THE PINNACLE
CENTRAL WHARF

THE CHIOFARO COMPANY
KPF
Downtown Waterfront Planning Initiative Workshop

Join us for a fast-paced, interactive conversation with Boston’s Urban Design team.

Positively shape the future of Boston’s Downtown Waterfront.

Open to all of Boston’s young creatives, entrepreneurs, and community leaders.

FRIDAY, MAY 17TH
2:00-6:00 PM

2:00 PM WALKING TOUR
Harriet Long Wharf - 250 State Street (entrance off Christopher Columbus Park). Begin with an inside look at the current state of Boston’s Waterfront with Boston’s Urban Design team.

3:30 PM VISIONING WORKSHOP
Atlantic Wharf, 230 Congress Street (adjacent to Fort Point Conference Center). Roundtable, collaborate, and envision the future of Boston’s Downtown Waterfront.

Follow us on Twitter @Oblivion45
Join the conversation and tag @BOSUrbanDesign.

For translation and interpretation services, please call 857-206-6066.

FOR MORE INFORMATION OR QUESTIONS PLEASE CONTACT:
Chris Bach, Waterfront Planner
1 Civic Center Plaza, 6th Floor, Boston, MA 02208
617-918-6751, Chris.Bach@cityofboston.gov
Maximize view to Water
Align building massing and open space to capture views of Harbor from Greenway.

Unify Open Space
Connect two open spaces visually and physically across Milk Street to increase the scale of Open Space.

Link to Harborwalk
Provide wide (uncluttered) sidewalk experience along Milk to allow recognizable E-W connection.

Aquarium Visual Enticement
Provide artful element (visible from Greenway) to attract users to Aquarium and Harborwalk.

Gathering Edge
Provide an active gathering experience along Old Atlantic Ave.

Link to Harborwalk
Activate East India by placing a primary building entry at corner of Atlantic and East India

Kiosk
Contains interpretive elements/panels - consisting of graphics and text that convey the history and evolution of the wharf through time.
A Vision for the Downtown Waterfront

The Downtown Waterfront is Boston’s front door to the world. It should host a rich mix of uses that complement and support two of Boston’s greatest open space resources, the Rose F. Kennedy Greenway and the Harbor, and that build on the decades of planning and design work in the area.
February 16, 2018

Secretary Matthew A. Beaton
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02210

Re: 2017 Downtown Waterfront District Municipal Harbor Plan & Public Realm Activation Plan

Dear Secretary Beaton:

On behalf of the City of Boston, I am submitting supplemental information regarding the Downtown Waterfront District Municipal Harbor Plan & Public Realm Activation Plan (Downtown Waterfront MHP), which was filed with your office on March 15, 2017 for your review and approval pursuant to 301 CMR 23.00.

The Downtown Waterfront MHP, which was developed over a four-year public process involving 40 public meetings, serves as the City’s vision to guide future development in the district to ensure new projects promote public access, improve and activate the public realm and sustain important water-dependent uses such as the New England Aquarium. The MHP includes substitutions to the MBL Chapter 51 dimensional standards for the Harbor Garage and Hooper Wharf sites, and related offsets to enhance ground level exterior spaces and create new waterfront public open space. District-wide substitutions and amplifications are included to promote the activation of the public realm and climate resilience as well as protections to support the Aquarium.

Since last April we have been working with your staff during the consultation process to address comments received during the public review process and the interests of affected property owners and stakeholders. The feedback we have received from your staff has been greatly helpful in strengthening the goals of the MHP and the public benefits tied to the redevelopment of the Hooper Wharf properties.

Based upon these discussions we have made modifications to the Downtown Waterfront MHP. We now offer supplemental information accompanying this letter, which includes information on changes to the MHP as originally submitted. Specifically, the proposed changes include:

[Content of the letter is censored or not legible.]

April 30, 2018

[Signature]

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Matthew A. Beaton, Secretary
MHP Design Provisions

- 50% open to sky (28,673 sf)
  - 30% to the North
  - 10% to the South
  - 10% to the East
- Single Tower
- 600’ to top of building, 585’ to highest occupied floor
- 900,000 sf max area
- 10,500,000 cu ft max volume
- No one-hour net new shadow (October 23rd) seaward of the Long Wharf Marriott
- Active uses facing Central Wharf
<table>
<thead>
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<th></th>
<th>2014 Previous</th>
<th>VS</th>
<th>2020 Current</th>
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<tbody>
<tr>
<td>Open Space</td>
<td>19,810 sf</td>
<td>Open Space</td>
<td>28,673 sf</td>
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<tr>
<td>Office</td>
<td>700,000 sf</td>
<td>Office</td>
<td>535,000 sf</td>
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<tr>
<td>Hotel</td>
<td>250-300 keys</td>
<td></td>
<td></td>
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<tr>
<td>Residential Units</td>
<td>120 units</td>
<td>Residential Units</td>
<td>200 units</td>
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<td>Retail</td>
<td>3 Levels</td>
<td>Retail</td>
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<tr>
<td>Parking</td>
<td>1400 spaces</td>
<td>Parking</td>
<td>1100 spaces</td>
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<tr>
<td>Total Square Feet</td>
<td>1.3M</td>
<td>Total Square Feet</td>
<td>865,000 sf</td>
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GROUND LEVEL PLANNING
ELEVATING THE GRADE
TOUCH THE WATER
SOFTEN THE EDGES
STRENGTHEN HARBOR WALK
50% OPEN TO SKY (28,673 SF)
30% to the North
10% to the South
10% to the East
Proposed Vehicular Circulation

Legend:
- vehicular circulation
- residential parking access
- commercial / public parking access
- loading access
Area Flooding
Existing Grade

ATLANTIC AVE

EXISTING GRADE
+17 BCB

FEMA FLOOD PLAIN
Raise Entire Site +4’ for Sea Level Rise

PROPOSED GRADE
+21 BCB

ATLANTIC AVE

FEMA FLOOD PLAIN

IMAX
Level 2 Plan

- "Grand Stair"
- BCB +41

retail / public amenity
Public Seating & Grand Stair Above Garage Entry
elevate grade from 17’ to 21’ for resiliency

organic New England rocky tidal ledges

overlook cantilevered deck

8% ADA ramp

flush residential dropoff

public art opportunities

8% ADA ramp at curvilinear steps

8% ADA ramp at curvilinear steps

monumental stairs

property line

orthogonal city edge

ATLANTIC garage/loading entrance

existing seawall
elevate grade from 17' to 21' for resiliency

OLD ATLANTIC and MILK as flush streetscapes

8% ADA ramp at curvilinear steps

existing IMAX and CENTRAL WHARF edge (red dashed line)

8% ADA ramp

public art opportunities

monumental stairs

existing seawall

organic
New England rocky tidal ledges

overlook cantilevered deck

8% ADA ramp

EAST INDIA garage entrance

flush residential dropoff

property line

orthogonal
city edge

extend BLUEWAY to GREENWAY

ATLANTIC garage/loading entrance

NEAQ MASTER PLAN (FUTURE)
Harbor Edge
Interactive + Educational Multimedia Public Art

[Images of interactive public art installations, including a project to introduce plastic litter from rivers and ports into the sea. The plastics are represented as reductions in sea level as the plastic floats into the river.]
TOWER
## Program

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MODIFYING BULK TO USE

RESI
OFFICE
RETAIL

900K SF
10.5M CU FT
Stepped Form

- Setbacks respond to program
- Setbacks can relate to surrounding buildings
- Exterior space can be provided for tenants for improved work/live environments
- More usable and rational interior planning
- Improved wind mitigation
CLIMATE READY BOSTON MASSING

STEPPEDE Extrusions
Massing Progress

VARIED SETBACK HEIGHTS

FOLDED PROFILE
Program

RESIDENTIAL
18 FLOORS
284,000 SF
200 UNITS

OFFICE
22 FLOORS
538,000 SF

RETAIL
2 FLOORS
42,000 SF

TOTAL
865,000 SF
Height Continuity
Special Window Facing Greenway
Boston Tops

Custom House Tower, 1915

John Hancock Tower, 1976

28 State Street, 1970

Two International Place, 1992

111 Huntington Street, 2002

Millennium Tower, 2016

160 State Street, 1977

Berkeley Building, 1947

Federal Reserve Bank Building, 1976

One Dalton Street, 2019

Lincoln Street, 2003

One International Place, 1987

Exchange Place, 1984

Prudential Tower, 1964

76
Types of Top Expression

- Flat
- Step
- Geometric
- Crown
Types of Top Expression

- Stepped
- Crown
Vertical Expression

- Vertical solidity breaks up the facade and compliments the form.
- Shingled piers allow for larger spans of unobstructed glass, and provide dedicated space for thermal insulation.
FOLDED FACADE PANELS DISPERSE LIGHT GLARE REFRACTIONS, WHILE A SMOOTH SURFACE FOCUS LIGHT GLARE IN CONCENTRATED AREAS.

Glare

PLAN

PLAN
FOLDED FACADE CREATES SMALL POCKETS OF TURBULENCE WHICH ENCOURAGE THE AIR TO “STICK” TO THE FORM AND DELAY SEPARATION.
Terracotta & textured metals
Elevations

HARBOR

MILK STREET
Elevations

ATLANTIC AVE

EAST INDIA ROW
Elevation Along Waterfront
SUSTAINABILITY & RESILIENCY
Emission and energy goals in Boston

Boston aspires to carbon neutrality by 2050, reducing building and grid emissions

Design to be better than 2020 Stretch Code. Multiple targets will be considered: LEED 4 Gold, Passive House, AIA 2030 Challenge.

Priority to study NetZero feasibility and District Energy per Smart Utilities Project
Resiliency challenges on site

Downtown waterfront is a high risk flood area with property losses of $500M by 2030

Site at critical flood entry point with 21” tidal floods by 2050 and 40” by 2070

EverSource identifies a medium risk of power outage in the area, combined with 20-40 additional days over 90°F by 2030

Future storm flood scenarios Downtown Boston
Source: Climate Ready Boston (CRB) 2019

Harbor tower site has the opportunity to improve the water edge

Future expected range of days over 90°F
Source: Climate Ready Boston (CRB) 2019

Days over 100 F
Days over 90 F
Environmental Goals

1. Integral flood protection as part of waterfront
2. Passive heat survivability during blackouts

Impact Reduction
1. Low carbon design better than ASHRAE 90.1 2016 and LEED 4.1 Gold
2. Electric ready design
3. All storm runoff water managed on site
4. Increase waste diversion

Resilient Design

Occupant Wellbeing
1. Improved daylight access and thermal comfort
2. Active design in office and public amenities
3. Minimized overheating
Resilience, Comfort and Community

1. **ELEVATED SITE**
For flood protection, also improving access to the waterfront and integrating within larger downtown public space network.

2. **HARBOR TIDAL EDGE**
To create a buffer for peak storm tide flooding.

3. **STORM WATER MANAGEMENT SYSTEM**
Incorporating on-site rainwater storage and ground level surface retention, exceeding the runoff control capacity defined by the city.

4. **NEIGHBORING SITES ENGAGEMENT**
Integration within the joint district resiliency strategy outlined by Climate Ready Boston.

5. **PASSIVE SURVIVABILITY**
Integration within the joint district resiliency strategy outlined by Climate Ready Boston.

6. **URBAN HEAT ISLAND REDUCTION**
Extreme heat adaptation, through a combination of high albedo pavement and floor materials and vegetated shaded canopy.

- Tidal Buffering Landscape
  - Elevated Site
  - Harbor Tidal Edge
  - Storm Water Management System
- Neighboring Sites Engagement
- Passive Survivability
- Urban Heat Island Reduction

Porous High Albedo Pavement for Reduced Heat Island
Storm Water Management Gardens
Resilience, Comfort and Community

1. STORM WATER RETENTION GARDEN NETWORK
2. FLOOD PROTECTION ELEVATED SITE
3. AUTOMATED BARRIERS FOR PARKING ENTRANCE
4. SHADING TREE CANOPY ON SITE

**EXTERIOR**
- VENTILATION
- DAYLIGHTING

**INTERIOR**
- HIGH PERFORMANCE FACADE
  - REDUCED WWR THROUGH SUPER INSULATED SOLID PANELS
  - REDUCED ENERGY USE THROUGH LOW-E COATED DOUBLE GLAZING AND HORIZONTAL SHADING
  - REDUCED HARMFUL RADIATION ON THE EAST AND WEST FACADES

**DOUBLE HEIGHT OFFICE SPACES**

**EXTerior**

**VENTILATION**

**NATURAL VENTILATION**

**DAYLIGHT DESIGN**

**DAYLIGHTING**

**DAYLIGHT DESIGN**

- REDUCED GLARE THROUGH OPAQUE FACADE PANELS AND SHADING
- REDUCED ELECTRICITY USE THROUGH DAYLIGHT DIMMING CONTROL, OCCUPANCY LIGHTING CONTROL, AND LOW POWER LED LIGHTING

**STORM WATER MANAGEMENT GARDENS**

**POROUS HIGH ALBEDO PAVEMENT FOR REDUCED HEAT ISLAND**

**TIDAL BUFFERING LANDSCAPE**
Low Impact Environmental Systems

WATER & WASTE

1. STORM WATER STORAGE
2. STORM WATER TREATMENT
3. WATER USE EFFICIENCY
   - GREY WATER TREATMENT PLANT FOR REUSE
   - LOW FLOW FIXTURES
   - LOW IRRIGATION LANDSCAPE
4. WASTE MANAGEMENT
   - COLLECTION CHUTES
   - RECYCLING CENTER & COMPACTOR

GENERATION

5. EMERGENCY GENERATOR
6. SOLAR PHOTOVOLTAIC GENERATION

HEATING & COOLING

7. COGENERATION & HOT WATER PLANT
8. CHILLED WATER PLANT
9. HIGH EFFICIENCY ACTIVE CHILLED BEAM
10. WATER COOLED VRF SYSTEM
11. HIGH EFFICIENCY COOLING TOWERS
12. HEAT RECOVERY
   - WATER FROM OFFICE TO RESIDENTIAL

VENTILATION

13. OFFICE VENTILATION ENERGY RECOVERY
14. RESIDENTIAL VENTILATION ENERGY RECOVERY
IMPACT OF POTENTIAL ENERGY REDUCTION STRATEGIES

- **Baseline**: ASHRAE 2016 & MA 2020 Code
- **Tenant Lighting**: Per Code + Daylighting
- **Condensing Domestic Hot Water Heaters**
- **HVAC Design**: Office ACBs + Resi FCUs

**29% Potential Energy Reduction Than Baseline**

- Domestic Hot Water
- Pumps
- Fans
- Cooling
- Heating
- Misc. Electric Loads
- Lighting
Harbor Edge
EXISTING NEAQ

COASTAL UPLAND
SPRAY ZONE
INTERTIDAL ZONE
SUBTIDAL ZONE

1. spray or black zone
2. upper intertidal or periwinkle zone
3. middle intertidal or barnacle/rockweed zone
4. lower intertidal or Irish moss zone
5. subtidal or kelp zone

1. subtidal or kelp zone
2. lower intertidal or Irish moss zone
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4. upper intertidal or periwinkle zone
5. spray or black zone
Representative Project Benefits

• 30% of project site dedicated for integration into NEAq’s proposed Blueway vision

• $10 Million contribution toward NEAq resiliency improvements associated with Blueway (largest offset in history of MHP regime)

• Guaranteed parking for NEAq patrons, through construction period and afterward, in modern, flood-resistant garage (250 spaces M-F, 9-6; 500 spaces at all other times)

• $30 Million indemnity to NEAq against construction period revenue losses

• Removal of all garage and project-related traffic from Central Wharf

• Expansive new visibility to NEAq campus

• Highly activated and amenitized interior spaces concentrated along Central Wharf

• Opportunities for NEAq programming partnerships

• Initial link of district-wide protective network against sea level rise (Climate Ready Boston)
  – 4’ elevation of project site and adjacent Harborwalk
  – Creation of living shoreline on behalf of abutters

• Removal of block-long barrier of existing garage

• 28,000+ sf of new open space

• 42,000+ sf of public interior amenity space

• Reimagination & activation of Harborwalk

• $300,000 toward design and engineering of park and water transportation hub at Chart House parking lot

• 7 day/4 season activation via mixed-use programming

• Expansive new view corridors and pedestrian access to harbor edge

• Significant new revenue streams through value capture (e.g., real estate taxes and bonding capacity)
SHADOW ANALYSIS

The MHP design provisions requires no one-hour net new shadow seaward of the Long Wharf Marriott (October 23rd)
FLOOD PROTECTION TOOLKIT (Resilient Boston Harbor)

WATERFRONT GATEWAYS

LIVING EDGES

NEIGHBORHOOD BEACHES

HABITAT HARBORWALK

STEPPED HARBORWALK

ELEVATED HARBORWALK

*Axons from Resilient Boston Harbor. Orange annotations have been added.