



**Downtown Waterfront Municipal Harbor Planning  
Advisory Committee Meeting No. 36**  
Wednesday, June 15, 2016  
Boston City Hall, Piemonte Room

**Attendees**

**Advisory Committee (“Committee”):** Bruce Berman, Joanne Hayes-Rines, Nigella Hillgarth, Jill Valdes Horwood, Sue Kim, Lee Kozol, Susanne Lavoie, Lois Siegelman, Robert Venuti

**City of Boston (“City”):** Richard McGuinness, Boston Redevelopment Authority (BRA); Chris Busch, BRA; Erik Hokenson, BRA; Lauren Shurtleff, BRA; Mia Goldwasser, Environment Department

**Consultant Team:** Matthew Littell, Utile; Tom Skinner, Durand & Anastas

**Government Representatives:** Lisa Engler, Office of Coastal Zone Management (CZM); Patrick Lyons, Office of State Representative Aaron Michlewitz

**Members of the Public:** Rita Advani, Victor Brogna, James Cravens, Don Chiofaro, Duna Chiofaro, Morris Englander, Chris Fincham, Julie Hatfield, Mary Holland, Chelsea Johnson, Gabor Korodi, Nadya Korythikova, Eric Krauss, Todd Lee, Julie Mairaw, Lev McCarthy, Arlene Meisner, Phil O’Brien, Keiko Prince, Levi Reilly, Erik Rexford, Kristina Ricco, Jay Spence, Wes Stimpson, Marcelle Willock, Heidi Wolf, Julie Wormser, Barbara Yonke, Parnia Zahedi, Bill Zielinski, Zara Zsido

**Meeting Summary**

Mr. Richard McGuinness, BRA, opened the meeting at 3:05 PM by introducing BRA staff and the consultant team. While acknowledging that the agenda indicated a discussion on offsets would occur, Mr. McGuinness stated that the focus of the day’s meeting would be climate change in the Downtown Waterfront Municipal Harbor Plan (MHP) area and that the discussion on offsets would take place the following week. This delay was partially due to the fact that a meeting between Mr. Brian Golden, Director of the BRA, and Secretary-level officials at the Commonwealth regarding the MHP was postponed. However, BRA staff was able to meet with staff at CZM, who provided feedback on the proposed offset strategy. In response to a question posed by a Committee member at a previous meeting, BRA staff also spoke with Mr. Chris Osgood, the City’s Chief of Streets regarding the use of funds for the future Northern Avenue Bridge as a potential public benefit, even though it is outside of the MHP area. Mr. McGuinness stated that such a use would be directed towards improving the public realm. Additional feedback from CZM staff included the need for additional public benefits to offset the proposed developments within the Downtown Waterfront and their preference for improvements to the public realm or programming thereof, as opposed to maintenance of adjacent open spaces.

Mr. McGuinness noted that this would be one of the first instances that a new MHP in Boston would explicitly reference climate change and its effects, namely sea level rise, but that the role an MHP could play in advancing the city's climate resilience agenda is presently unclear. He added that the City's Environment Department had recently published "Climate Change and Sea Level Rise Projections for Boston". This report explores and explains the climate change projections for the city, as researched by the Boston Research Advisory Group, and is an initial step in the Climate Ready Boston initiative, on which Ms. Mia Goldwasser would be presenting to the Committee. Mr. McGuinness explained that this work would further build on the [revised FEMA flood maps](#) implemented this past March and incorporate future sea level rise. The FEMA flood maps were appealed and redone as a result of the City's work with the Woods Hole Group, who had provided additional and more detailed analysis. Mr. McGuinness invited Mr. Chris Busch, BRA, to discuss the district's vulnerability.

Mr. Busch stated that the Notice to Proceed for the Downtown Waterfront MHP issued by the Secretary of Energy and Environmental Affairs (EEA) directed the City to include guidance on climate adaptation strategies to ensure the long-term effectiveness of public benefits in tidelands. The [Downtown Waterfront Public Realm and Watersheet Activation Plan](#) also highlighted resilience and preparedness as a key goal and objective of the public realm. Mr. Busch summarized the Downtown Waterfront's vulnerability to inundation. Most of the wharves consist of filled tidelands up to just above high high water (HHW) and, as a result, are typically inundated during astronomical high tides and storm events. Furthermore, the district's location at the base of Boston Harbor subjects it to significant winds, which results in wave action and energy as well. Directing the Committee's attention to the FEMA flood maps, Mr. Busch pointed out the Special Flood Hazard Area, which is subject to the 100-year flood event and covers much of the MHP area. Mr. Busch also explained that CZM issued a sea level rise reference document in 2013, [Sea Level Rise: Understanding and Applying Trends and Future Scenarios for Analysis and Planning](#), which has been used in the development of the MHP. This document provided a number of ranges of sea level rise based upon different emissions scenarios. The Committee's Resilience Subcommittee concluded that the [intermediate to highest emissions scenarios](#) should be used for the MHP, which anticipate 1.19 to 1.81 feet of sea level rise by 2050 and 4.20 to 6.83 feet by 2100. However, the City initiated "Climate Ready Boston" to develop city-specific climate change predictions. Mr. Busch invited Ms. Mia Goldwasser, City of Boston Environment Department, to explain the initiative and the recently released [Climate Change and Sea Level Rise Projects for Boston](#).

Ms. Goldwasser explained that Climate Ready Boston is a partnership between public, private, and non-profit stakeholders to "generate solutions for resilient buildings, neighborhoods, and infrastructure to help Boston and its metro region prosper in the face of long-term climate change impacts, including sea level rise, coastal and stormwater flooding, and extreme temperatures". The latest report builds on previous ones examining climate change impacts and adaptation at a variety of scales, ranging from building to region, issued by a variety of

organizations, including the City, Boston Water and Sewer Commission (BWSC), Massachusetts Department of Transportation (MassDOT), the State, etc. Climate Ready Boston comprises the aforementioned climate consensus, an integrated vulnerability assessment, and a variety of resilience initiatives.

Ms. Goldwasser continued that climate change will predominantly affect Boston in three areas: extreme temperatures, sea level rise, and precipitation. The number of very hot days (defined as those that reach temperatures higher than 90° will increase from 11 days (baseline based upon historical average from 1971-2000) to 20-40 days by 2030 with up to 5 days over 100° and to 25-90 days by 2070, with up to 33 days above 100°. However, cold days are likely to decrease. Regarding sea level rise, Boston anticipates 0.33'-0.67' by 2030, .60'-1.5' by 2050, 1.3'-3.1' by 2070, and 2.4'-7.4' by 2100. Ms. Goldwasser noted that the 2030 projections are independent of the various carbon emission scenarios considered due to the nature of climate change impacts. For precipitation, Boston anticipates an increase of 1.5 inches in the 10-year, 24-hour design storms by 2100.

Ms. Goldwasser added that the City is overlaying this data to other layers including utilities, hospitals, etc. to develop a vulnerability assessment, which will identify "critical resilience focus areas", or areas of critical vulnerability by the end of the summer. All of the findings will be put on the [initiative's website](#) as they become available.

Mr. Busch invited Mr. Tom Skinner, Durand & Anastas, to explain how an MHP can address climate change. Mr. Skinner explained that, while the focus of Climate Ready Boston is city-specific and focused on climate change, the Waterways regulations (Chapter 91) is neither. There are a number of enforceable provisions that can be substituted or amplified with a direct impact on climate resilience, but, Mr. Skinner surmised, these are likely more indirect approaches than would be expected of such a document. He reminded the Committee that neither an MHP nor the City can supersede applicable building codes with enforceable provisions, but that these can be encouraged and incentivized. Mr. Skinner continued that the MHP addresses three elements of climate resilience: one amplification specifies that areas improved for public open space shall also be incrementally elevated, to improve resilience; another amplification promotes, where possible, design standards and construction methods that improve the resilience of interior facility of public accommodation (FPA) space within the MHP area; and a substitute provision allows additional building height for existing structures as long as steps are taken to flood-proof mechanicals and provide additional public benefits.

Mr. Busch recapped the existing climate change policies the City has adopted, including the [City of Boston Climate Action Plan](#) (last updated in 2014) and provisions in the City of Boston Zoning Code, which mandate that all new buildings greater than 50,000 SF are subject to Article 37 (Green Building Zoning Code) and expected to be LEED Silver certifiable and that all projects subject to Article 80 (Development Review) complete the Climate Change Preparedness and Resiliency Checklist. He added that in terms of preparedness planning, the

subcommittee had discussed the possibility of requiring developments receiving dimensional and use relief through substitute provisions to develop a preparedness plan based upon current best practices for existing and new construction.

Ms. Jill Valdes Horwood, MHPAC Member, asked if the best practices listed were separate considerations or multiple pages of a single list. Mr. Busch answered that the best practices together create a single list that was divided into multiple slides. Ms. Horwood also inquired how the best practices were compiled. Mr. Busch replied that they came from a variety of sources presented to the subcommittee with the intent of further refining them based upon new information (e.g. climate change impacts) or technology. Ms. Horwood suggested that, given the new information from Climate Ready Boston, the MHP should provide a greater emphasis on resilience. Mr. Busch responded that Chapter 91 does not include construction standards. Ms. Horwood provided examples of resilience, such as requiring high-albedo roofing to reduce the urban heat island effect, and opined that the greater the level of detail in the MHP, the better. Mr. Busch indicated that the draft MHP will provide recommendations of that type. Ms. Horwood also mentioned non-linear or living shorelines as potential solutions. Mr. Skinner referred to the proposed amplification of the Commonwealth tidelands standards being applied to the entire MHP area, which create a sense of cohesion throughout the MHP area through signage, materials, pavers, etc., that accentuate the special public destination facilities (SPDFs), such as the New England Aquarium (NEAq). Such a plan would be completed by the City/BRA prior to the issuance of any Chapter 91 license to ensure compliance with the eventual design guidelines. Mr. Littell posited that Article 80 Development Review is a much better tool for enforcing design specifics. Ms. Horwood also wondered if any funds for maintenance of the public realm could be used for adaptation and resilience. Mr. Busch explained that the subcommittee had contemplated a “flood resilience district”, similar to a business improvement district (BID).

Mr. Robert Venuti, MHPAC Member, asked Ms. Goldwasser if Climate Ready Boston would result in unfunded mandates for private property owners, such as requiring flood-proofing. Ms. Goldwasser responded that the City is still in an exploratory phase, but would keep that under consideration. Mr. McGuinness added that FEMA provides low-interest loans or grants to elevate properties and Mr. Busch indicated that most of the flood-proofing would be retrofitting the existing structures.

Ms. Joanne Hayes-Rines, MHPAC Member, asked about the ordering of the MHP, the public realm design guidelines, and the licensing of developments. Mr. Skinner clarified that the public realm would not be uniform throughout the area, but that the document would set standards to create a cohesive public realm. Ms. Hayes-Rines inquired how the guidelines would be developed. Mr. Skinner replied that it would be for the City to determine how and when, but that this amplification requiring these guidelines is still a draft and that feedback on it is welcome. Ms. Hayes-Rines asked what would happen if the City failed to finalize such a plan, to which Mr. Skinner answered that it would preclude future licensing of projects. She

asked how it would be paid for. Mr. Skinner replied that it could be an offset of a development project, but that's only one idea. Ms. Susanne Lavoie, MHPAC Member, asked if the public would be involved in the development of these design guidelines. Mr. McGuinness responded that it would be done through a public process.

Ms. Lois Siegelman, MHPAC Member, asked who controls the watershed in the MHPAC. Mr. Busch answered that the BRA, Harbor Towers, and NEAq all own some of it, but would need to consult a parcel map. Ms. Siegelman noted that most of the flooding would occur on BRA and NEAq property and wondered if a breakwater could serve as a wave action attenuator and a water transportation hub.

Mr. Todd Lee, Harbor Towers resident, inquired about public property and private interests. Mr. Busch replied that the MHP is parcel-specific in this instance, but that there are other initiatives that are at a district or neighborhood scale. Mr. McGuinness continued that public benefits will be realized on both public and private properties.

Mr. Bruce Berman, MHPAC Member, postulated that sea level rise is a regional issue that requires significant short-, medium-, and long-term public investment.

Ms. Julie Wormser, Vice President of Boston Harbor Now, noted that the Climate Ready Boston projections for sea level rise increased by three feet from their previous projections due to improved modelling. She called for district- and regional-scale initiatives that incorporate the best practices from the on-going Dutch Dialogues and HafenCity in Hamburg, Germany, including seawalls, floodable plazas, and building flood-proofing. While she agrees that Chapter 91 does not address climate change explicitly, she suggested the MHP presents an opportunity to incorporate resilience and adaptation, such as applying the relevant zoning for the end of the building's lifecycle, as opposed to the start of it.

Mr. Berman stated that Miami requires all buildings be brought up to code every 40 years and asked if Boston would consider a similar requirement. Mr. McGuinness replied that most buildings are grandfathered under new regulations, but that Chapter 91 licenses have a definitive license term, as opposed to building permits, which last in perpetuity, and how that might present an opportunity for requiring buildings to adapt every 30, 65, etc. years. Mr. Berman also cautioned that some building-scale flood-proofing can be detrimental to adjacent structures if not installed properly. Mr. Littell noted that permits for renovations also present an opportunity to require building adaptation.

Mr. Berman asked when filled tidelands are considered flowed tidelands. Ms. Wormser predicted that Chapter 91 would be moot (*sic*) by the end of the century when all of the filled tidelands become flowed again.

Mr. Berman also asked if any Chapter 91 license has ever been renewed without a redevelopment. Mr. McGuinness answered that the 30-year licenses granted immediately following the revisions to Chapter 91 in the 1980s are coming to a close, but that many developments existing at that time were issued amnesty licenses.

Ms. Mary Holland, Harbor Towers resident, wondered how spot zoning resolves a city-wide waterfront issue. Mr. McGuinness clarified that MHPs are another planning layer that incorporates the information from Climate Ready Boston, but is not the main tool to implement the policies resulting from Climate Ready Boston.

Mr. Victor Brogna, North End resident, asked if the building code addresses construction on filled tidelands as opposed to upland. Mr. McGuinness explained that there are certain zoning areas, such as a groundwater conservation area, which regulate construction in filled tidelands. Mr. Busch added that properties within the FEMA flood zones must be built to their specifications, but that there is no difference between filled tidelands and upland.

Mr. Berman asked if the City requires property owners to insure properties in flood zones. Mr. Busch answered that the mortgagee typically does, but the City does not.

Ms. Rita Advani, Harbor Towers resident, inquired if the City expects to engineer a solution to sea level rise or if they are considering a coastal retreat. Mr. McGuinness responded that the climate change consensus was just published and that the vulnerability assessment is on-going, but that it would be inappropriate to prescribe an approach without defining the specific issues.

Mr. Berman asked for a link to the FEMA flood maps. (The FEMA flood maps for Boston are available [here](#).)

There being no further questions or comments, Mr. McGuinness informed the Committee and public that the next meeting would be on June 22, 2016 at 6 PM in the Piemonte Room on the 5<sup>th</sup> Floor of City Hall, Boston, MA and ended the meeting at 4:20.