





**Last week in Boston there were torrential rains, high winds, the remnants of Hurricane Patricia, a full moon and a resulting storm surge which inundated the coastline.**

**What are the legal and policy considerations that would address East Boston's situation and provide relief from imminent SLR and storm surge?**

### **The Scenario**

East Boston is a community of diverse ethnic individuals, with multiple languages spoken and potential language barriers

The topography of the area is a bowl configuration with a mass of land rising in the middle

The current configuration of land was created by a practice called wharfing out which began in 1630



**Mean High High Water Plus 7.5 Feet of Water could occur by late century 2080 or 2090**

There is very little left of East Boston

Considerable study went into analyzing East Boston, its communities and the awareness of its citizens of the potential problems

A combination of infrastructure types were suggested for addressing 2 to 3 feet of SLR anticipated by mid-century  
Berms and floodgates strategically located around East Boston at low points could provide a level of protection to property and people

These structures combine both built and natural features which could retain or diffuse water, directing it to less critical properties or existing wetlands.

Gray and Green Infrastructures would be strategically but could affect individual property owners rights



Above are examples of gray and green infrastructure  
The gray infrastructure channels stormwater into storm drains which empty into the rivers around Boston and Boston Harbor  
The green infrastructure cascades water over a series of elevated structures onto a previous surface, slowing water so it can infiltrate back into the ground

Property laws come into play under SLR scenarios and lost of the land-water boundary that defines public trust lands and individual property owners' rights

Rising sea levels are not a good fit for traditional common law since it is neither changing the land-water boundary quickly nor gradually as does erosion

Case law suggests that public trust ownership of submerged lands expands automatically as erosion occurs and favors the state, not the private owner.

This would be favored over an extension of the Fifth Amendment taking clause which could be construed as a judicial taking if brought before the courts

## Adapting to Climate Change and Sea Level Rise

### Gray vs. Green Infrastructure



Potential infrastructure fixes are not necessarily at the tidal boundary

This is where individual property rights could be challenged

Construction of green and gray infrastructure potential be proposed in critical points around East Boston under private ownership  
Work completed by the University of New Hampshire has identified specific locations around East Boston which could accommodate built infrastructure

Eminent domain is when government takes private land for a public use and provides reasonable compensation in return

Presently there is no case law on point with taking property for the purpose of protecting lives and other properties in the face of sea level rise

Solar Powered Fueling Stations for Emergency Vehicles at 400 Frontage Road 120 kW

Deer Island Constructed to Withstand 2 Feet of Sea-Level Rise

Solar Powered Traffic Signals Along Evacuation Route

Boston has invested in public assets to protect the operations that serve the citizens

City of Boston should consider budgeting funds to cover the cost of acquiring land for adapting to climate change and sea level rise

Does Boston face liability for not addressing climate change and sea level?

Potentially yes, if the governing body has notice of the imminent harm caused by climate change and does not take preventative measures to protect its citizens.

Given the state of science and the predictive levels tied directly to sea level rise, coastal cities would be well advised to begin serious planning to protect their citizens and their property from the hazards of sea level rise and storm surge

Presently in federal courts, parties claiming monetary damage for harm caused by greenhouse gases have been unsuccessful nor have common law remedies prevailed; rather the courts have stated that the Clean Air Act displaces common law principles of nuisance, trespass and tort law

If a case were made that implicated a municipality for loss of property from sea level rise, the standard would be in common law and the constitution

This surfaces the political issue of whether the governing body can fashion a policy or implement serious planning efforts to address impacts that could directly relate to sea level rise and storm surge

Currently, governments have been slow to move on hazard planning for impacts of climate change

The failure to take action potentially exposes governments for liability for this failure

Fortunately, there are private businesses, organizations, academia and non-profits all working to develop tools and strategies for mitigating and adapting to climate change and sea level rise.

For the protection of its most vulnerable communities as well as citizens, Boston must actively partner and plan solutions that will start to indemnify local government from liability and monetary costs

### Policy and Budgetary Suggestions for Boston to Consider

- Create and enhance green/blue buffers / infrastructure to abate heat and water
- Education of communities and citizens
- Increase permeable surfaces and permeable materials used in construction/ paving
- Protect infill land sections from flood waters
- Secure public dollars to invest in location-specific, smaller scale interventions along the water
- Retreat development away from the water over time
- Use greenery and shade to fight urban heat island effect

Federal laws and policies must be adjusted to create better scenarios under climate change

One example is FEMA's policy on replacing structures damaged by storms in the same location; this is a situation that will continue to repeat itself as successive storms or storm surges destroy the property.

There is no doubt that climate change and sea level rise will lead to legal action as individuals and businesses try to maintain their property's value in the face of threats that could completely destroy the asset or property

Laws, rules and policies that affect our natural resources and property need to be viewed through a lens of climate change and evaluated for effectiveness under the new reality of sea level rise



Thank you!

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