact Development (LID)
- Also, New Revised User-Friendly Stormwater Handbook



Stormwater Regulation Update for Wetlands Protection Act & Water Quality Certification

Summary of Proposed Key Stormwater Changes

#	Existing Wetland/WQC Regulation	Key Change Proposed
1	No new untreated stormwater conveyances	No major changes proposed
2	Peak discharge rates (runoff)	NOAA PLUS, 100-year storm
3	Groundwater recharge	1-inch for all soil types except D
4	Pollutant removal for New Development	90% TSS and 60% TP removal
5	Lands Uses with Higher Potential Pollutant Loads	No major changes proposed
6	Critical areas, including public drinking waters	No major changes proposed
7	Redevelopment	80% TSS & 50% TP removal, most projects must fully meet Std. 4
8	Erosion and sedimentation control during construction	No major changes proposed
9	Long-term operation and maintenance of stormwater controls	No major changes proposed
10	Prohibit Illicit discharges to stormwater controls and wetlands	No major changes proposed
11	Supporting Compliance with TMDLs	Consolidate TMDL language



Stormwater Regulations Update:

Peak Runoff Attenuation (Std. 2)

Existing regulation: “Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.”

Current MassDEP Wetlands/WQC Rule	PROPOSED
NEW DEVELOPMENT	
<ul style="list-style-type: none">TP402- and 10-year storms, and 100-year storm if offsite flooding	<ul style="list-style-type: none">NOAA PLUS (based on current extreme precipitation; 90% of the published upper confidence interval)2- and 10-year storms, and 100-year storm in all instances
REDEVELOPMENT	
Must meet Standard 2 to the Maximum Extent Practicable and Improve Existing Conditions	<ul style="list-style-type: none">NO CHANGE – Remains Maximum Extent Practicable, however NOAA Plus must be used for calculation



Stormwater Regulations Update:

Recharge (Std. 3)

Existing regulation: "At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type."

Current MassDEP Wetlands/WQC Rule	PROPOSED
NEW DEVELOPMENT	
<ul style="list-style-type: none">• A soil: 0.6-inches• B soil: 0.35-inches• C soil: 0.25-inches• D soil: 0.1-inches	<ul style="list-style-type: none">• A, B, and C Soil: 1-inch (Static Method)• D: 1-inch to Max. Extent Practicable• Additional Methods allowed: Dynamic, Continuous Simulation
REDEVELOPMENT	
<ul style="list-style-type: none">• Standard 3 must be met to the Maximum Extent Practicable	<ul style="list-style-type: none">• No Change – Maximum Extent Practicable Standard remains (except it is one-inch to the MEP – except D soils)• Off-site allowed



Stormwater Regulations Update:

Pollutant Removal (Std. 4)

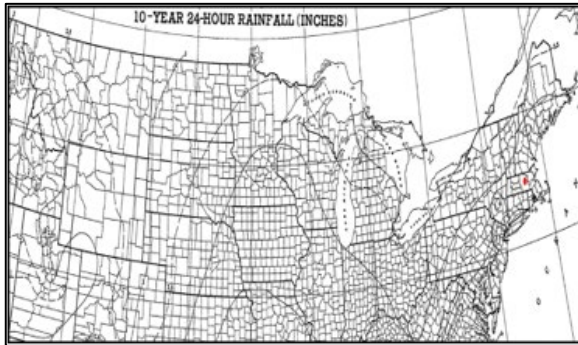
Existing regulation: “Remove 80% of the average annual load of Total Suspended Solids.”

Current MassDEP Wetlands/WQC Rule	MS4 Requirement	Proposed
NEW DEVELOPMENT		
<ul style="list-style-type: none"> Remove 80% Total Suspended Solids (TSS) Treat 0.5” for most sites; Treat 1” for Outstanding Resource Water, critical areas, LUHHPL 	<ul style="list-style-type: none"> Remove 90% TSS Remove 60% Total Phosphorus (TP) Off-site mitigation allowed within HUC 12 	<ul style="list-style-type: none"> Remove 90% TSS Remove 60% TP Off-site mitigation not allowed
REDEVELOPMENT		
<ul style="list-style-type: none"> Standard 4: Maximum Extent Practicable (MEP) and improve existing conditions 	<ul style="list-style-type: none"> Remove 80% TSS Remove 50% TP Off-site mitigation allowed within HUC 12 	<ul style="list-style-type: none"> Std 4: 80% TSS and 50% TP, Meet instead of MEP, for most projects <p>Allow off-site mitigation if no discharge to Critical Areas or LUHPPLs</p>



Stormwater Regulations Update:

Standard 2: Peak Stormwater Runoff Rate



Technical Paper 40 (1961)

- Paper Format
- Locus: Continental U.S.
- Interpolation necessary

NOAA's National Weather Service
Hydrometeorological Design Studies Center
Precipitation Frequency Data Server (PFDS)

Home Site Map Organization

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: MA

Data description
Data type: [Precipitation depth] Units: [English] Time series type: [Partial duration]

Select location

1) Manually:

a) By location (decimal degrees, use "N" for S and W): Latitude: [] Longitude: [] [Submit]

b) By station (list of MA stations): [Select station]

c) By address: [Search] [Go]

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at hdsc.questions@noaa.gov):

Map []
[] Terrain
[] Spings

Albany Pittsfield Springfield Hartford Waterbury Danbury New Haven New London Norwich Providence Fall River New Bedford Falmouth Barnstable Plymouth Brockton Boston Worcester Lowell Nashua Manchester Concord Dover Portsmouth Gloucester

Location information:
Name: Hardwick, Massachusetts, USA
Latitude: 42.3821°
Longitude: -72.1825°
Elevation: 636.16 ft **

* Source: ESRI Maps
** Source: USGS

NOAA 14 Volume 10 (2019)

- Web based
- Locus: Massachusetts
- No interpolation necessary



Standard 2: Peak Stormwater Runoff Rate

How Do You Get NOAA14 PLUS?

- Navigate to NOAA14 Web site (<https://hdsc.nws.noaa.gov/pfds/>)
- Type address or Click/zoom Massachusetts map on the desired location
- Tabular results will pop-up
- Multiple 0.9 by the NOAA Upper Confidence

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)¹

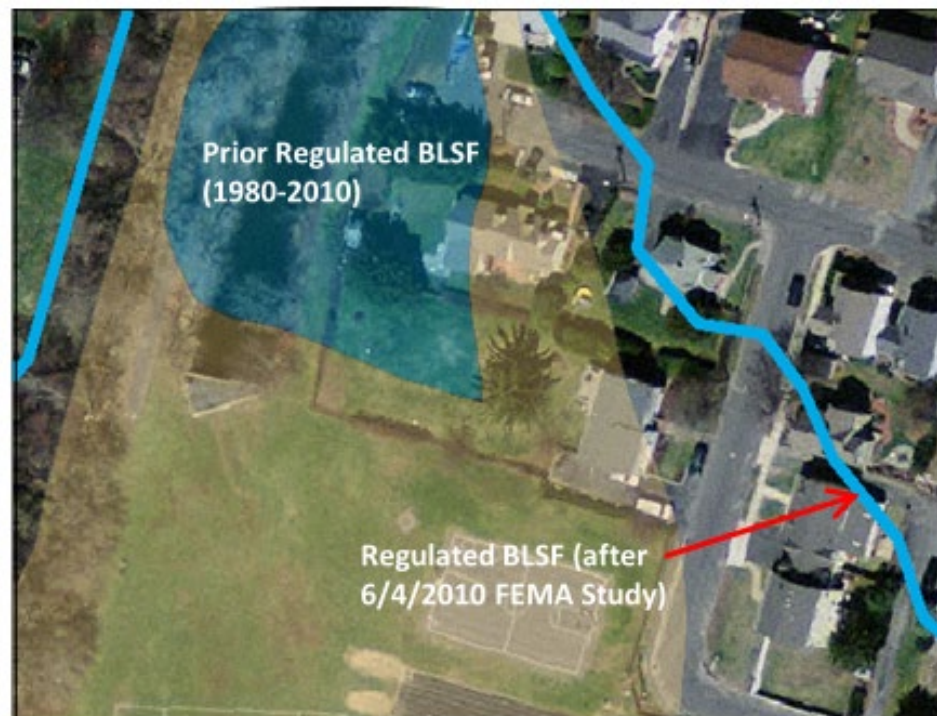
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.296 (0.243-0.361)	0.366 (0.300-0.446)	0.480 (0.392-0.587)	0.574 (0.465-0.708)	0.704 (0.549-0.919)	0.801 (0.610-1.07)	0.905 (0.665-1.27)	1.03 (0.703-1.48)	1.22 (0.792-1.82)	1.38 (0.870-2.10)
10-min	0.420 (0.345-0.51)	0.514 (0.418-0.63)	0.639 (0.500-0.814)	0.774 (0.610-1.00)	0.924 (0.700-1.21)	1.14 (0.863-1.52)	1.28 (0.942-1.80)	1.46 (0.994-2.09)	1.72 (1.12-2.57)	1.95 (1.23-2.97)
15-min	0.494 (0.405-0.60)	0.594 (0.478-0.73)	0.739 (0.570-0.95)	0.884 (0.680-1.14)	1.054 (0.780-1.41)	1.34 (1.01-1.79)	1.51 (1.11-2.12)	1.72 (1.17-2.46)	2.03 (1.32-3.02)	2.29 (1.45-3.50)
30-min	0.659 (0.541-0.80)	0.784 (0.620-1.00)	0.969 (0.740-1.26)	1.154 (0.870-1.57)	1.364 (0.980-1.91)	1.79 (1.36-2.40)	2.02 (1.49-2.84)	2.30 (1.57-3.30)	2.72 (1.77-4.06)	3.08 (1.95-4.70)
60-min	0.824 (0.677-1.00)	0.984 (0.780-1.24)	1.209 (0.930-1.59)	1.404 (1.050-1.91)	1.624 (1.200-2.17)	2.24 (1.71-3.00)	2.53 (1.86-3.56)	2.88 (1.97-4.13)	3.42 (2.22-5.10)	3.87 (2.45-5.91)
2-hr	1.074 (0.882-1.30)	1.254 (0.990-1.64)	1.509 (1.140-1.99)	1.724 (1.300-2.27)	1.964 (1.450-2.61)	3.01 (2.31-4.02)	3.42 (2.54-4.80)	3.92 (2.68-5.57)	4.70 (3.07-6.94)	5.38 (3.41-8.11)
3-hr	1.254 (1.03-1.53)	1.454 (1.150-1.89)	1.729 (1.310-2.24)	1.974 (1.480-2.61)	2.244 (1.650-3.01)	3.54 (2.73-4.71)	4.02 (3.00-5.62)	4.62 (3.17-6.52)	5.55 (3.63-8.15)	6.36 (4.05-9.54)
6-hr	1.634 (1.36-1.99)	1.884 (1.500-2.39)	2.229 (1.700-2.84)	2.524 (1.900-3.31)	2.844 (2.100-3.71)	4.54 (3.51-5.99)	5.15 (3.85-7.12)	5.90 (4.07-8.25)	7.08 (4.65-10.3)	8.10 (5.17-12.0)
12-hr	2.104 (1.77-2.53)	2.384 (1.900-3.01)	2.809 (2.150-3.59)	3.154 (2.350-4.11)	3.524 (2.600-4.61)	5.65 (4.39-7.37)	6.39 (4.60-8.73)	7.30 (5.05-10.1)	8.69 (5.73-12.5)	9.90 (6.34-14.5)
24-hr	2.534 (2.14-2.99)	2.844 (2.350-3.39)	3.349 (2.600-4.11)	3.754 (2.850-4.81)	4.174 (3.100-5.41)	6.96 (5.45-9.02)	7.88 (5.96-10.7)	9.04 (6.28-12.4)	10.9 (7.17-15.4)	12.4 (7.98-18.0)



NOAA Plus Also Proposed to Update Bordering Land Subject to Flooding (in the event of a conflict)

In the event of a conflict where:
FEMA National Flood Insurance
Program Profile data is
unavailable adopt updated
precipitation data
(i.e., NOAA14 Plus) (310 CMR 10.57).

Top 1% Storms: Expansion of *Flood Prone Areas*



Standard 3: Stormwater Recharge

NRCS Hydrologic Soil Group	2008 Static Method	To Be Proposed: Static Method	To Be Proposed: Dynamic Methods
A	0.6-inches	1-inch	<ul style="list-style-type: none"> • Simple • Field • Continuous
B	0.35-inches	1-inch	“
C	0.25-inches	1-inch	“
D	0.1-inches	1-inch to MEP	“



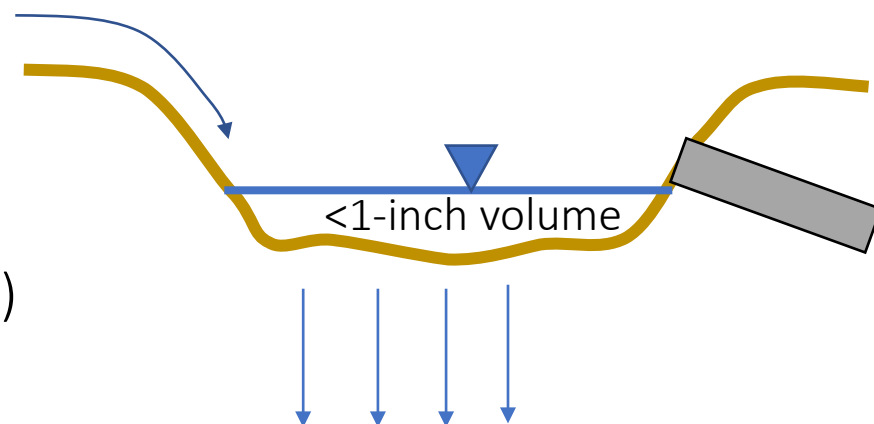
Standard 3: Stormwater Recharge

Recharge: Dynamic Sizing Methods

Dynamic sizing can result in smaller SCMs than Static Sizing by considering the saturated hydraulic conductivity (K_s).

Methods to be proposed:

- Simple Dynamic (currently allowed)
- Dynamic Field (currently allowed)
- Continuous Simulation (**NEW**)



K_s credited toward reducing
size of recharge structure



Standard 3: Stormwater Recharge

Recharge: Evaluation of 1-inch Target

- MassDEP performed an evaluation of the 1-inch target recharge value based on questions from the Stormwater Management Advisory Committee (AC). <https://www.mass.gov/doc/memo-on-recharge-rationale/download>
- Two analyses were performed: 1) baseflow separation analysis (DEP); and 2) Continuous rainfall simulation analysis (US EPA).
- Based on results, MassDEP is considering changing the recommendation from 1-inch to **0.8-inches**.
- MassDEP is seeking comments on the results of these evaluations as indicated in the **Notice to Reviewers Document (December 2023)**. <https://www.mass.gov/doc/310-cmr-1000-wetlands-notice-to-reviewers/download>



Standard 4: Pollutant Removal Goals for Updated Standard

Pollution Prevention and Protection of Water Quality

Clean Water Act requires MA to identify impaired waters and reduce pollutants

- Stormwater runoff contaminants impair MA waters
- 2018 – 2022: 382 new stormwater related impairments in 224 waterbodies
- New standards = improved stormwater treatment for new and redevelopment

Align to Extent Possible with 2016 MS4 Permit

- 260 Municipalities subject to the MS4 Permit Compliance
- Currently the MS4 post construction stormwater management requirements exceed 2008 Stormwater Handbook



Standard 4: Pollutant Removal

New Development

Current Requirement: 80% average annual load reduction of TSS

Proposal for 2023 MA Stormwater Handbook:

Align with 2016 MS4 Permit

- 90% average annual load reduction of TSS
- 60% average annual load reduction of TP

Redevelopment

Current Requirement: 80% to the Maximum Extent Practicable

Proposal for 2023 MA Stormwater Handbook:

- 80% TSS / 50% TP for Redevelopment (Standard 7)
- Changed from Maximum Extent Practicable to Fully Meet
- Offsite Mitigation Allowed



Standard 4: Pollutant Removal

Exceptions for Redevelopment

Not subject to Stormwater Standards

- Single-family and ≤ 4 units/lots that do not discharges to critical area
- Emergency repairs
- Gardens with no impervious surfaces

Projects to Remain Maximum Extent Practicable

- ≤ 4 units/lots that discharges to critical area
- 5-9 units/lots that do not discharge to a critical area
- Unpaved footpaths, unpaved and paved bicycle paths, and other unpaved or paved paths for pedestrian and/or nonmotorized vehicle access
- Marinas, boatyards
- Roadway Maintenance



Standard 4: Pollutant Removal

TSS / TP Removal Calculations

Use Table 2-2 SCM Crosswalk and TSS / TP Removal Credits

Option 1: ESSD Credits

- Use Environmentally Sensitive Site Design (ESSD) Credits – seven (7) available

Option 2: EPA Performance Curves

- Size Stormwater Control Measure (SCM) to meet 90% Total Suspended Solids and 60% Total Phosphorus Load Reductions

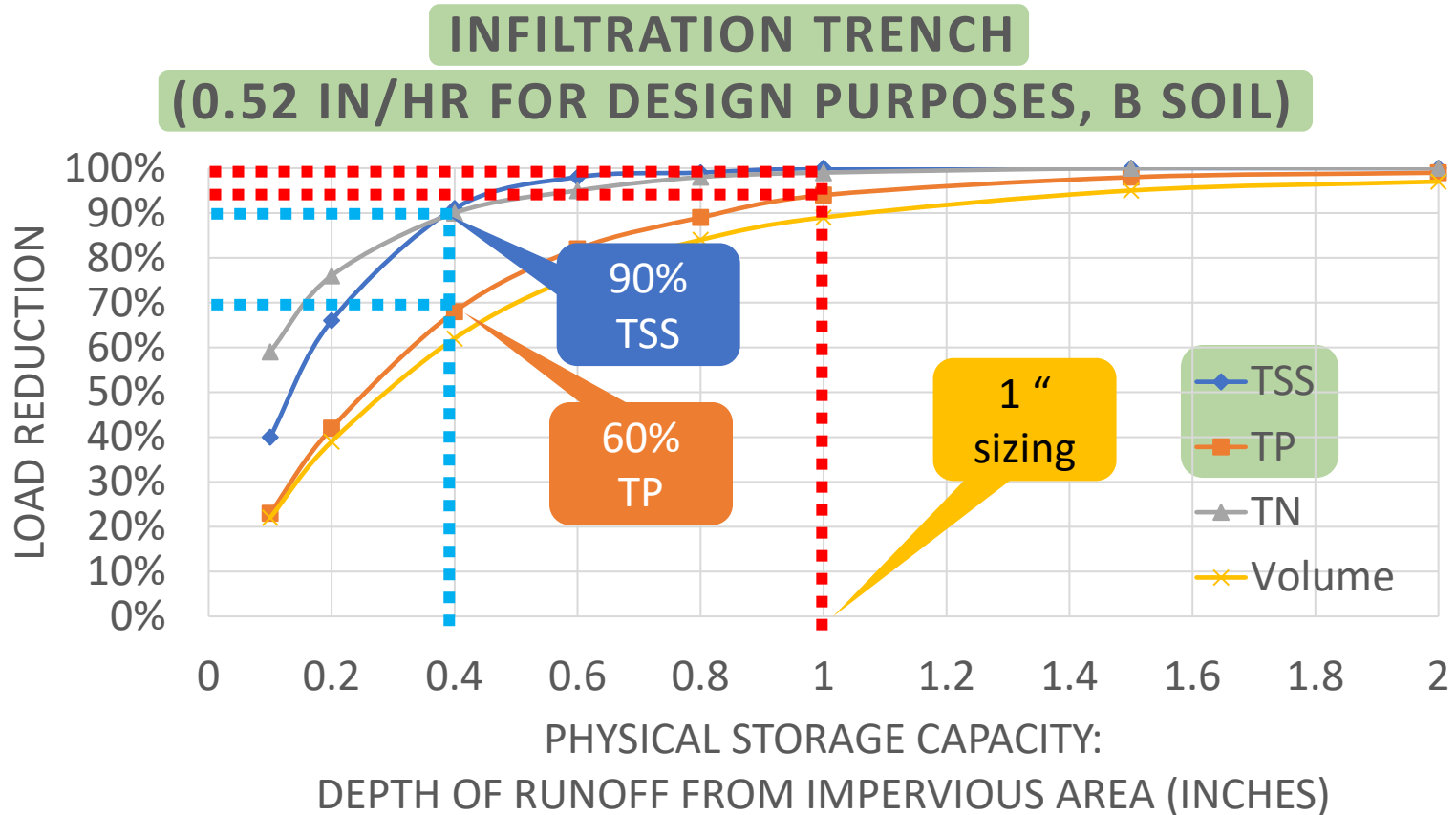
Option 3: MassDEP Pollutant Removal Credits

- If no EPA Performance Curve or "Crosswalk" equivalent, use MassDEP Pollutant Removal Credits with a 1.0 inch Water Quality Volume (WQv).



Standard 4: Pollutant Removal

EPA Performance Curves



NEW Standard 11: Compliance with TMDLs

If the project will discharge stormwater to a wetland Resource Area for which a TMDL has been approved by EPA, or an Alternative TMDL has been accepted by EPA, for phosphorus, nitrogen, pathogens, and/or metals, Source Control Measures shall be identified in the long-term pollution prevention plan required by 310 CMR 10.05(6)(k)4. to eliminate or reduce such pollution and shall thereafter be implemented.

The Stormwater Management System, presumes to meet this standard when:

- a. The SCM addresses any applicable TMDL or Alternative TMDL;
- b. A long-term pollution prevention plan is implemented;
- c. For new development, the Stormwater Management System is designed to comply with Standard 3 and 4; and
- d. For redevelopment, the Stormwater MEP, water quality treatment for 80% TSS and 50% TP removal, and adequate pretreatment is provided.

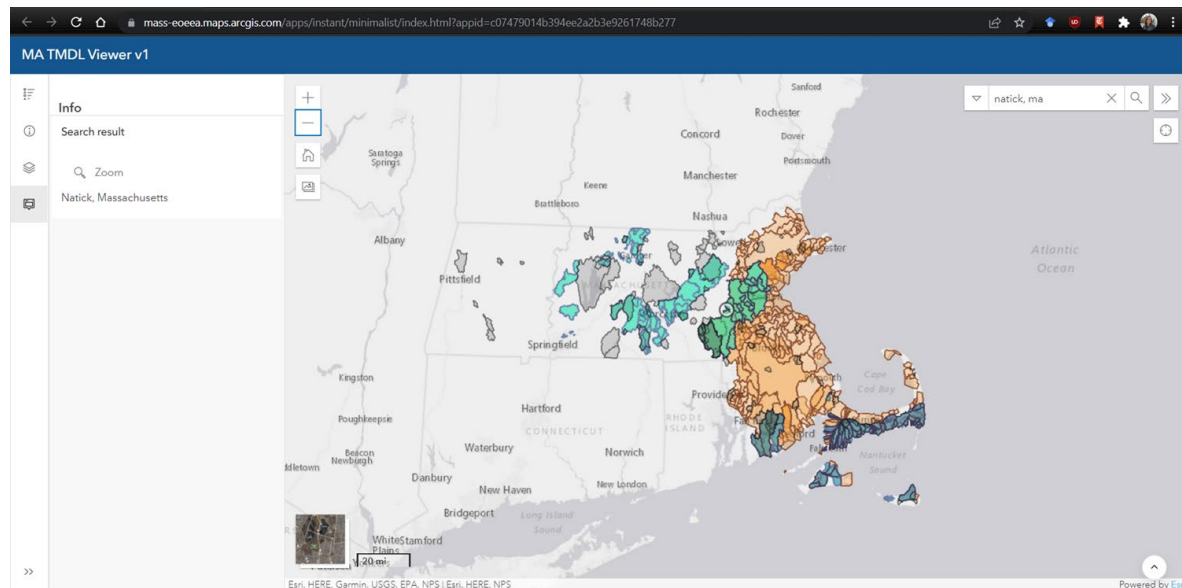


NEW Standard 11: Compliance with TMDLs

How do I know if Standard 11 applies?

MassDEP has developed an online TMDL viewer app that will help identify TMDL watersheds.

<https://www.mass.gov/info-details/total-maximum-daily-load-tmdl-viewer>



NEW Standard 11: Compliance with TMDLs

Table 2-6. Suitability of SCMs to treat TMDL pollutants¹

SCM	Pollutant of Concern ^{2,3,4}				
	TSS	TN	TP	FIB	Metals
Non-Structural SCMs					
Street Cleaning	N	N	N	N	N
ESSD Credits					
Credit 1: General ESSD	Y	Y	Y	Y	Y
Credit 2: Solar ESSD	Y	Y	Y	Y	Y
Credit 3: Roof Runoff to QPA	Y	Y	Y	Y	Y
Credit 4: Road Runoff to QPA	Y	Y	Y	Y	Y
Credit 5: Tree Canopy	Y	Y	Y	Y	Y
Credit 6: Reduce Impervious Area	Y	Y	Y	Y	Y
Credit 7: Buffer Zone Improvement	Y	Y	Y	Y	Y
Structural Treatment SCMs					
Bioretention Area (Exfiltrating) ⁶	Y	Y ⁵	Y	Y	Y
Bioretention Area (Filtering) ⁶	Y	N	N	Y	Y
Constructed Stormwater Wetland	Y	Y	Y	Y	Y
Extended Dry Detention Basin	N	N	N	Y	Y
Gravel Wetland	Y	Y	Y	Y	Y
Proprietary Media Filter ⁷	V	V	V	V	V
Sand/Organic Filter	Y	N	N	Y	Y
Tree Box filter (Exfiltrating) ⁶	Y	Y	Y	Y	Y
Tree Box filter (Filtering) ⁶	Y	N	N	Y	Y
Wet Basin	Y	N	N	N	Y
Roof Dripline Filter (Filtering) ⁶	Y	N	N	Y	Y
Roof Dripline Filter (Exfiltrating) ⁶	Y	Y	Y	Y	Y
Structural Conveyance SCMs					
Drainage Channel	N	N	N	N	N
Grass Channel	Y	N	N	N	N
Water Quality Swale	Y	N	N	N	N

Y = Likely to provide significant reduction of target pollutant

V = Varies

N = Unlikely to provide significant reduction of target pollutant

Environmentally Sensitive Site Design (ESSD) Credit Overview



***New requirement:** Environmentally Sensitive Site Design (ESSD) and Low Impact Development (LID) techniques must be used to attenuate stormwater pollutants. Other types of Stormwater Control Measures (SCMs) shall only be used to meet those portions of the Stormwater Standards that cannot be met by ESSD or LID.*



Environmentally Sensitive Site Design (ESSD) Credit Overview

ESSD credits were updated and added to help Applicants meet the ESSD requirement.

- ✓ Updated minimum criteria of previous ESSD Credits to make implementation more attainable.
- ✓ Added four (4) new ESSD Credits.
- ✓ Also expanded list of MassDEP recognized ESSD / LID techniques.



Environmentally Sensitive Site Design (ESSD)

Credit Overview

Credit 1: General ESSD Credit – Minimize impervious surface **(UPDATED)**

Credit 2: ESSD for Solar Arrays **(NEW)**

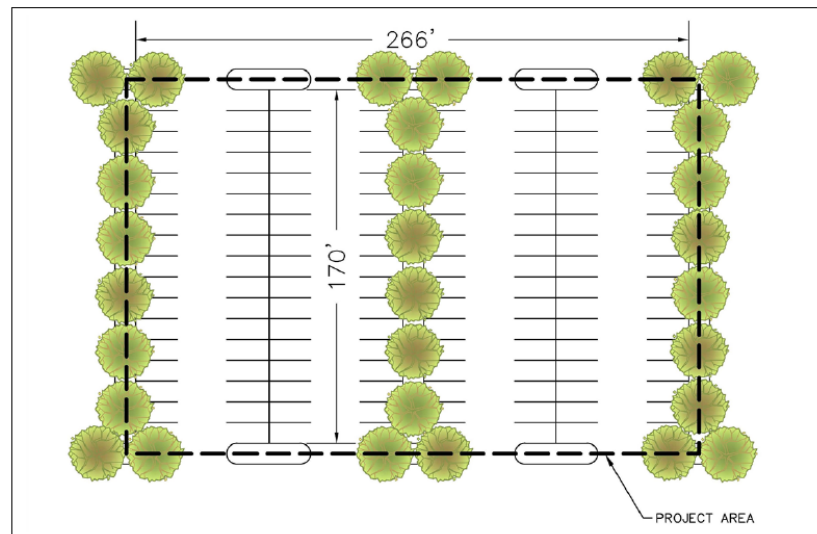
Credit 3: Disconnection of Impervious Surfaces: Roof Runoff to Qualifying Pervious Area **(UPDATED)**

Credit 4: Disconnection of Impervious Surfaces: Road, Driveway or Parking Lot Runoff to Qualifying Pervious Area **(UPDATED)**

Credit 5: Tree Canopy for Runoff Reduction **(NEW)**

Credit 6: Reduce Impervious Area (Redevelopment Only) **(NEW)**

Credit 7: Protecting or Enhance Buffer Areas **(NEW)**



Credit 5: Tree Canopy for Runoff Reduction



Handbook Preview – Outline

2008 Handbook Structure	2023 Revised Handbook Structure
Vol. 1 – Overview of Massachusetts Stormwater Standards	Ch. 1 – Introduction
	Ch. 2 – The Massachusetts Stormwater Standards
	Ch. 3 – Legal Framework for Stormwater Management
Vol. 2 – Technical Guide for Compliance with the Massachusetts Stormwater Standards	Ch. 4 – Site Planning and Design
	Ch. 5 – Misc. Stormwater Topics
Vol. 3 – Documenting Compliance with the Massachusetts Stormwater Standards	Ch. 6 – Documenting Compliance
	App. A – Stormwater Control Measure Specifications
	App. B – EPA Pollutant Removal Curves
	App. C – Massachusetts E&S Control Guidelines
	App. D – Standard Method to Convert WQV to a Discharge Rate
	App. E – Redevelopment Checklist




Handbook Preview – Key Formatting Changes

- ✓ New Cover Page
- ✓ Table of Contents
- ✓ Searchable Headings, Figures, and Tables (i.e., Live Links)
- ✓ Popup Boxes for Key Concepts
- ✓ Standardized Example Calculation Boxes
- ✓ Summary Tables
- ✓ Updated Appendix Formatting

Vegetated Filter Strips

Structural Pretreatment



Description

Vegetated filter strips, also known as filter strips, grass buffer strips and grass filters, are uniformly graded vegetated surfaces (i.e., grass or close-growing native vegetation) that receive runoff from adjacent impervious areas. Vegetated filter strips typically treat sheet flow or small concentrated flows that can be distributed along the width of the strip using a level spreader. Vegetated filter strips are designed to slow runoff velocities, trap sediment, and promote infiltration, thereby reducing runoff volumes.

Advantages/ Benefits

- Reduces runoff volumes and peak flows.
- Slows runoff velocities and removes sediment.
- Low maintenance requirements.
- Serves as an effective pretreatment for bioretention cells.
- Can mimic natural hydrology.
- Small filter strips may be used in certain urban settings.
- Ideal for residential settings and to treat runoff from small parking lots and roads.
- Can be used as part of runoff conveyance system in combination with other SCMs.
- Little or no entrapment hazard for amphibians or other small creatures.

Ability to meet specific standards

Standard	Description
2 - Peak Flow	Does not provide peak flow attenuation.
3 - Recharge	Provides no groundwater recharge.
4 - TSS/ TP Removal	No EPA Curve. TSS: MassDEP Variable pretreatment removal credit, 25% when greater than or equal to 25' and less than 50' wide, 45% when greater than or equal to 50' wide. TP: MassDEP 0% TP removal credit.
5 - Higher Pollutant Loading	May be used to provide pretreatment as part of a pretreatment train if lined.
6 - Discharges near or to Critical Areas	May be used as part of a pretreatment train if lined. May be used near Cold-Water Fisheries.
7 - Redevelopment	Suitable for pretreatment.
8 - Construction Phase Pollution Controls	Not to be used for construction period runoff control.
9 - O&M Plan	An O&M Plan is required. See maintenance section.
11 - Total Maximum Daily Loads	Does not meet any TMDL requirements as a stand-alone treatment practice.
ESSD / LID?	No, this practice is not a MassDEP recognized ESSD / LID technique. It is a pretreatment practice. Refer to ESSD Credits 4 and 5 for information on how a Qualifying Pervious Area can be used for treatment and recharge.

Disadvantages/ Limitations

- Variability in removal efficiencies, depending on design.
- Little or no treatment is provided if the filter strip is short-circuited by concentrated flows.
- Often a poor retrofit option due to large land requirements.
- Effective only on drainage areas with gentle slopes (less than 6 percent).
- Improper grading can greatly diminish pollutant removal.

Suitability to Treat TMDL Pollutants

- While some pretreatment SCMs are capable of removing certain TMDL pollutants, they cannot be used as a standalone practice.
- Pretreatment SCMs are encouraged to be implemented as part of a larger treatment train.

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Handbook Preview – Key Content Updates

- ✓ Updated precipitation depths and distributions (TP 40 → NOAA 14)
- ✓ Updated pollutant removal crediting using EPA Performance Curves.
- ✓ New ESSD Fact Sheets & Credits
- ✓ New TMDL Standard (Standard 11)

Massachusetts Stormwater Handbook
Chapter 2: The Massachusetts Stormwater Management Standards

- **Step 3:** Determine which SCMs are appropriate to treat applicable pollutants (see **Table 2-6**).
- **Step 4:** Design and size selected SCMs in accordance with Standard 3 and 4 requirements (see above Standard 11 language for pollutant removal and recharge requirements).
- **Step 5:** Prepare a long-term pollution prevention plan in accordance with **Section 4.3.2**.
- **Step 6:** Prepare a written summary in the required Stormwater Report demonstrating how the proposed Project intends to meet relevant and applicable TMDLs. If the Project is not subject to a TMDL, provide a statement indicating that Standard 11 is not applicable. Information on the required Stormwater Report is set forth in **Section 6.1**.

Ability of SCMs to remove TMDL Pollutants

Table 2-6 provides a list of SCMs that are appropriate for treating certain target TMDL pollutants. Project Sites that are subject to Standard 11 will be presumed to meet the Standard if SCMs are selected that are, at minimum, generally effective at treating and reducing target TMDL pollutants – i.e., select SCMs with a “Y” from **Table 2-6**. Treatment for the target TMDL pollutant must be provided at all discharge points in accordance with Standard 4. Design, install, and maintain all SCMs in accordance with the **Appendix A** specifications.

Table 2-6. Suitability of SCMs to treat TMDL pollutants¹

SCM	Pollutant of Concern ^{2,3,4}				
	TSS	TN	TP	FIB	Metals
Non-Structural SCMs					
Street Cleaning	N	N	N	N	N
ESSD Credits					
Credit 1: General ESSD	Y	Y	Y	Y	Y
Credit 2: Solar ESSD	Y	Y	Y	Y	Y
Credit 3: Roof Runoff to QPA	Y	Y	Y	Y	Y
Credit 4: Road Runoff to QPA	Y	Y	Y	Y	Y
Credit 5: Tree Canopy	Y	Y	Y	Y	Y
Credit 6: Reduce Impervious Area	Y	Y	Y	Y	Y
Credit 7: Buffer Zone Improvement	Y	Y	Y	Y	Y
Structural Treatment SCMs					
Bioretention Area (Exfiltrating) ⁶	Y	Y ⁵	Y	Y	Y
Bioretention Area (Filtering) ⁶	Y	N	N	Y	Y
Constructed Stormwater Wetland	Y	Y	Y	Y	Y
Extended Dry Detention Basin	N	N	N	Y	Y
Gravel Wetland	Y	Y	Y	Y	Y
Proprietary Media Filter ⁷	Y	Y	Y	Y	Y
Sand/Organic Filter	Y	N	N	Y	Y
Tree Box filter (Exfiltrating) ⁸	Y	Y	Y	Y	Y
Tree Box filter (Filtering) ⁸	Y	N	N	Y	Y
Wet Basin	Y	N	N	N	Y
Roof Driveline Filter (Filtering) ⁹	Y	N	N	Y	Y
Roof Driveline Filter (Exfiltrating) ⁹	Y	Y	Y	Y	Y
Structural Conveyance SCMs					
Drainage Channel	N	N	N	N	N
Grass Channel	Y	N	N	N	N
Water Quality Swale	Y	N	N	N	N

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Handbook Preview – Key Content Updates Cont.

- ✓ New alternatives analysis framework to demonstrate compliance to the Maximum Extent Practicable (MEP)
- ✓ New offsite mitigation allowance for Redevelopment Projects
- ✓ Expanded guidance on information to include in the CPPPP, LTPPP, and O&M Plan
- ✓ New master setback table
- ✓ New guidance on solar projects
- ✓ New State Specific Highway Considerations

NEW!



Wetlands Resilience Regulation Schedule

Schedule:

- Released for Public Comment: 12/22/23
- Public Info Sessions / Hearings: Jan-Feb 2024
- Comment Period Closes: 3/1/24
- Promulgation Expected: Spring-Summer 2024

January 18	2 Public Information Sessions (virtual, 1pm and 6pm)
January 23	3 rd Public Information Session (virtual, 1pm)
January 31	2 public hearings (virtual, 1pm and 6 pm)
February 1	3 rd Public hearing (virtual, 1pm)

<https://www.mass.gov/info-details/massdep-public-hearings-comment-opportunities>



THANK YOU



Testimony may be presented orally at the public hearing. Written comments will be accepted through 5:00pm on March 1, 2024.

The Department encourages electronic submission by email to dep.wetlands@mass.gov and must include Wetlands-401 Resilience Comments in the subject line.

In lieu of electronic submittal, paper comments may be mailed to Lisa Rhodes, Attn: Wetlands-401 Resilience Comments, MassDEP – BWR, 100 Cambridge Street, Suite 900, Boston, MA 02114.

