



Are you on board?

15 State Street, Suite 1100  
Boston, MA 02109  
617.223.8671  
[bostonharbornow.org](http://bostonharbornow.org)

March 10, 2017

Via email: [jerome.grafe@massmail.state.ma.us](mailto:jerome.grafe@massmail.state.ma.us)

Jerome Grafe  
MassDEP Waterways Regulation Program  
One Winter Street, 5<sup>th</sup> Floor  
Boston, MA 02108

Re: Charlestown Bus Facility – Shoreline Stabilization and Yard Improvement Project  
Chapter 91 License Application

Dear Mr. Grafe,

Thank you for the opportunity to comment on the Chapter 91 License Application for the Charlestown Bus Facility Shoreline Stabilization and Yard Improvements Project. Our policy staff attended the April 5th, 2016 site visit and we previously submitted comments during the Environmental Notification Form.

**Project Purpose & Jurisdiction**

Buses based in the MBTA's Charlestown facility represent roughly 25% of the system's buses and serve nearly 30% of its riders. Located on the west bank of the Mystic River just north of the Alford Street Bridge, the site is currently at risk of coastal flood damage due to its eroding shoreline and seawall. Partial failure of the existing bulkhead has led to deep, expanding sinkholes and closure of an existing bus circulation lane due to safety concerns.

This project is designed to extend the useable lifespan of the facility, decrease untreated stormwater runoff, and provide a waterfront recreational pathway. The proposed project

involves construction and placement of structures within flowed and filled tidelands and requires a Chapter 91 license.

Because this is a water-dependent use project that will provide shoreline protection and promote public access to the water, it complies fully with the purpose and intent of Chapter 91 standards.

### **Pedestrian and Bicycle Pathway**

As part of the proposed improvements, the Department of Conservation and Recreation (DCR) will be provided a 14-foot easement to develop and manage a multi-use pathway on the riverside of the seawall. This is a critical pathway and could become one of the major bike routes into Boston. Wynn Boston Harbor's pedestrian and bike bridge over the Mystic River will tie into this system and eventually connect this path to bike routes running through Everett and all the way to Revere, as well as to Somerville and Medford.

As longtime advocates of public spaces and waterfront access, we strongly support the creation of a multi-use pathway along this section of the Mystic River. That said, we do not feel the current plan provides enough detail on the path design, public benefits, and management plan. We request that additional documents be circulated for public comment when the proponent and DCR are further along in the design process. We see this project as a strong example of "Living with Water" resilient design that combines public access and shoreline protection against coastal flooding and would like to publicize its benefits.

Section 9.35(5) of the Waterways Regulations states that projects that are accessible to the public must provide for long-term management of public areas to achieve effective public use and enjoyment. Accessibility includes no limits on hours of use or other substantial restrictions. Projects should include adequate signage at prominent locations and all entryways that advise the public of its access rights, hours of operation, rules and regulations.

It was difficult to evaluate this project without renderings of the proposed pedestrian pathway, amenities, and design. From the project sketches, it appears some sections of the pathway will be as narrow as 10 feet wide but it is unclear where along the shoreline these variations in width occur.

Page 4-2 of the license application indicates the pathway easement is 14 feet wide. This measurement includes a 2-foot wide shoulder on either side of the path and reduces the pedestrian/bike access to 10 feet and 9 feet in some sections. During the April 2016 site visit, we noticed some sharp edges and tight corners along the existing path. Particular care should be given to the design of the pathway at these transition points for bicyclist and pedestrian

safety. If the proposed pathway is intended to be both a pedestrian and bike path it should be at least 12 feet wide and designed to minimize pedestrians-cyclist conflicts.

As presented in the City's Climate Ready Boston Report, the numbers of 90+ degree-days are projected to range from an historical average of 11 per summer to potentially 90 per year by 2070. As summers in Boston heat up, including trees or other shade structures along the pathway will help pedestrians and cyclists stay cooler. Some of the proposed alternatives (like 2A, 2B, and 5) include trees to define waterfront edge and provide shade along the pathway. The preferred alternative--8--does not include trees. The final option should combine plantings for both erosion control and shade.

Where appropriate, the path should include standard amenities like wayfinding signage, interpretive panels, benches, lighting structures, trash receptacles, mutt-mitt stations, and other public amenities. As an advocate for increased public access and activation at the water's edge, Boston Harbor Now would be glad to take part in the amenities discussion to ensure the pathway provides the access and amenities the public has come to expect of waterfront walkways.

#### **Risk management and projected sea level rise**

As stated in in the Chapter 91 license application and the FEMA Flood Maps, the Project area is located in a coastal flood zone AE at elevation 11 feet NAVD88.

The Charlestown bus maintenance facility was dedicated nearly forty years ago in late 1979. By 2079, this site will likely be part of a larger regional seawall protecting Boston's low-lying filled tidelands from regular coastal flooding.

Climate Ready Boston, a report designed to achieve scientific consensus on the climate change impacts facing Boston in the years ahead, was prepared for the City of Boston by a team of highly credentialed scientists led by researchers at U Mass Boston. They project 4 – 8 inches of sea level rise by 2030, up to 1.5 feet by 2050 and 2.4 to 7.4 feet by late century. (The lower end of this range assumes moderate cuts in greenhouse gas emissions worldwide, while the higher end reflects more of a "business as usual" scenario for future emissions.)

As stated in the project application and discussed during the site visit, a study was conducted by the Woods Hole Group to model the height of the 100-year flood elevation at the Project site in 2070. At the site visit flood maps based on the same research were shown. These maps project:

- In 2013, a 0.1 to 0.5% ("1,000-year to 200-year flood") annual chance of flooding on the north side of the site;

- In 2030, a 2 to 5% (“50-year to 20-year flood”) annual chance of flooding on the north side of the site; and
- In 2070, a 20% (“5-year flood”) annual chance of flooding the entire site

In a previous comment letter, we recommended that the Yard improvements be made within the context of the future need for a regional coastal flood barrier. Specifically, the sea wall and recreational path together should support a broader base for a higher flood barrier to be installed later as increased flood control measures are required. We commend the proponent for including several alternatives that allow for greater adaptability over time. We support the preferred alternative 8 with the option of building an additional floodwall on top of the embankment.

Based on these projections, we believe that the proposed design for reinforcing the shoreline adjacent to the MBTA bus maintenance facility is sound, aesthetically appealing, and provides multiple benefits while decreasing short- and mid-term risks of coastal flood damage to this site.

#### **Proposed flood control measures**

The proposed design involves a “hybrid” approach of green and grey infrastructure: a riprap revetment below mean higher high water (MHHW), native (salt-tolerant) vegetation above MHHW, and a sea wall installed to a height three feet above the March 2016 FEMA 100-year coastal storm elevation of approximately 7.25 feet above high tide.

We recognize the importance of this project and support the MBTA’s attempt to begin construction as soon as possible.

Sincerely,



Julie Wormser  
VP of Policy & Planning



Jill Valdes Horwood  
Director of Waterfront Policy