

CLIMATE ADAPTATION

FORUM

Law and Governance Meet Climate Adaptation

September 28, 2018

University of Massachusetts Club, Boston



Adapting Regulations for the Rising Tide

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EBC | UMass Boston Climate Adaptation Forum

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NOBLE, WICKERSHAM & HEART LLP
DESIGN, CONSTRUCTION, ENVIRONMENTAL & LAND USE LAW

Flood Pathways – South Boston



Flood Pathways – East Boston



Proposed Flood Protection Projects – East Boston



Massachusetts State Building Code

Purpose:

“To establish the minimum requirements to safeguard the **public health, safety and general welfare** through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment . . .”

(780 CMR §101.3)

Applicability:

“780 CMR shall be the building code **for all towns, cities, state agencies or authorities...**”

(780 CMR §101.2)

“When municipal bylaws and ordinances conflict with 780 CMR, **780 CMR shall govern** unless the bylaws or ordinances were promulgated in accordance with M.G.L. c. 143, § 98.”

(780 CMR 102.2.2)

Massachusetts State Building Code

M.G.L. c. 143, § 98.

The board of selectmen in a town or the mayor in a city may recommend to the board the adoption of **rules and regulations imposing more restrictive standards** than those established by the state building code for construction, alteration, repair, demolition, and removal in such a city or town. If the board finds that **more restrictive standards are reasonably necessary because of special conditions** prevailing within such city or town ... the board may, after notice to said board of selectmen or mayor, and after a public hearing, adopt rules and regulations . . .

Massachusetts Zoning Enabling Act

M.G.L. c. 40A

Section 3. No zoning ordinance or by-law shall regulate or restrict the use of materials, or methods of construction of structures regulated by the state building code.

US Army Corps Section 404 Permits

Purpose:

Clean Water Act:

"To protect the water of the United States by issuing permits for activities that "will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment." (Section 404(e))

Regulations

"To restore and maintain the chemical, physical, and biological integrity of water of the United States through the control of discharges of dredged or fill material." (40 CFR § 230.1)

Implementation:

Permit Program:

- Dredge and fill activities
- Permits
- Mitigation Requirements

Flood protection and SLR:

- Design for SLR
- New forms of mitigation

Chapter 91

Purpose:

“to preserve and protect the rights in tidelands of the inhabitants of the commonwealth by ensuring that the tidelands are utilized only for water-dependent uses or otherwise serve a proper public purpose.”

(M.G.L. c. 91 §2)

Implementation:

- Applicability: flowed and filled tidelands, great ponds non-tidal rivers and streams.
- Regulates structures, fill and dredging in tidelands.
- Licenses for water dependent and non-water dependent uses.
- Flood Protection under c. 91
- Addressing SLR under c. 91

Massachusetts Wetlands Protection Act

Purpose:

Wetlands Act:

“to protect the private or public water supply; to protect the ground water; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries. . . ”

(M.G.L. c. 131 §40)

Regulations:

The coastal wetlands regulations are intended “to ensure that development along the coastline is located, designed, built and maintained in a manner that protects the public interests in the coastal resources listed in M.G.L. c. 131, § 40.”

(310 CMR 10.21)

Superstorm Sandy (2012)



Sheepshead Bay Cleanup, Brooklyn



“CONTAMINATED – The Hudson River surged during Hurricane Sandy and flooded areas along the waterfront, carrying with it debris, sewage, oil, industrial waste, and other contaminants.”

Hudson Reporter November 11, 2012

Hurricane Irene: Vermont (2011)



Hurricane Harvey (2017)

New York Times August 31, 2017

A Sea of Health and Environmental Hazards in Houston's Floodwaters

“Officials in Houston are just beginning to grapple with the health and environmental risks that lurk in the waters dumped by Hurricane Harvey, a stew of toxic chemicals, sewage, debris and waste that still floods much of the city.

Flooded sewers are stoking fears of cholera, typhoid and other infectious diseases. Runoff from the city's sprawling petroleum and chemicals complex contains any number of hazardous compounds. Lead, arsenic and other toxic and carcinogenic elements may be leaching from some two dozen Superfund sites in the Houston area.”

Hurricane Florence (2018)

“Lagoons of pig waste are overflowing after Florence. Yes, that’s as nasty as it sounds”

The New York Times, September 19, 2018



Regulating Flood Protection Projects

MA Wetlands Protection Act

Purposes of the Wetlands Act:

“to protect the private or public water supply; to protect the ground water; **to provide flood control; to prevent storm damage; to prevent pollution**; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries. . . .

(M.G.L. c. 131 §40)

USACE Section 404 Permits

“The purpose of these Guidelines is to **restore and maintain** the chemical, physical, and biological integrity of water of the United States . . .”

(40 CFR § 230.1)

State Building Code

“The purpose of 780 CMR is to establish the minimum requirements to safeguard the **public health, safety and general welfare. . .**”

(780 CMR §101.3)

Flood Protection as Environmental Resource Protection

Flood Protection Prevents:

- Erosion
- Destruction of trees and wetlands resources
- Destruction of pavement, piers and harborwalks
- Debris and building materials from washing into the water
- Release of oil and hazardous materials into the water

Supports and Protects Environmental Resources:

- Floodproofed structures and safe storage of hazardous materials
- Raingardens, wetlands, reefs, and living shorelines

Provides Co-Benefits:

- Open space, community space, gardens and parks

Envisioning Coastal Resilience Solutions For East Boston



Kleinfelder and Stoss for City of Boston

Fort Point Channel Today



Envisioning: A Flood Protected Fort Point Channel



Michael Van Valkenburgh Associates, Inc. for The Trustees of Reservations

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