Proposed Resilience Updates to Massachusetts Wetlands Protection Act, Water Quality Certification, and Chapter 91 Regulations

(310 CMR 10.00, 314 CMR 9.00, 310 CMR 9.00)

Water Resources Commission Briefing

February 8, 2024

Agenda

- Wetlands –
  - Overview of Proposed Standards in Land Subject to Coastal Storm Flowage (LSCSF)
  - Overview of Proposed Stormwater Standards
- Chapter 91 - Overview of Proposed Revisions
- Schedule

New Standards Proposed in Land Subject to Coastal Storm Flowage (LSCSF)

LSCSF absorbs wave energy and flood water movement, prevents erosion, and dissipates storm flow energy from coastal storms and sea level rise

New Standards:

- reduce storm and flood damage on development,
- reduce risk to public health and safety, and
- protect the natural function of the floodplain

Need for Wetlands Resilience Regulation Updates Environmental and Economic / Fiscal Drivers

Effects of climate change including Sea Level Rise, intensifying storms, and increased precipitation are worsening impacts to natural resources and the built environment such as coastal and inland flooding, storm damage, and polluted runoff.

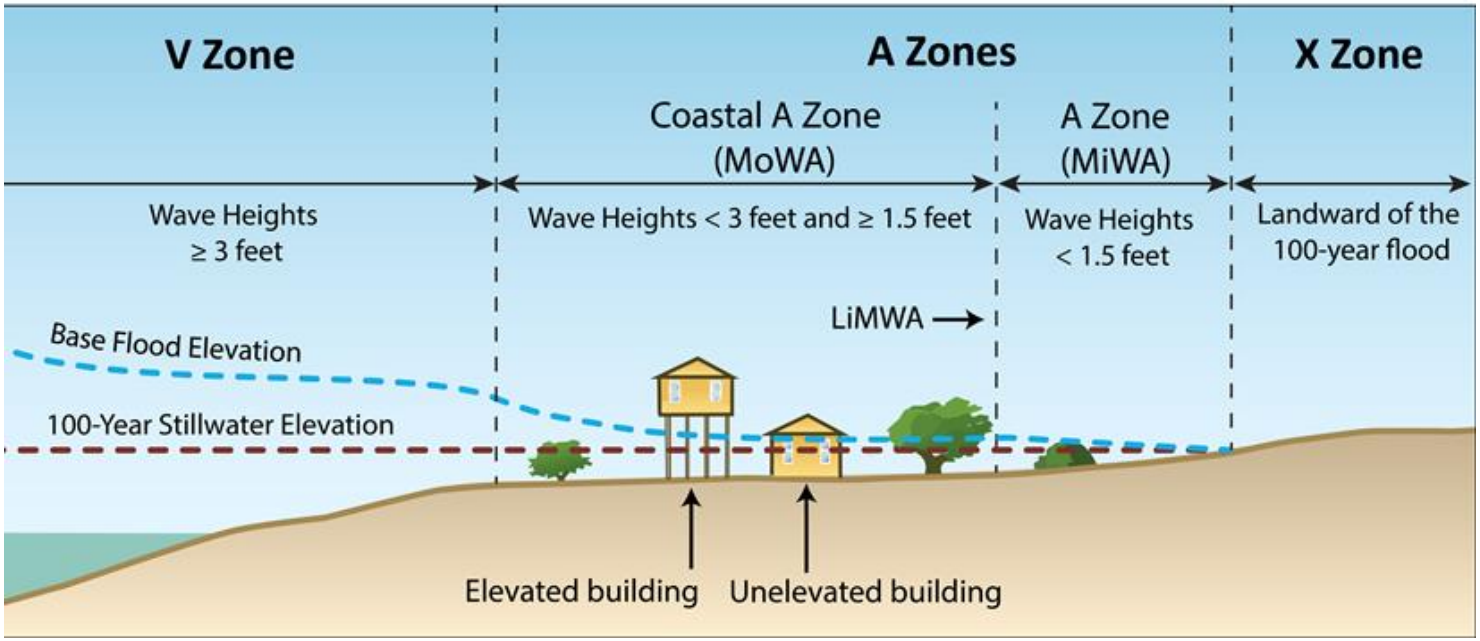
Credit rating agencies are weighing in:

Commonwealth Magazine, October 2022: *"The big three credit rating agencies had largely good things to say about Massachusetts this month, but one firm warned that the strong economic fundamentals and growing state reserves have a counterweight in the state's vulnerability to coastal storms and flooding."*

S&P, 2022: *"We consider* ***Massachusetts' environmental risks moderately negative in our credit rating analysis*** *because of the commonwealth's* ***coastal exposure****, with about two-thirds of its population …in the combined Boston and Cape Cod area* ***exposing the state to significant economic disruption following a high-impact event****"*

LSCSF Standards Based on FEMA Flood Zones

FEMA Flood Zones



V Zone = Velocity Zone

A Zone = Coastal Floodplain = Moderate/Minimal Wave Action (MoWA/MiWA)

Coastal A Zone = MoWA (Wave heights < 3 feet and ≥ 1.5 feet)

Most Extensive Damage Occurs in V and MoWA Zones (Wave Heights ≥ 1.5 feet)

Proposed LSCSF Standards: Key Framework for Performance Standards and Project Design

Determine whether the project site is within Another Resource Area or only LSCSF. If within another Resource Area, follow performance standards for the other Resource Area with exceptions. Application of Performance Standards, 310 CMR 10.36(4)

Identify the LSCSF Zone – V-zone, MoWA, MiWA. Use FEMA maps to determine boundaries. Boundaries, 310 CMR 10.36(3)

Determine whether the project site is previously developed, so that the Redevelopment provisions apply, or the site will be reviewed as New Development. See 310 CMR 10.36(5)-(7) for New Development; see 310 CMR 10.36(8) for Redevelopment

Determine whether the project is eligible for review as a Limited Project. New provisions for roads and water-dependent uses have been added. 310 CMR 10.24(7)(c)1. and 9.

Nature-based shoreline protection must be considered in project design. 310 CMR 10.24(1)(b)

Proposed LSCSF Standards Do Not Apply when Activity is in Another Resource Area

Exceptions in 310 CMR 10.36(4)

Where LSCSF Overlaps another Resource Area, project must meet standards for other Resource Area, not LSCSF, except:

- No New Structures in Velocity Zone
- New Buildings within MoWA must be elevated under LSCSF standards or 10.28 (Dune) or 10.29 (Barrier Beach or Building Code, whichever is higher
- For work on Coastal Bank that does not supply sediment (see 310 CMR 10.30(7)) must meet LSCSF and 10.30
- Rocky Intertidal Shore must meet LSCSF and 10.31
- Does not apply to marine industrial uses in Designated Port Areas

Proposed LSCSF Standards: New Development

Velocity Zone
310 CMR10.36(6)
	• The Standard for V zone is No Adverse Effect
	• No new buildings, even on piles, in V zone
	• Limited list of allowable activities, including
	  ○ Walkways
	  ○ Boating facilities
	  ○ Repair and maintenance of coastal engineering structures
	  ○ Septic systems allowed under 310 CMR 15.213 except mounded systems

Moderate Wave Action (MoWA) 310 CMR 10.36(6)	• The standard for MoWA Zone is No Adverse Effect • Buildings must allow unobstructed flow during Base Flood Elevation plus two feet • Limited waiver provision for additional two feet • Limited list of allowable activities (same as V zone) • MoWA standards also apply where AO Zone borders V zone as shown on FEMA map

Proposed LSCSF Standards: New Development

Minimal Wave Action (MiWA)
310 CMR 10.36(7)

- Elevation of buildings on piles or solid foundation with one-additional foot above BFE;
- Where wave energy across site may be significant and within the buffer zone of another resource area, elevation may be required to protect the Resource Area
- Avoid fill, structures that would redirect flow or increase flooding
- Preserve soils and vegetation, limit pavement
- Avoid or mitigate impacts from topographic or other restrictions (e.g., confined basins, culverts)
- Stormwater management
- Reduce impervious surfaces to increase permeability

Proposed LSCSF Standards: Redevelopment

Redevelopment 310 CMR 10.36(8)	• Must improve existing conditions - Reduce pavement, remove restrictions, provide storage • No reconstruction seaward on site, no increase in building footprint • V zone – No new buildings; Damage reconstruction or substantial improvement on open piles • Elevation on open piles for certain work in any zone (e.g., new foundation). Historic structures exempt.
Redevelopment in Highly Developed Areas – Flood Control 310 CMR 10.36(8)(f) and (g)	• Areas where impervious surfaces predominate • Placement of fill for flood control allowed in MiWA. • Elevation of existing seawalls or construction of berms for flood control allowed in V or MoWA zones as part of flood control conducted or supported by public agency. • No redirection of wave energy or flood waters to other properties.

Additional Resilience Regulations Proposed

- Roadway Elevation if at Risk from Sea Level Rise
  - No roadway widening
  - Protection of resource areas, esp. salt marsh

- Roadway and Water Dependent Use Relocation – if at Risk from Sea Level Rise
  - No alteration of salt marsh
  - Alternative analysis – evaluate alternate routes

- Scientific Research Projects
  - Solely intended to gather info and test wetland response to climate change

- Nature-Based Coastal Resiliency Projects (e.g., living shorelines)
  - Must protect or create resource area
  - Can convert one resource to another

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 Stormwater Permit
- Promote Nature-Based Environmentally Sensitive Site Design (ESSD) and Low Impact Development (LID)
- Also, new revised user-friendly Stormwater Handbook

MassDEP

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	
▪ TP40 ▪ 2- and 10-year storms, and 100-year storm if offsite flooding	• 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	• 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	
• A soil: 0.6-inches • B soil: 0.35-inches • C soil: 0.25-inches • D soil: 0.1-inches	• A, B, and C Soil: 1-inch (Static Method) • D: 1-inch to Max. Extent Practicable • Additional Methods allowed: Dynamic, Continuous Simulation
REDEVELOPMENT	
• Standard 3 must be met to the Maximum Extent Practicable	• 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		
▪ Remove 80% Total Suspended Solids (TSS) ▪ Treat 0.5" for most sites; ▪ Treat 1" for Outstanding Resource Water, critical areas, land uses with higher potential pollutant loads (LUHHPL)	▪ Remove 90% TSS ▪ Remove 60% Total Phosphorus (TP) ▪ Off-site mitigation allowed within HUC 12	▪ Remove 90% TSS ▪ Remove 60% TP ▪ Off-site mitigation not allowed
REDEVELOPMENT		
▪ Standard 4: Maximum Extent Practicable (MEP) and improve existing conditions	▪ Remove 80% TSS ▪ Remove 50% TP ▪ Off-site mitigation allowed within HUC 12	▪ Std 4: 80% TSS and 50% TP, Meet instead of MEP, for most projects Allow off-site mitigation if no discharge to Critical Areas or LUHPPLs

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.

Waterways Resilience 1.0 - Proposed Revisions

Update Definitions (310 CMR 9.02)

Improve consistency with FEMA and Wetland Draft Regulations

Additions:

- A Zone or AE Zone
- Land Subject to Coastal Storm Flowage
- Moderate Wave Action Area or MoWA Zone
- Primary Frontal Dune
- Special Flood Hazard Area
- Velocity Zone or V Zone

Deletion:

- Coastal High Hazard

Waterways Resilience 1.0 - Proposed Revisions

Must Consider Projected Sea Level Rise

All applications for a License, Amendment, or Renewal

- Simplified Licenses – 310 CMR 9.10
- Expiration and Renewal – 310 CMR 9.25
- Engineering and Construction Standards – 310 CMR 9.37
- Consult most current mapping for shoreline change and sea level rise at ResilientMass

Waterways Resilience 1.0 - Proposed Revisions

Conservation of Capacity for Water-Dependent Use (height) (310 CMR 9.51)

- This proposed revision would modify the height requirements to allow licensees to move utilities from the basement to the roof.
- Facilitate rooftop solar panels.

Activities Not Requiring a License or Permit (310 CMR 9.05(3))

- Clarify limits for existing exemptions for certain projects which address increased precipitation/stream flow climate vulnerability and do not reduce the space available for navigation.

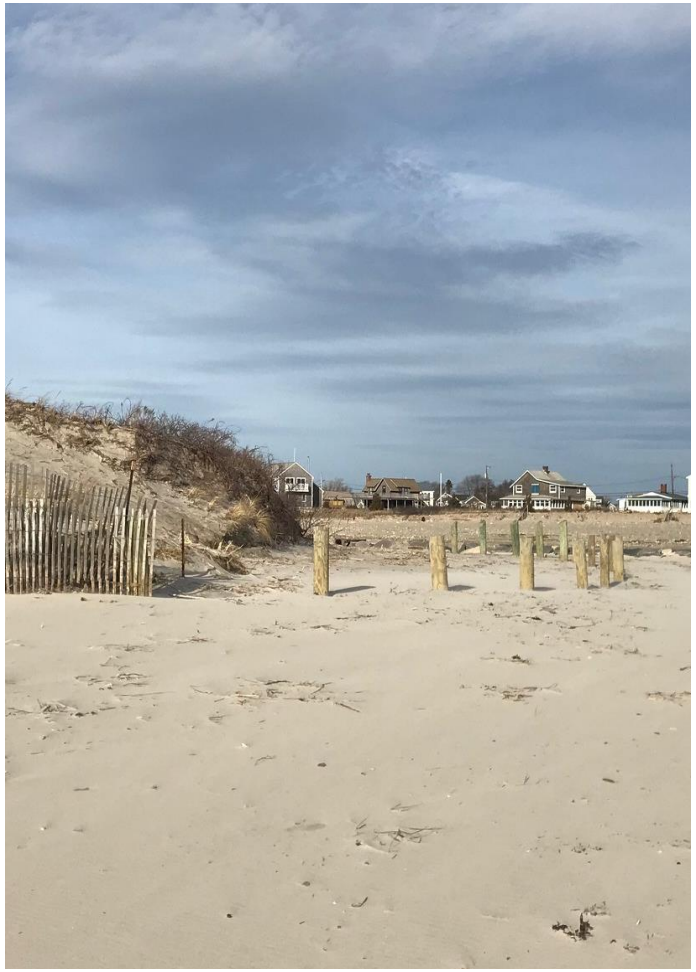
  [e.g., culvert replacement, work associated w/dam removal, dam repair]

Regulations Schedule

- Released for Public Comment: 12/22/23
- Public Info Sessions / Hearings: Jan-Feb 2024
- Comment Period ~~Closes: 3/1/24~~ Extended – April 30
- Promulgation Expected: Summer-Fall 2024

Details will be updated soon:

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



THANK YOU