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April 30th, 2024

Via email: [dep.waterways@mass.gov](mailto:dep.waterways@mass.gov)

MassDEP - BWR Waterways Program  
Attention: Waterways Resilience Comments  
100 Cambridge Street, 9th Floor  
Boston, MA 02114

Re: 310 CMR 9.00 Waterways (Chapter 91) Resilience 1.0 Draft Regulations

Dear Mr. Padien and the Waterways team,

Thank you for the opportunity to comment on the 310 CMR 9.00 Waterways (Chapter 91) Resilience 1.0 Draft Regulations. Boston Harbor Now's mission is to ensure that Boston's waterfront, harbor, and islands are accessible and inclusive and that these assets are properly adapted to the risks of climate change. We do this in order to realize our vision of a vibrant, welcoming, and resilient Boston Harbor, Waterfront, and Islands for the benefit of everyone. We are encouraged by the Massachusetts Department of Environmental Protection's (MassDEP) willingness to update the Public Waterfront Act (G.L. c. 91, §§ 1, 2, 14 & 18) to address the coastal impacts of climate change and the need to build new resilience and adaptation measures. We hope these changes will help advance climate-prepared designs in the same way that the regulations have historically ensured greater public access.

Boston Harbor Now and our predecessor organization, The Boston Harbor Association, have historically used the 310 CMR 9.00 comment process at MassDEP to ensure that private and public property owners provide a Harborwalk along the shoreline, facilities of public accommodations, and other amenities when they develop or modify property with non-water-dependent uses. Recognizing that the risks of coastal flooding are increasing as a result of sea level rise and storm surge and that the existing 310 CMR 9.00 regulations do not reference resilience, we have expanded our comments considerably beyond 310 CMR 9.00 to include other regulatory processes to ensure that projects are prepared for the anticipated impacts of climate change. We look forward to having new regulatory tools within 310 CMR 9.00 that better define the expectations for future projects and ensure that public benefits created today are not underwater in 2070 or 2100.

*Engineering and Constructions Standards – 9.37(1)*

We agree with using future sea level projections rather than historic flood data in reviewing projects and believe that projects need to show how they will address future sea level rise. To design their projects with coastal flooding in mind, they must know the design flood elevations (DFEs) associated with future highest annual tides and coastal storm flooding.

To learn more about MassDEP's flood resilience expectations, the proposed regulations direct users to [Resilient.mass.gov](http://Resilient.mass.gov), the Commonwealth's main website focused on statewide climate initiatives. On the whole, we have concerns about referencing websites in regulations. Websites, though easy to update, are not evergreen. They require maintenance and are not updated frequently. When updated, it is often done without warning, confusing website users. We are sympathetic that coastal flood modeling will continue to evolve and agree that encouraging developments to use the latest flood projections is a best practice.



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However, we'd like to see a different approach to sharing this information. Directing developers to use the Office of Climate Science's latest flood projections is a more elegant way of encouraging developers to use the most up to date DFEs.

We have suggestions if directing users to a website is unavoidable, and MassDEP plans to use [Resilient.mass.gov](http://Resilient.mass.gov). [Resilient.mass.gov](http://Resilient.mass.gov), while comprehensive, is quite complicated to navigate. The proposed regulations must be clear about what tool users should pick to determine flood levels (though we assume it is the *ResilientMass Climate & Hazards Viewer*, which is nested under *ResilientMass Maps and Data Center*). Once at the *ResilientMass Climate & Hazards Viewer*, several flood scenarios are shown, and MassDEP does not specify which flood scenario proponents are expected to design for. Additionally, the maps show the extent of flooding but do not specify Base Flood Elevations (BFEs).

To expedite the delivery of critical flood infrastructure, proponents must know what elevation to use for their flood infrastructure. We recommend MassDEP provide more explicit guidelines on using the *ResilientMass Climate & Hazards Viewer*, which should include what flood scenario MassDEP expects proponents to design for and equip the viewer with BFEs for different flooding scenarios, including the projected highest annual tides, projected 1% chance annual flood event, and other relevant datums. We also recommend that MassDEP devise a strategy for proponents seeking extended licenses that require understanding BFEs and DFEs beyond 2070, which is the current limit of the viewer. Flood modeling at present is only reliable to a 50-year horizon, and it is challenging to predict the nature of SLR and the extent of coastal flooding beyond this timeframe. As such, the department will need a protocol to determine an acceptable level of flood resilience for projects seeking licenses beyond our current flood model's capacity. Finally, the process of establishing and updating the projected elevations is critical. MassDEP and the Office of Climate Science should review the relevant climate science regularly and observe sea-level rise trends annually. Flood maps, BFEs, and DFEs should be updated accordingly every five to ten years.

#### *Engineering and Constructions Standards – 9.37(2)*

The 310 CMR 9.00 regulatory updates call for no new residential buildings in the V-Zone, with which we agree. Allowing new non-water-dependent uses in the V-Zone would set them up for failure, exposing them to extreme wave action during coastal storms. The proposed 310 CMR 10.00 regulatory updates forbid any uses other than “docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities,” from being built in the V-Zone. Although we believe that the proposed 310 CMR 10.00 regulatory update is too restrictive and instead should allow any water-dependent use, as defined by 310 CMR 9.00, including but not limited to coastal flood infrastructure and renewable energy infrastructure that cannot reasonably be located inland, we are concerned the proposed 310 CMR 9.00 restrictions are too lenient. Both 310 CMR 9.00 and 310 CMR 10.00 regulations should prohibit all new V-Zone development except 310 CMR 9.00-defined water-dependent uses.

#### *Expiration and Renewal – 9.25*

Every license renewal should consider projected sea level rise. Given the uncertainty of rising sea levels and other climate projections, licenses should be consistent with the project's design life, and the design should reflect plans to adapt



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over time if necessary. Projects seeking a license renewal should meet the new standards defined above to the extent feasible and should be provided with informational resources on different flood adaptation strategies, similar to the Coastal Flood Resilience Design Guidelines established by the Boston Planning and Development Agency (BPDA). There should be clear consequences for non-renewal and non-compliance, as well as a transparent public process for changes made to the site.

#### *Extended Term Licenses – 9.15*

New projects and those subject to renewal will need to go through a process that demonstrates both the structures, and the corresponding public amenities will remain accessible during future sea level rise. As we think about flood protection in the context of 310 CMR 9.00, we must maintain its original mission of creating a waterfront that benefits the public. To this end, MassDEP will need to balance resilience and the public’s ability to enjoy the waterfront. Though not mutually exclusive, it will be essential to encourage flood protection that still connects people to the water, which may require elevating certain areas higher than others. The Harborwalk, for example, should be elevated above the future highest annual tides but may not need to be elevated to the 1% chance storm DFE if doing so inhibits visual and physical connections to the water. For amenities that are intentionally allowed to flood during storms, they should, at minimum, be elevated above the projected highest tide flooding for the length of their license or the useful life of the structure. They should also be designed and constructed with materials capable of withstand flooding, adequately maintained and cleaned up after floods, and include measures to ensure no harm to the public during floods, like warning signage, alarms, alerts, and closing gates.

Most project elements, however, should be prepared, or capable of being prepared, for the projected 1% chance storm event for their license length. Creating flood infrastructure capable of protecting against the projected 1% chance storm events while maintaining waterfront access may require creating flood infrastructure that can be adapted over time to meet the necessary elevation. Building flood infrastructure that can be adapted over time is also crucial because clear climate change projections are not currently available past 2070, and our understanding of design flood elevations may change over time. We support the recommendation that proponents requesting extended-term licenses commit to funding the cost of additional climate change adaptations and site modifications.

#### *Building Height Provisions – 9.51*

As noted in the BPDA’s Coastal Flood Resilience Design Guidelines, encouraging elevation of critical systems helps “protect them from flood risk to avoid costly damage, safety risks, loss of habitability and other critical building functions during a flood event.” In preparation for flood risks, more building owners and developers are moving mechanical systems to the upper floors of the building rather than installing them in basements and on the ground floor, a best practice we’d like to see further encouraged. In their new regulatory updates, MassDEP should clarify how building heights will be measured— specifying that they should be measured from a standardized design flood elevation (DFE) rather than the existing grade. The BPDA’s Coastal Flood Resilience Overlay District (CFROD), which states, “Building Height shall be measured from the higher of: (a) Grade, or (b) two (2) feet above the Sea Level Rise - Base Flood Elevation (SLR-BFE)” is a model example of what we hope DEP to adopt.



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### *Minor Project Modification – 9.22*

Modifications to projects that address sea level rise should be allowed under the new regulations. Nevertheless, all modifications and minor modifications should include a public process. While relocating building systems from the ground floor for flood resilience may be a minor change, any new ground floor spaces available in non-water-dependent structures on Commonwealth tidelands should be redesigned with the community. Where flood risks or persistent flooding threaten existing ground floor and outdoor public spaces, the scope, scale, and intent of Facilities of Public Accommodation may need to be physically changed and must be maintained during the term of the license and or design life of the project to address climate change impacts. Providing a mechanism under 310 CMR 9.22 will facilitate their implementation.

### *Long Term Considerations*

We appreciate that MassDEP understands the threat climate change poses to the waterfront and is updating its regulations to embed climate resilience into its process. The 1.0 updates are an impressive first step to acknowledging the risks coastal flooding poses, but in the 2.0 updates, we want to see more done to expedite the permitting and deliverance of thoughtfully designed and innovative flood resilience measures and activation. With the threat of climate change looming, we expect a deluge of projects needing to modify their site to be more resilient. With this large influx in mind, MassDEP will need to be able to efficiently move projects through the permitting process to ensure that these spaces are able to protect themselves and their more inland neighbors.

MassDEP has an opportunity and obligation to work within the agency and across other state environmental offices to find ways to encourage nature-based approaches for shoreline protection and flood control. By tracking existing and proposed projects with living shorelines, such as Clippership Wharf, Island End River Flood Resilience Project, Encore Boston Harbor, and Stone Living Lab research, regulations for these adaptation measures can be improved and more consistently permitted. Similarly, MassDEP should also explore permitting pathways for floating and in-water infrastructure. Floating infrastructure provides the opportunity for resilient activation capable of adapting to rising sea levels.

Though perhaps not within the legal purview of 310 CMR 0.00, Boston Harbor Now would be remiss if we did not touch upon a concerning waterfront trend we hope to see addressed. Waterfront development in Boston has been a piecemeal process that, without proper coordination, can lead to disjointed waterfront activation and flood infrastructure that is, at best, challenging to align and, at worst, unable to contribute to district wide flood protection, leaving more inland properties vulnerable to coastal flooding. As an agency that reviews waterfront developments for their ability to enhance the public's experience of the waterfront, and now, their ability to withstand coastal flooding, we hope that MassDEP can help coordinate development along the waterfront to ensure that holistic district-wide flood protection is achieved, and waterfront activation is greater than the sum of its parts.

Additionally, we would like to recommend procedural updates that would improve equity for all people, including EJ populations traditionally excluded from planning discussions. Though better as of late, the current public meeting process could be



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made more equitable. MassDEP's shift to hosting multiple public meetings has significantly improved meeting accessibility, especially for those working during the typical 9-5 workday. To further enhance meeting accessibility, we recommend posting meeting recordings online for those unable to attend and providing interpretation for those who need it. In addition to these changes, we recommend MassDEP work to create a notification system that alerts members of the public to upcoming projects and public meetings, similar to the Boston Planning and Development Agency's email distribution list, which allows people to opt into notifications based on the types of processes and geography.

MassDEP has the potential to do for climate resiliency what it has done for public access by updating these regulations. We look forward to continuing to participate in the 2.0 conversation about longer-term changes to 310 CMR 9.00. We appreciate the opportunity to provide input to create the accessible and resilient waterfronts envisioned by the public trust doctrine and codified in the Public Waterfront Act. Thank you for your consideration of these comments. We look forward to continuing to be involved in the process as changes are considered.

Sincerely,

A handwritten signature in black ink, appearing to read "Katherine F. Abbott".

Katherine F. Abbott  
President and CEO  
Boston Harbor Now