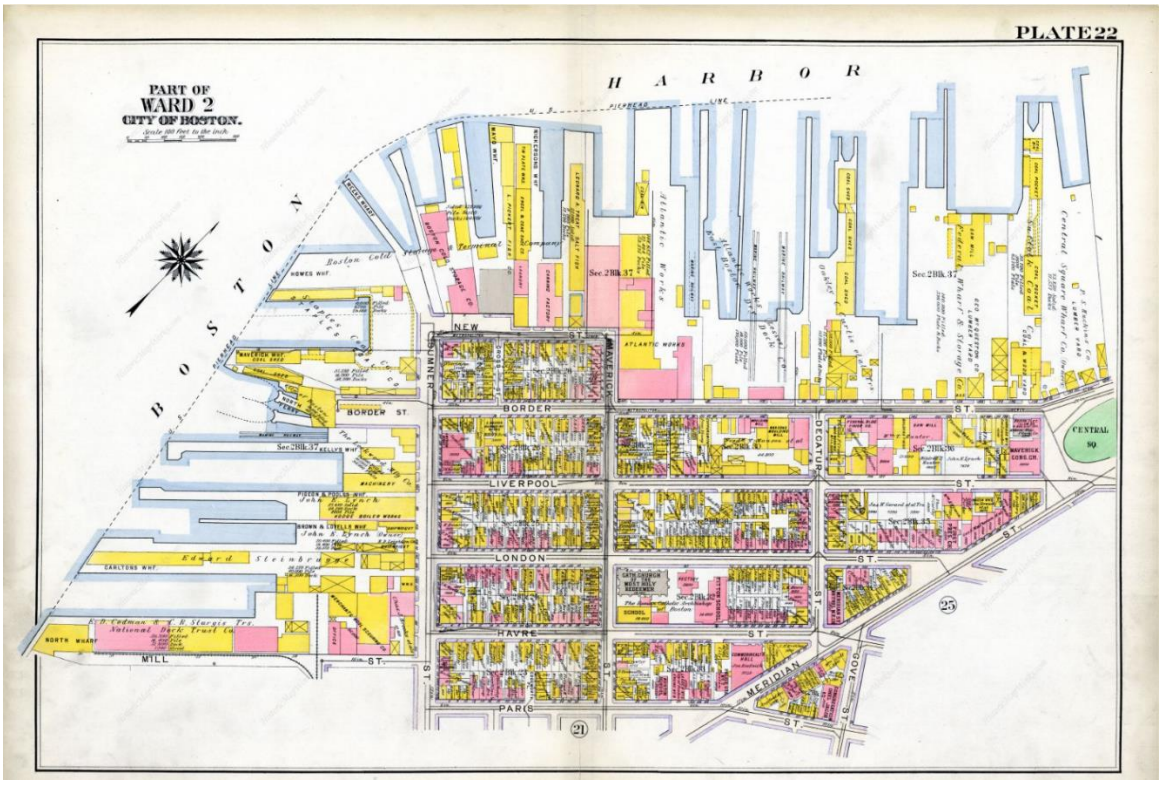
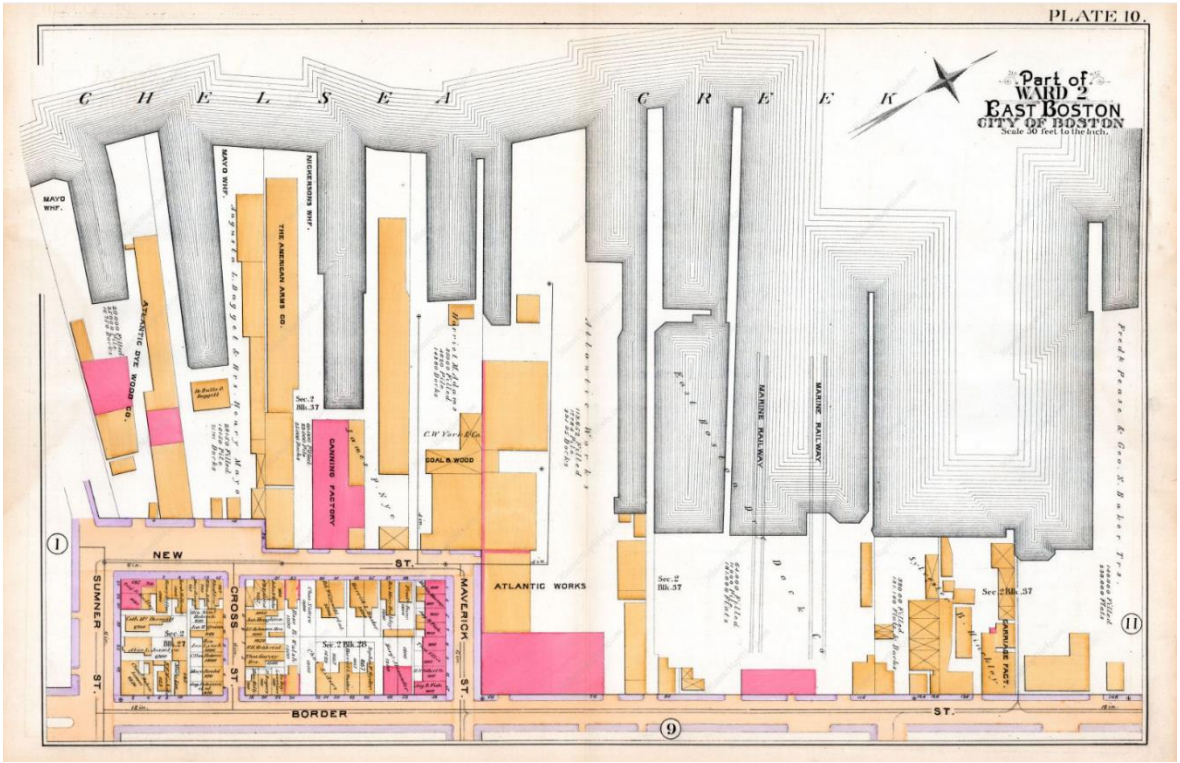
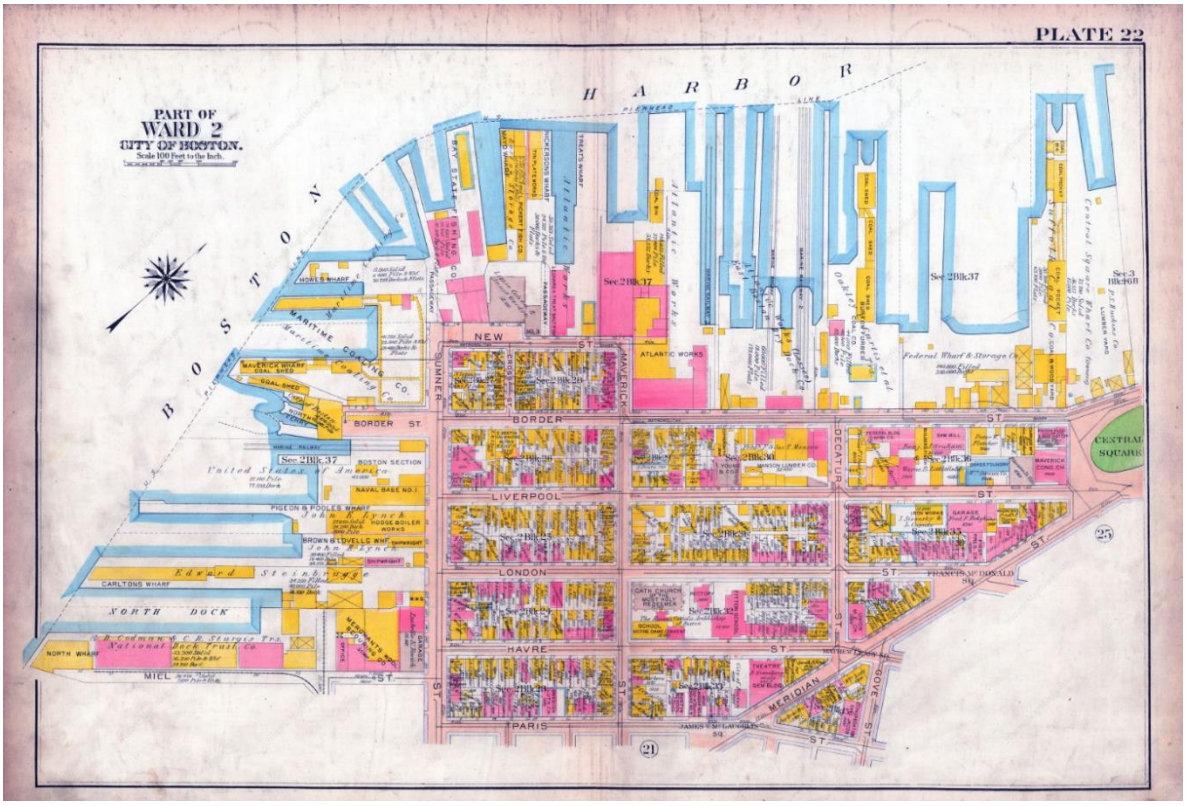
APPENDIX A - HISTORIC MAPS



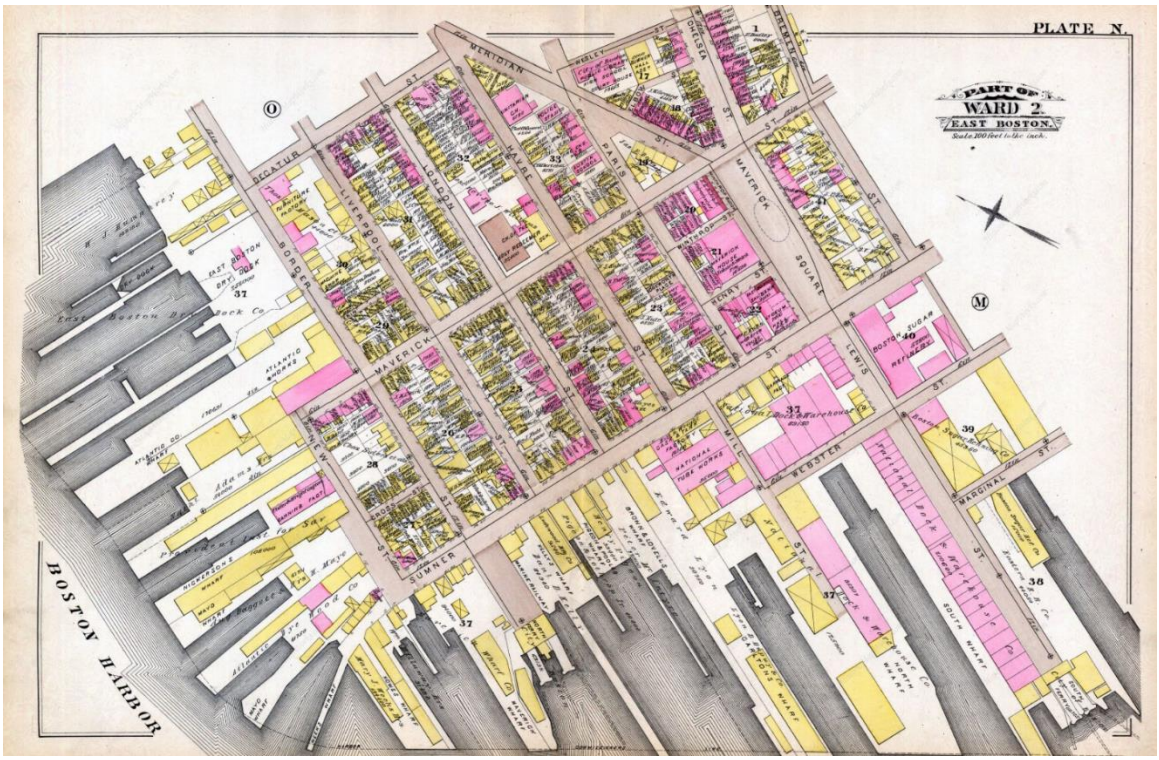
Boston 1912 Charlestown and East Boston, Massachusetts – Plate 022



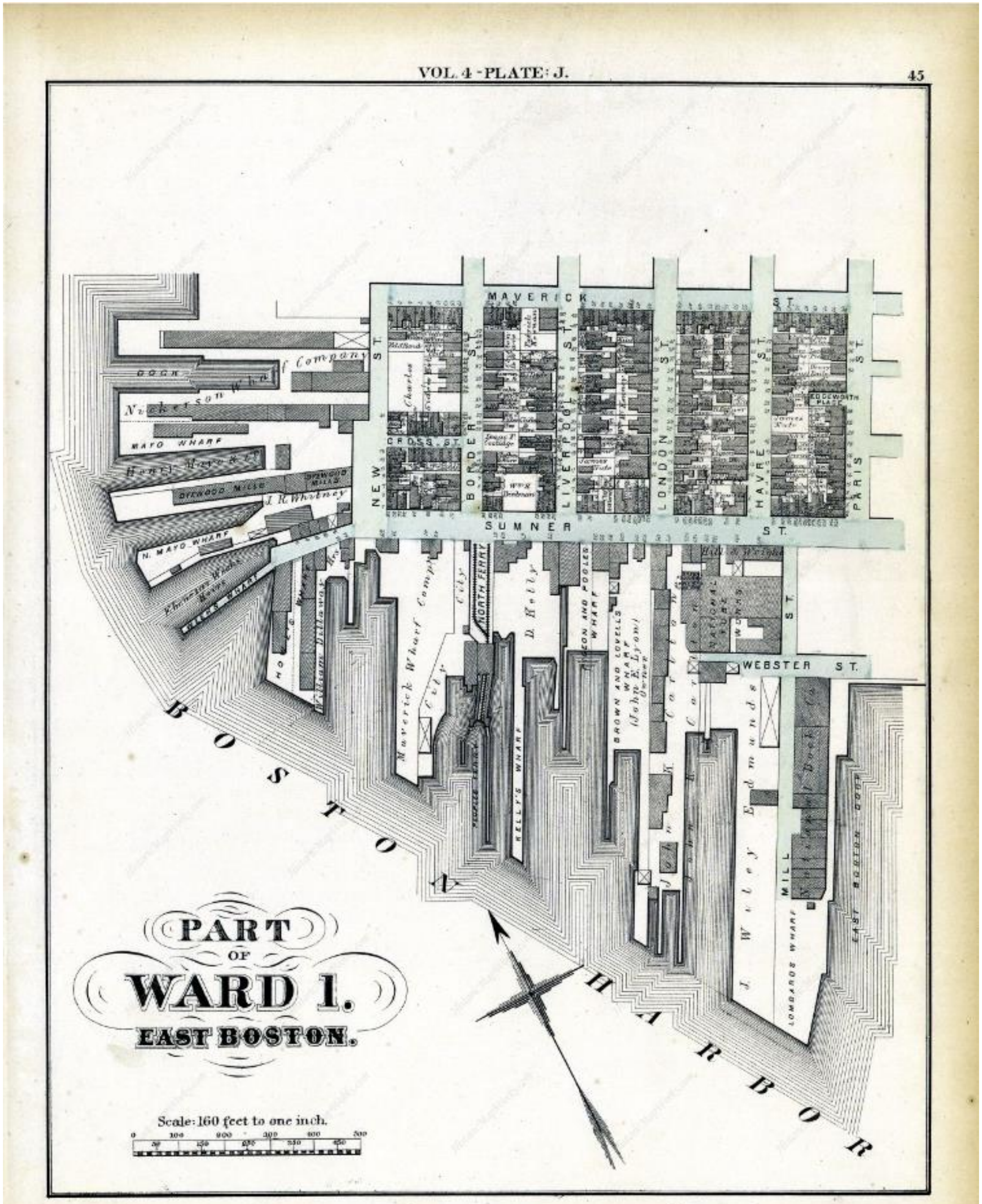
Boston 1892 Vol 9 East Boston, Massachusetts – Plate 010



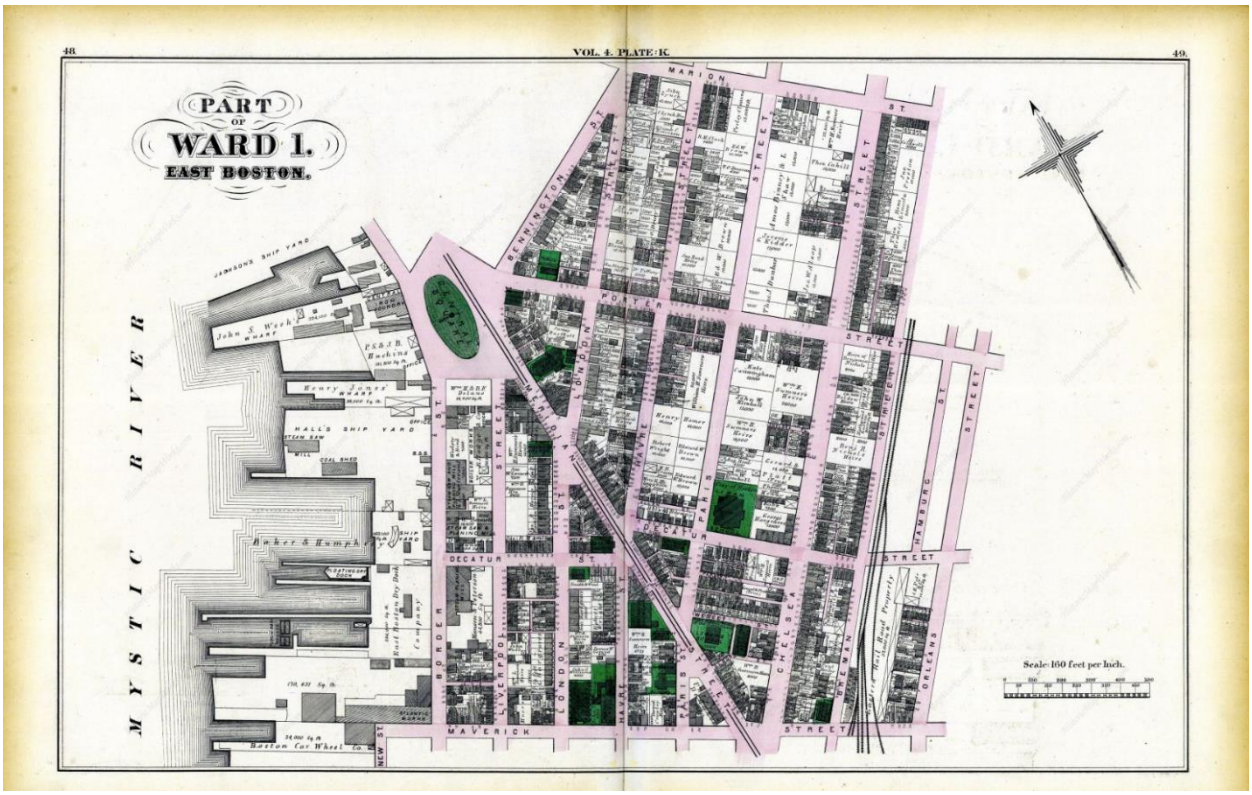
Boston 1922 Charlestown and East Boston, Massachusetts – Plate 022



Boston 1884 Vol 4 South and East, Massachusetts – Plate N



Suffolk County 1874 Vol 4 Chelsea and East Boston, Massachusetts – Plate J



Suffolk County 1874 Vol 4 Chelsea and East Boston, Massachusetts – Plate K

- Map 1
  - Published by G. W. Bromley & Co. in 1912
  - https://historicmapworks.com/Map/US/6549/Plate+022/Boston+1912+Charlestown+and+East+Boston/Massachusetts/
- Map 2
  - Published by G. W. Bromley & Co. in 1892
  - https://historicmapworks.com/Map/US/6178/Plate+010/Boston+1892+Vol+9+East+Boston/Massachusetts/
- Map 3
  - Published by G. W. Bromley & Co. in 1922
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- Map 4
  - Published by G. W. Bromley & Co. in 1884
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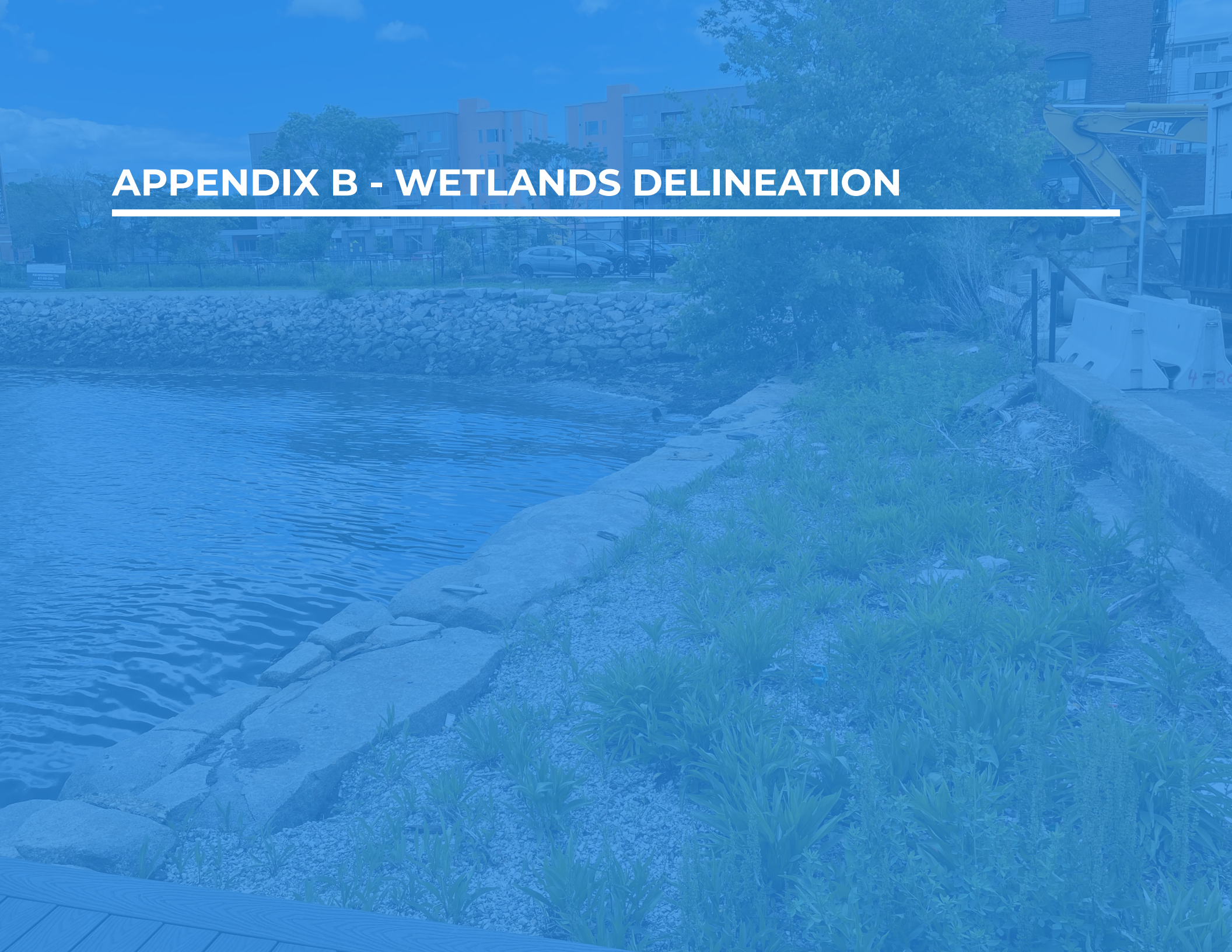
- Map 5
  - Published by G. M. Hopkins & Co. in 1874
  - https://historicmapworks.com/Map/US/7155/Plate+J/Suffolk+County+1874+Vol+4+Chelsea+and+East+Boston/Massachusetts/
- Map 6
  - Published by G. M. Hopkins & Co. in 1874
  - https://historicmapworks.com/Map/US/7156/Plate+K/Suffolk+County+1874+Vol+4+Chelsea+and+East+Boston/Massachusetts/

APPENDIX B - WETLANDS DELINEATION



MEMORANDUM

DATE August 12, 2024 **JOB NO.** 2023-0258

TO Robin Seidel, AIA
Weston & Sampson
seidel.robin@wseinc.com

FROM Dack Stuart, WPIT
Woods Hole Group
508-495-6255
dstaurt@woodsholegroup.com

Sent via Email: seidel.robin@wseinc.com

Re: Coastal Resource Area Delineation along Border Street, Boston, MA

On April 16, 2024, one Woods Hole Group Wetland Professional in Training and one Coastal Scientist conducted a coastal resource area delineation along a section of Mystic River shoreline in Boston (Figure 1). The survey area extended approximately 4,000 total linear feet along the heavily developed, west-facing shoreline parallel to Border Street. Resource areas surveyed included coastal beach, coastal bank, non-sediment source coastal bank, and non-sediment source vertical buffer. To delineate the extent of resource areas and capture changes in topography, a survey-grade real-time Kinematic (RTK) GPS was used to collect data at sub-centimeter accuracy in both horizontal and vertical datums. Horizontal data were recorded in Massachusetts State Plane 2001 (Mainland, US survey feet) and vertical data were collected in North American Vertical Datum of 1988 (NAVD88, US survey feet). Land Subject to Coastal Storm Flowage (LSCSF) was also included in this survey as mapped by FEMA flood zones AE and VE. The USGS CoNED Topobathy DEM 1887-2016 (Compiled 2016) was used to generate the MLW line of -5.16 ft NAVD88 (sourced from NOAA's Tidal Station 8443970, Boston, MA). The Topobathy DEM file was inserted as a surface into Autodesk Civil 3D. The MLW elevation was defined as a contour. This user-defined contour was then extracted and exported as a shapefile for further mapping within GIS. Descriptions of each resource area are included in the following sections.

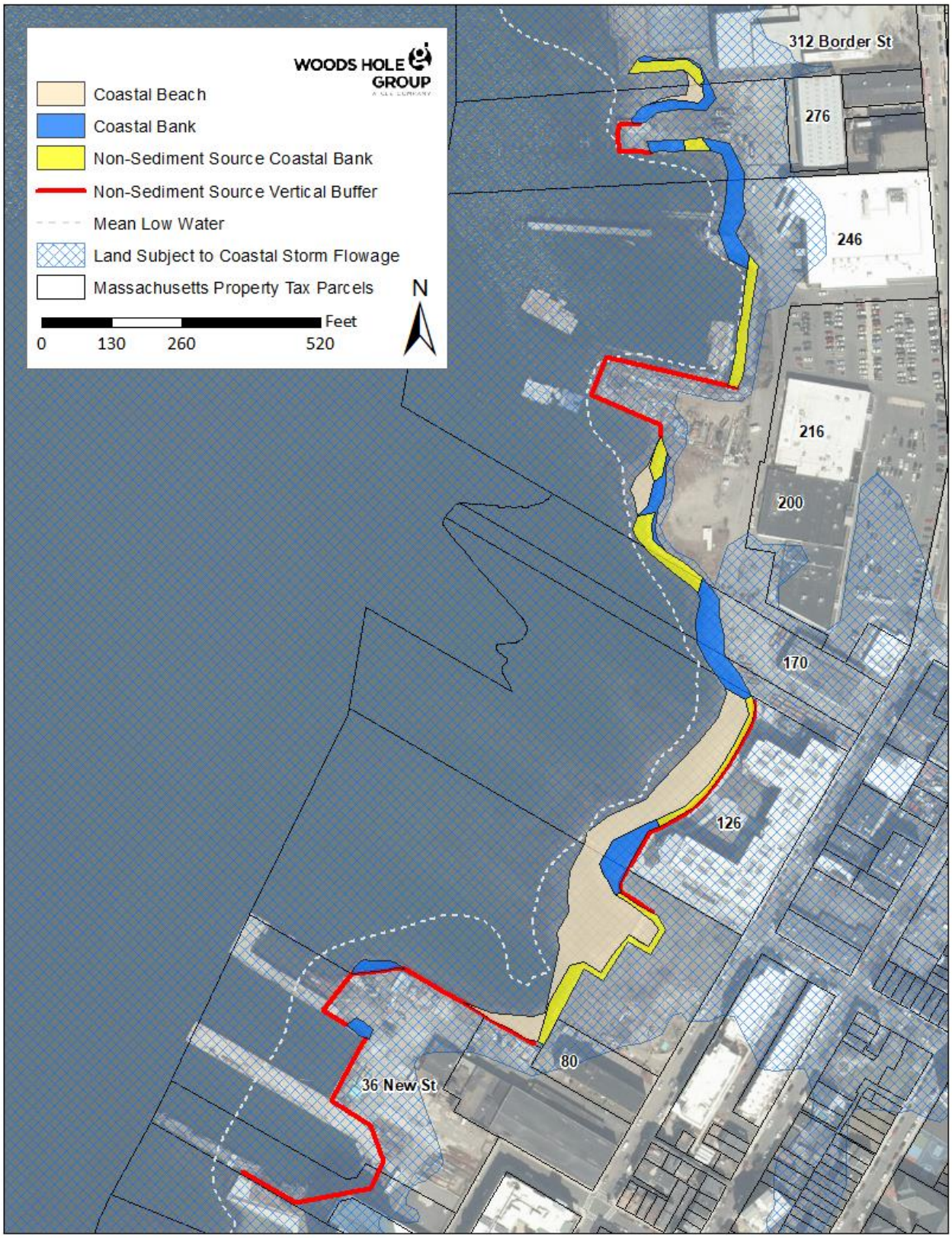


Figure 1. **Coastal resource areas delineated within the survey area.**

Coastal Beach

Coastal beach was delineated in three locations (tan areas, Figure 1):

1. Along the property line shared by 312 and 276 Border St: 1,521 square feet (sf).
2. The shoreline seaward of 200 Border St: 2,475 sf
3. The shoreline extending from 170 Border St in the north, to 80 Border St in the south: 49,630 sf or 1.14 acres.

All coastal beaches were composed of a mix of very poorly sorted sand, gravel, cobble and boulders, often with manmade debris (decayed wooden pilings, metal, trash, etc.). The coastal beach #3 above contained the least amount of manmade debris, but still had remnants of an historic shipyard according to on-site signage. It was also the only beach which appeared to be maintained for potential recreation, because it had a kayak launch leading from an upland concreate path to the beach. Beaches #1 and #2 above showed no signs of utilization and appeared abandoned. Grains larger than gravel occasionally had attached marine flora (bladderwrack, *Fucus vesiculosus*), with periwinkle snails (*Littorina littorea*). Abutting each coastal beach was coastal bank (sediment and non-sediment source).

Figure 2. Coastal Beach #1 delineated behind 276 Border St.

Figure 3. Coastal Beach #3 delineated at 126 Border St, abutting non-sediment source Coastal Bank and Vertical Buffer.

Coastal Bank

Coastal bank was delineated in eight locations along the survey area (blue areas, Figure 1) for a total areal coverage of 32,488 sf (0.75 acres). This type of bank can contribute sediment to the down-slope environments via erosion and is typically composed of material that can mobilized via common natural processes (waves, rain, wind, freeze/thaw, etc.). Coastal bank was often delineated in places where the dominant sedimentary composition of grain size and/or the topographic slope were too great to be considered coastal beach, but there were still few boulders and other large grains that could not be moved by the processes described above (Figure 4). Coastal bank was present along the shoreline in between non-sediment source coastal bank and vertical buffer (i.e., coastal engineering structures). Coastal bank either extended seaward to MLW (276 Border St) or it is bordered on the seaward side by coastal beach (276 and 200 Border St). In most locations, coastal bank terminates at the top of bank. In a few locations, coastal bank was bordered on the landward side by vertical buffer (126 Border St, south end of property). In other places, coastal bank existed up-slope of an armored, non-sediment source coastal bank, extending to the top of the slope (banks seaward of properties at 276 and 200 Border St); these banks could still erode and contribute sediment to lower elevations, despite being located above a non-sediment source bank. (Figure 5). The cobbles and boulders had periwinkle snails and occasional filamentous algae on their lowest-elevation parts, but were otherwise unvegetated.

Figure 4. **Coastal Bank delineated behind 246 Border St.**

Figure 5. **Coastal Bank delineated behind 126 Border St, near the kayak launch.**

Non-sediment Source Coastal Bank

Non-sediment coastal banks are banks which can't contribute sediment to adjacent, lower-elevation environments due to a lack of suitable material, often because the material is too large to be eroded or moved naturally or it has been encased in concrete or other shoreline stabilization technique. They consisted of large boulders, placed for erosion protection (Figure 6). Non-sediment source coastal banks were delineated along most of the survey area (yellow areas, Figure 1), for a total area of 25,457 sf (0.58 acres). They often extended from mean low water (MLW, 0.35 ft NAVD88) to the top of bank. The exception was the non-sediment coastal bank at 126 Border St, which extended from the coastal beach to the vertical buffer along part of its length (Figure 7).

Figure 6. Non-sediment Source Coastal Bank delineated seaward of 312 Border St.

Figure 7. Non-sediment Source Coastal Bank and Vertical Buffer delineated seaward of 126 Border St. Non-sediment Source Vertical Buffer

Non-sediment source vertical buffers are vertical, manmade structures, typically metal sheet piles, that are driven into the sediment to act as shoreline protection and erosion defense and are most often installed where ships can use the shoreline for docking. They were delineated at various locations, but most were observed in the southernmost parts of the survey area (red lines, Figure 1), for a total length of 2,278 feet. Each of the areas identified as vertical buffer showed evidence of past or current utilization by ships and docking, except the length of shoreline seaward of 126 Border St, which is utilized as a pedestrian harbor walk. Many of the vertical buffers were in degraded conditions, with large holes and corrosion evident. Due to their nature of being used for docking, the base of most vertical buffers could not be surveyed on foot due to water depth and other hazards. The top of the vertical buffers located seaward of 216 Border St and 36 New St were occupied with large construction debris which was unstable, and occasionally hung over the edge of the non-sediment source vertical buffer. This made surveying the exact location of the top of vertical buffer unattainable in some places, but RTK data were collected as near to the edge as was safely possible. In cases where approaching the edge was unsafe, a visual confirmation of vertical buffer from other observation points served as the basis of the delineation, though this only occurred at 36 New Street. At this property, vertical buffer was visually observed to travel under the three docks which extend seaward into the inner Boston Harbor.

Figure 8. Non-sediment Source Vertical Buffer delineated seaward of 216 Border St.

Figure 9. **Condition of docks at 36 New St, extending over the water beyond the seaward limit of land. In this photo, the non-sediment source vertical buffer is the farthest-right wooden piling, where delineation stopped.**

Buffer Zones of Coastal Beach and Coastal Bank

The City of Boston's *Wetlands Protection Ordinance* includes a Waterfront Area buffer zone which extends twenty-five (25) feet horizontally from the edge of coastal beach and bank. The buffer zone is seen as significant to the protection of the resource areas since "activities undertaken in close proximity to resource areas have a reasonable probability of adverse impact upon the wetland or other resource, either immediately, as a consequence of construction, or over time, as a consequence of daily operation existence of the activities". Figure 10 includes the boundaries for the Waterfront Areas for coastal beach (yellow) and coastal bank (orange).

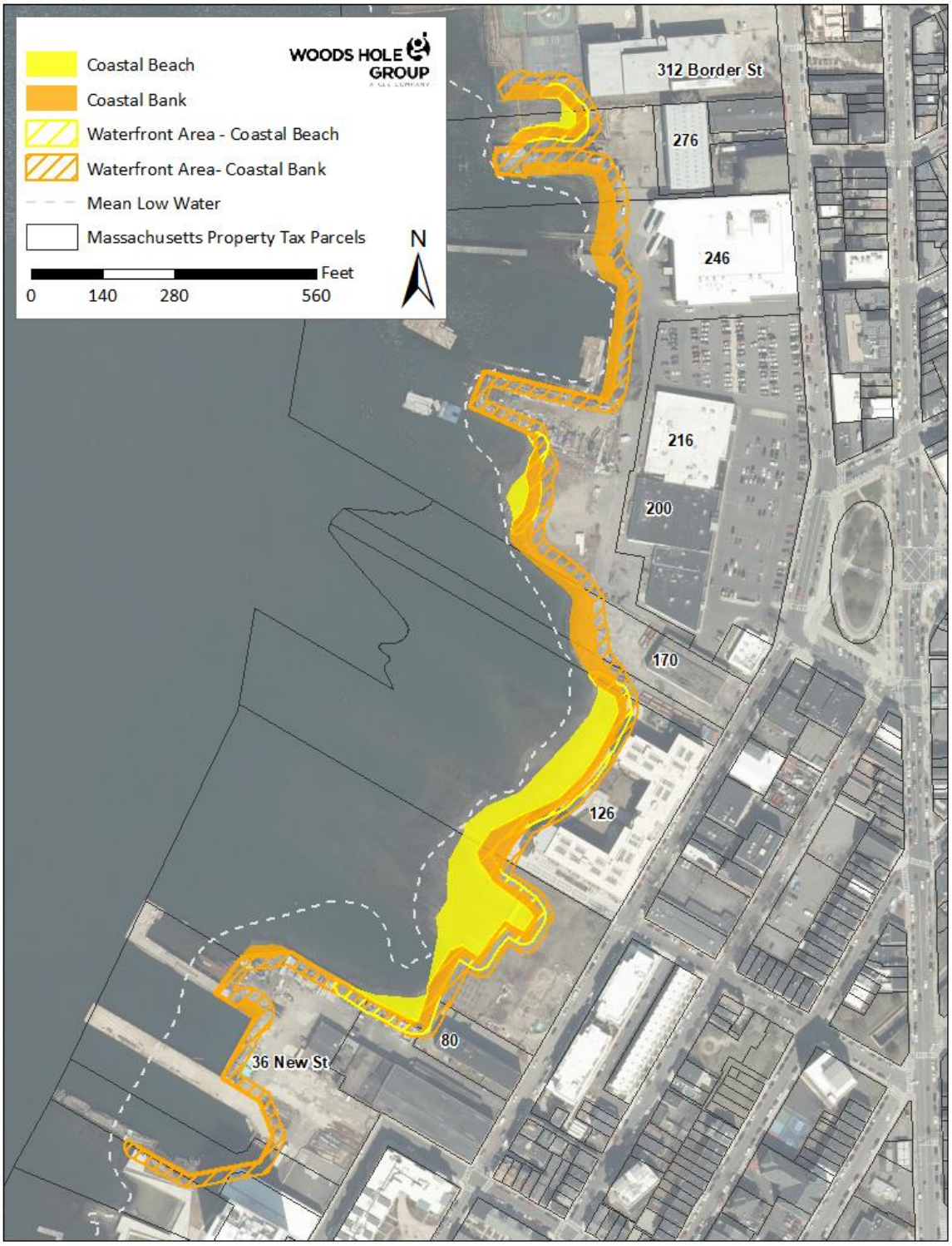


Figure 10. Waterfront Area buffer zone – 25 feet from coastal beach and dune.

Massachusetts Department of Environmental Protection's (MassDEP) Wetlands Protections Regulations also include restrictions for activities that take place in a 100-foot buffer zone of coastal beach and bank (310 CMR 10.02b). The 100-foot buffer zones for those resources are shown in Figure 11.

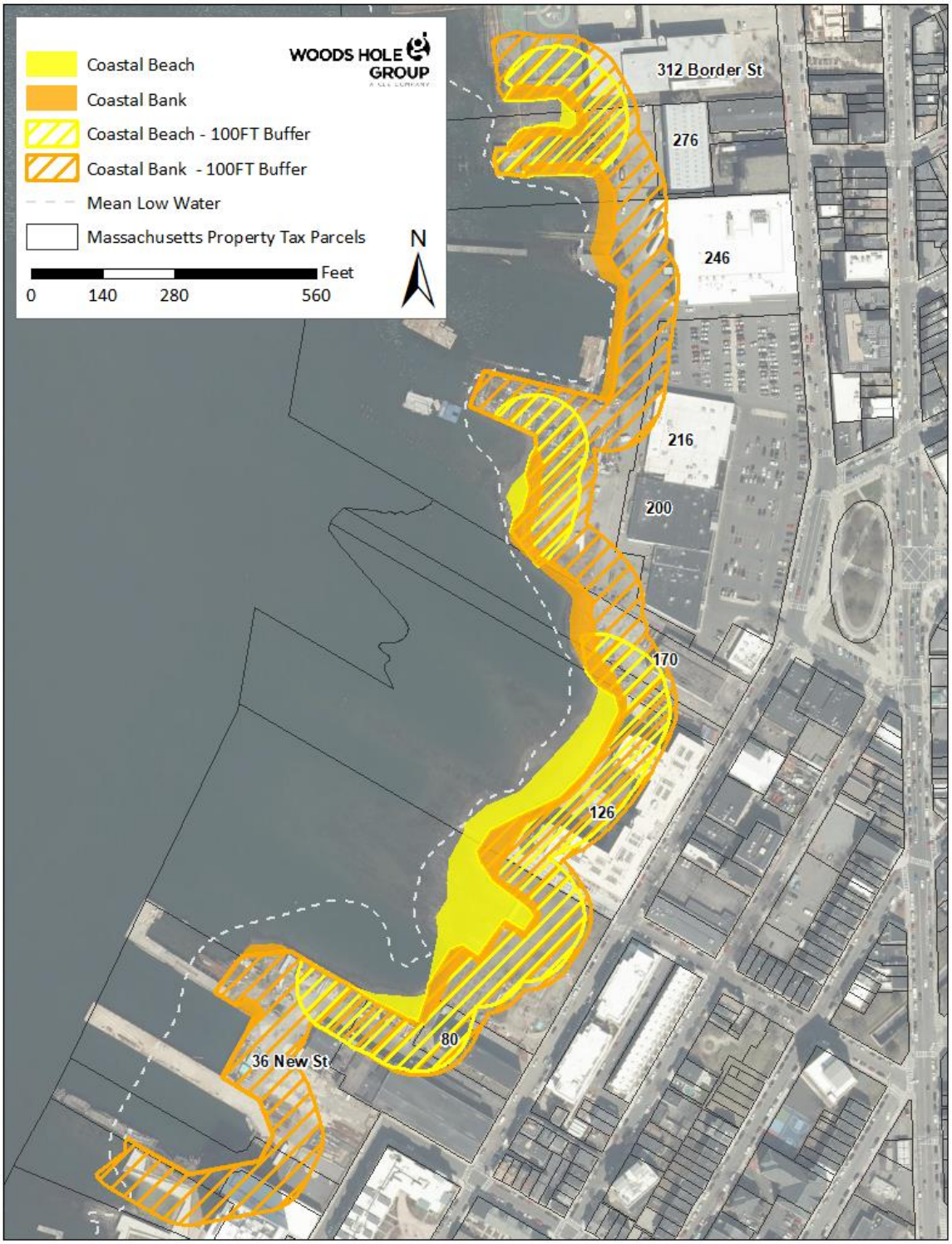


Figure 11. MassDEP Wetlands Protections Regulations 100-foot buffer zone.

Land Subject to Coastal Storm Flowage

Land subject to coastal storm flowage (LSCSF) is land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of 100-year storm, surge of record or storm of record, whichever is greater. LSCSF was inclusive of the AE and VE zones designated by FEMA and encompassed all resource areas that were documented on site, and sometimes extended far inshore beyond the survey area. Because LSCSF covered the entirety of the survey area, areas that did not meet criteria for other resource areas were delineated as LSCSF. This applied to areas landward of the top of bank including parking lots, fields, construction zones, and buildings (blue cross-hatched area, Figure 1).

Natural Heritage Estimated & Priority Habitat and Massachusetts Division of Marine Fisheries Shellfish Suitability Areas

There are no locations in the survey area identified as spawning and settlement habitat for shellfish, according to the Massachusetts Division of Marine Fisheries. Besides periwinkle snails, no living shellfish were observed during the delineation. Estimated and Priority Habitat for Rare or Endangered Species were identified adjacent to the study area by the Massachusetts Natural Heritage and Endangered Species Program (Figure 12 and 13). The waters offshore 246 Border St. are priority habitat PH1321 and estimated habitat EH950, though the State does not specify which species these zones pertain to.

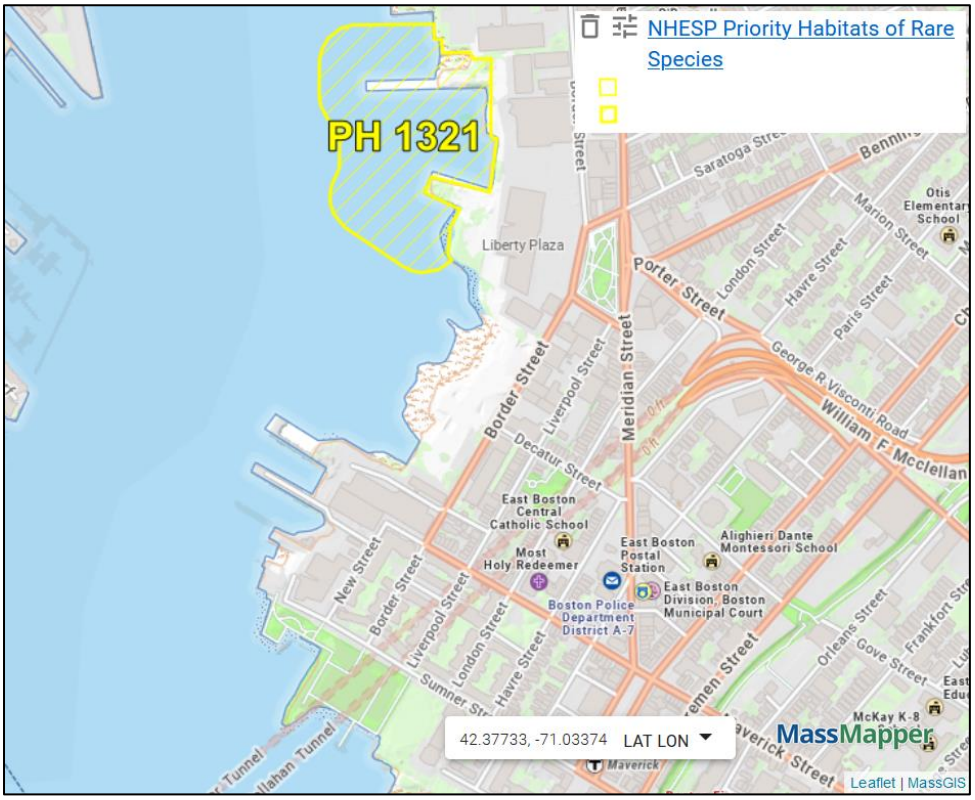


Figure 12. NHESP priority habitat adjacent to the study area.

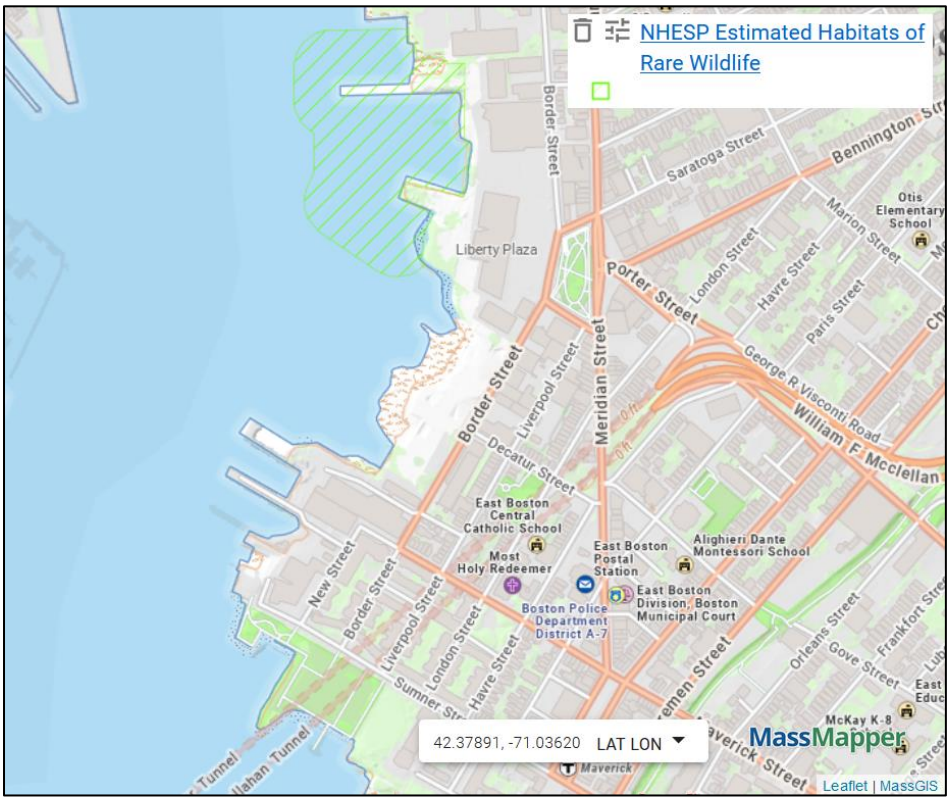


Figure 13. NHESP estimated habitat adjacent to the study area.

If you have any questions or require any further information, please do not hesitate to contact me directly at 508-495-6255 or via email at dstuart@woodsholegroup.com.

Sincerely,

Dack Stuart
Coastal Scientist, WPIT

APPENDIX C - ENVIRONMENTAL REGULATIONS & PERMITTING

US Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) regulates construction and other activities in navigable waterways under Section 10 of the Rivers and Harbors Act of 1899, and has authority over the discharge of dredged or fill material into "waters of the United States" (a term which includes wetlands and all other aquatic areas) under Section 404 of the Clean Water Act. Under these laws, those who seek to carry out such work must first receive a federal permit from the USACE. The program, known as the "public interest review", considers the full public interest by balancing favorable impacts against detrimental impacts. The program reflects the national concerns for both the protection and utilization of important resources and involves an analysis of the foreseeable impacts the proposed work would have on public interest factors, such as navigation, general environmental concerns, wetlands, economics, fish and wildlife values, land use, floodplain values, and the needs and welfare of the people.

In Massachusetts, regional USACE General Permits (GPs) can be issued for certain activities with no more than minimal individual and cumulative adverse effects to the environment. For any activity/activities subject to USACE jurisdiction in the waters of the U.S., including tidal wetlands and navigable waters within the Commonwealth of Massachusetts, a federal permit will be required. Depending on the magnitude of impacts, one of the following three USACE permit review levels will be required.

- Self-Verification Notification (SVN) (minimal impacts, lowest permitting effort/time);
- Pre-Construction Notification (PCN) (average impacts, average permitting effort/time); or
- Individual Permit (IP) (significant impacts, maximum permitting effort/time).

A total of 25 regional GPs were issued by the USACE on June 2, 2023, for the state of Massachusetts. These GPs are valid for a period of five (5) years, with each having different thresholds that trigger review under one of the three USACE permit levels noted above. Regional GPs are reissued by the USACE on a 5-year basis, at which time, permit categories and/or review thresholds and criteria may be updated/modified.

Provided that there is no change in use, General Permit (GP) 2 authorizes maintenance activities including the repair, rehabilitation, or replacement of currently serviceable structures or fill, or any currently serviceable structure constructed prior to December 18, 1968 (Section 10) or fill placed prior to July 25, 1975 (Section 404) and therefore grandfathered under 33 CFR 330.3. GP2 is applicable to existing structures which are located throughout the project limits and include solid-filled wharves comprised of bulkhead and seawalls. Under this GP, if the proposed work results in greater than ½ acre

of permanent impacts or 1 acre of temporary impacts within tidal waters, an IP will be required. However, if impacts do not exceed the aforementioned thresholds, then authorization of proposed maintenance activities will be required under a PCN or SVN and determined in accordance with the criteria provided under GP 2 for each respective permit.

As part of the PCN and IP review processes USACE Federal and State agency input is solicited through interagency coordination performed by the USACE. Federal agencies, including NOAA National Marine Fisheries Service (NMFS), US Fish and Wildlife (USFW) and/or US Environmental Protection Agency (USEPA), may be required to weigh in on any potential impacts and/or mitigation measures related to fisheries and protected resources, species and/or habitats. Additionally, project notification must be provided to state historic and tribal preservation officers at the MHC, Massachusetts Board of Underwater Archeological Resources (BUAR) and various Indian tribes to determine if any proposed activities will impact protected historic/tribal lands, structures and/or artifacts. State agency input may be provided by MassDEP, CZM and/or the Division of Marine Fisheries (DMF). Depending upon proposed activities, individual CZM Federal Consistency and a MassDEP 401 Water Quality Certification may be required in addition to the federal permit. While both federal consistency and water quality are regulated under federal statues (i.e. Section 307 of the Federal Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. § 1456) and Section 401 of the Federal Clean Water Act (CWA) of 1972 (33 U.S.C. 1251 et seq.)), the permit review processes are performed at the State level in accordance with 301 CMR 20.00, Coastal Zone Management Program and 314 CMR 9.00, 401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States within the Commonwealth. Details pertaining to the Federal Consistency and 401 Water Quality review processes are provided below.

Massachusetts Environmental Protection Act Regulations (301 CMR 11.00)

The Massachusetts Environmental Policy Act (MEPA) and regulations are intended to provide meaningful opportunities for public review of the potential environmental impacts of projects for which State agency action is required, and to assist each agency in using all feasible means to avoid, minimize and mitigate environmental and public health impacts to the maximum extent practicable. The MEPA Office administers the review process, with the Secretary of Energy and Environmental Affairs (EEA) exercising certifying authority. Several other State agencies are involved in the review process, including but not limited to, MassDEP Wetlands and Waterways Divisions, MA Department of Transportation (MADOT), Metropolitan Area Planning Council (MAPC), DMF, NHESP, CZM, MHC and

municipal department, including the City Council/Board of Selectmen, Planning Board/Department, Conservation Commission and Department/Board of Health.

MEPA regulations establish review thresholds under various project categories or aspects thereof of a nature, size or location that are likely, directly or indirectly, to cause damage to the environment, and are used to determine whether agency review is required. A threshold that is met or exceeded for a proposed project specifies whether MEPA review consists of an Environmental Notification Form (ENF) and a mandatory Environmental Impact Report (EIR) (maximum review level) or an ENF and other MEPA review if the Secretary so requires (minimum review level). The subject matter of a review threshold is within MEPA jurisdiction when there is full-scope jurisdiction (i.e., the project is undertaken by an Agency or seeks the provision of Financial Assistance) or when the subject matter of the review threshold is conceptually or physically related to the subject matter of one or more required State permits. The MEPA review process **must be** completed prior to the filing of any required state permit applications.

When determining MEPA jurisdiction and assessing review thresholds, consideration must be given to the entirety of the Project, including any likely future Expansion, and not separate phases or segments thereof. A project may not be intentionally designed as a phase or segment to evade, defer or curtail MEPA review. All circumstances shall be taken into consideration as to whether various work or activities constitute one project including, but not limited to, whether the work or activities, taken together, comprise a common plan or independent undertakings, regardless of whether there is more than one Proponent; any time interval between the work or activities; and whether the environmental impacts caused by the work or activities are separable or cumulative.[1]

The entire project site is located within one (1) mile of multiple Environmental Justice (EJ) population Designated Geographic Areas (DGA) Therefore, if any of the thresholds for an ENF are met or exceeded, an EIR will become a mandatory requirement for the project. The EIR review process for projects that have the potential to impact EJ populations may be performed in accordance with one of the two procedures described below.

- **Standard 3-step EIR Review Procedure**: As with other mandatory EIR projects, MEPA review commences with the filing of an ENF to which the Secretary would then issue a Scope for a Draft EIR, and subsequently, a Final EIR. With the exception of the Final EIR, comment periods may be extended upon consent of the Proponent or on account of the Proponent's failure to meet circulation or public notice requirements. In total, the typical MEPA review process involves at least three steps (ENF, Draft EIR, and Final EIR).

[1] https://www.mass.gov/regulations/301-CMR-1100-mepa-regulations#11-02-definitions

- **Expedited EIR Review Procedure**: The Project Proponent may request that MEPA review be expedited from the 3-step review process described above. Specifically, the Project Proponent may request that the Secretary allow a Single EIR or a "Rollover" EIR noting that these projects are not eligible to seek a Full Waiver from the requirement to file an EIR. If a Single EIR is requested, an Expanded Environmental Notification Form (EENF) shall be submitted to MEPA and specifically contain a baseline assessment of existing conditions within the identified EJ populations in addition to all other required/relevant content. If a Rollover EIR is requested, the EENF must contain both a baseline assessment and an assessment of project impacts on EJ populations to demonstrate that the project will not materially exacerbate any existing unfair or inequitable Environmental Burden and related public health consequences impacting an EJ population, and it will not result in a disproportionate adverse effect or increased climate change effects on an EJ population. If requesting a Rollover EIR, the EENF must be accompanied by a Proposed EIR, which must be submitted to the MEPA Office as a separate and stand-alone document. Project Proponents wishing to seek expedited review must provide advance notification of the project to a distribution list generated from an "EJ Reference List" provided by the MEPA Office. The advance notification must be provided no less than 45 days, and no more than 90 days, prior to filing.

The Final Secretary's Certificate issued on the EIR will identify all mitigation commitments. If the project requires the issuance of a Chapter 91 license, then following the issuance of the Certificate on the EIR, the Secretary will also issue a Public Benefits Determination (301 CMR 13.00). The ENF/EENF, if completed adequately, will also serve as the Project Notification Form for MHC review and determination of adverse effect.

Relevant categories of impacts that the project has the potential to exceed include State-listed species (impact to NHESP priority or estimated habitat); Wetlands, Waterways and Tidelands (alteration of coastal bank or ½ acre of other wetlands, requiring a permit and/or construction/reconstruction of 1,000 sf base area solid fill structure in tidelands); and Historical and Archaeological Resources (demolition of all or any exterior part of a historic structure).

Massachusetts Wetlands Protection Act (310 CMR 10.00) and Local Wetlands Ordinance (City of Boston Municipal Code, Chapter VII)

The Massachusetts Wetlands Protection Act (WPA) and associated regulations protect coastal and other wetlands from project-related impacts, including removal, filling, dredging, and alteration. Regulated activities require filing a Notice of Intent (NOI) and, if permitted, adhering to project specific conditions that are issued under an Order of Conditions. The City of Boston Conservation Commission administers the regulatory

review and approvals process at the local level, with MassDEP retaining superseding authority. For activities proposed to occur below Mean High Water (MHW), NOI review is also required by DMF. Additionally, if activities are proposed to occur within priority and estimated habitat of rare and endangered species as mapped in accordance with the most recent edition of the Massachusetts Natural Heritage Atlas, the project is subjected to review by the Natural Heritage and Endangered Species Program (NHESP) under the Massachusetts Endangered Species Act (MESA). NHESP review can be conducted concurrently through the NOI application.

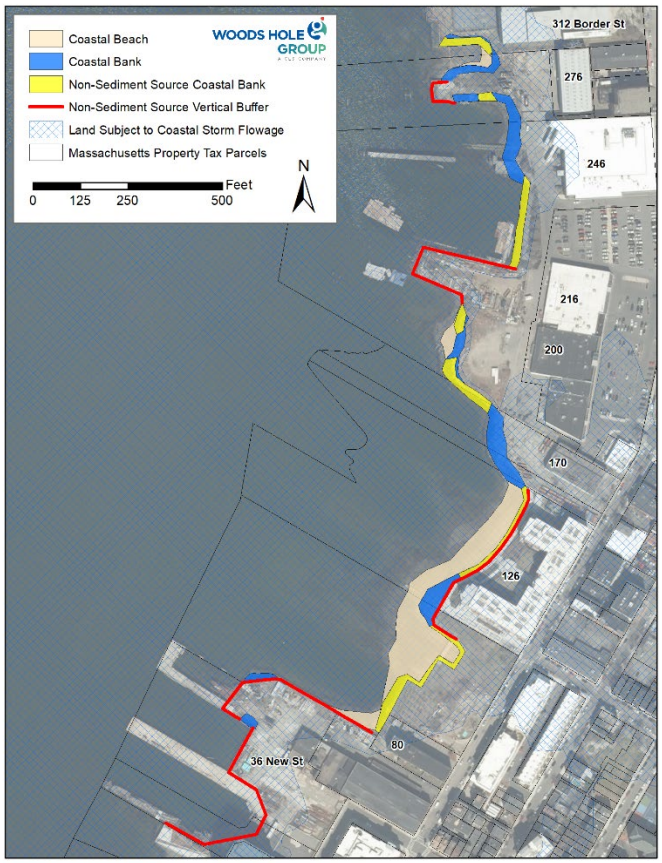


Figure 28. Wetlands Delineation for the Resilient Border Street Project. Source: Woods Hole Group, 2024.

Following a wetlands delineation, it was confirmed that the project area includes coastal wetlands resources areas protected under the WPA, including land under the ocean, coastal beach, coastal bank, non-sediment source coastal bank, non-sediment source vertical buffer land subject to coastal storm flowage (LSCSF) and a 100-foot buffer zone extending landward from the limit of coastal beach and/or coastal bank as shown in Figure 28. Project impacts to these resource areas and within the 100-foot buffer zone will require the filing of an NOI. The project area also includes priority and estimated habitat of rare and endangered species, and therefore will l require NHESP review as part of the NOI. As part of the project design, stormwater management improvements may be required in

order to meet the MassDEP Stormwater Management Standards, and as such, a Stormwater Report will need to be submitted as a supplement to the NOI application

The City of Boston has a Wetlands Ordinance and associated regulations, which, under home rule authority, expand upon the definitions, resource areas, values, and performance standards set out in the WPA and its regulations. Of relevance to the project, the City's regulations establish the Waterfront Area (25-foot buffer zone on coastal beach and coastal bank) and performance standards for LSCSF including related to sea level rise and other climate change impacts. These require additional analysis, narrative, and design considerations as part of the NOI permit review process.

Massachusetts Waterways Regulations (310 CMR 9.00)

In the Commonwealth of Massachusetts, protection of the public's right to access waterways and tidelands (filled and flowed), is managed through the Massachusetts General Law Chapter 91 and associated regulations as overseen by the MassDEP Waterways Division. The Chapter 91 law provides a regulatory mechanism to preserve tidelands and waterways for water-dependent and water-dependent-industrial, nonwater-dependent and public use. Other agencies which protect this right include MassDEP, CZM, and the Division of Fisheries and Wildlife (MassWildlife).

The Chapter 91 Waterways Regulation Program goals are to:

- Preserve pedestrian access along the water's edge for fishing, fowling, and navigation; and provide facilities to enhance public use and enjoyment of the water.
- Seek to protect and extend public strolling rights, as well as public navigation rights.
- Protect and promote tidelands as a workplace for commercial fishing, shipping, passenger transportation, boat building and repair, and marinas.
- Protect Areas of Critical Environmental Concern, ocean sanctuaries, and other ecologically sensitive areas from unnecessary encroachment by fill and structures.
- Protect the rights of waterfront property owners to approach their property from the water.

With respect to the project site, Chapter 91 regulations are applicable to the entire area as it is comprised of both historically filled and flowed tidelands with several parcels being located with the East Boston Designated Port Area (EBDPA). For parcels located outside of the EBDPA, filled tidelands limits are defined as the first public way or 250 feet from mean high water, whichever is farther landward. For those parcels located within the EBDPA, filled tideland limits are defined by the historic MHW shoreline (i.e., all filled areas). Flowed tidelines regulations are applicable to areas that are located in, on, over, or under tidal waters seaward of the present mean high water (MHW) shoreline.

The placement of fill to raise existing backland grades, removal/demolition and/or modification of existing licensed structures, and/or the installation of new structures to adequately block flood pathways within the project area will require Chapter 91 authorization. It is noted that it is not anticipated that flood protection measures will require a change in use(s) at any of the sites located within the project area. For sites that are currently in full regulatory compliance with Chapter 91 requirements, minor modifications can be authorized by MassDEP for structural alterations which are confined to the existing footprint of the fill or structures being altered and which represent an insignificant deviation (less than 10% increase) from the original specifications of the license, in terms of size, configuration, materials, or other relevant design or fabrication parameters. However, no such modification(s) shall be undertaken until the licensee has submitted written notice to the Department describing the proposed work in sufficient detail, with reference to any relevant license plans, so that a determination of compliance can be made with the above conditions. If MassDEP does not object within 30 days, the licensee may proceed with the described work without further approval.

Massachusetts 401 Water Quality Certification (314 CMR 9.00)

A 401 Water Quality Certification (401 WQC) is issued by MassDEP for projects that include the discharge of dredged or fill material, dredging, or dredged material disposal activities in waters of the United States, which require federal licenses or permits. A 401 WQC is also required for the management of dredged material within the marine boundaries and at upland locations within the Commonwealth. The purpose of the 401 Water Quality Certification is to ensure that proposed discharges of dredged or fill material, dredging, and dredged material disposal in the waters of the United States within the Commonwealth comply with the Surface Water Quality Standards (314 CMR 4.00) and other appropriate requirements of state law.

In coastal waters, dredging includes improvement dredging, maintenance dredging, excavating and backfilling or other dredging and subsequent refilling that occurs below MHW. Removal of materials may include, but not limited to, rocks, bottom sediments, debris, sand, refuse, plant or animal matter, in any excavating, cleaning, deepening, widening or lengthening, either permanently or temporarily, of any flowed tidelands, rivers, streams, ponds or other waters of the Commonwealth. If more than 100 cubic yards of material is dredged or more than 5,000 square feet of land under ocean is impacted, a 401 Water Quality Certificate will be required for this project.

Massachusetts Coastal Zone Management Program (301 CMR 20.00)

In accordance with the federal Coastal Zone Management Act (CZMA) of 1972, the State developed its coastal zone management program, which was approved by the National Oceanic and Atmospheric Administration (NOAA) in 1978. The CZMA gives states the

authority to review projects to ensure that they meet state standards articulated in their coastal zone management plans through a process called Federal Consistency review. The Massachusetts Office of Coastal Zone Management (CZM) is responsible for implementation of the Federal Consistency review process in Massachusetts. Federal consistency review is required for most projects that are in or can reasonably be expected to affect a use or resource(s) of the Massachusetts coastal zone, and/or require federal licenses or permits, receive certain federal funds, are a direct action of a federal agency, or are part of outer continental shelf plans for exploration, development, and production. Federal Consistency review may be performed integral to the USACE federal permit review process if proposed activities can be authorized under a PCN. For this case, Federal Consistency is authorized under the GP issued for the project. Should the project require an IP from the USACE, then Federal Consistency is performed by CZM through a separate review process for which a formal statement authorizing the project is issued.

Massachusetts Coastal Zone Management Designation of Port Areas (301 CMR 25.00)

In an effort to protect and promote water dependent industries, the Commonwealth and CZM established ten (10) Designated Port Areas (DPAs)[2] along the Massachusetts coastline. Statewide policy aims to preserve and enhance the capacity of all DPAs to continue to accommodate water-dependent-industrial uses (WDIUs) and to prevent the loss of said uses to non-industrial and/or non-water-dependent types of development. The uses protected and supported by the DPA program are essential to local, state, regional and national economies and are key to ensuring the long-term sustainability of working waterfront communities throughout the State. Located within the greater Boston area are four (4) DPA established waterfront areas. The East Boston DPA (EBDPA) is located along the Border Street waterfront. With the exception of 126 Border Street (Boston East), all of the parcels located within the project area are within the limits of the EBDPA are shown in Figure 29 below.

The establishment of a DPA, requires a set of rules and regulations that work in conjunction with the State's Chapter 91 Waterway regulations and the Municipal Harbor Plan regulations. The intent of the DPA program is as follows:

> "to encourage water-dependent industrial use and to prohibit on tidelands subject to the jurisdiction of M.G.L. c. 91 other uses except for compatible public access and certain industrial, commercial, and transportation activities that can occur on an interim basis without significant detriment to the capacity of DPAs to accommodate water-dependent industrial use in the future."

[2] MA Regulation: Designation of port areas. (2017) 301 CMR 25.00: Designation of port areas | Mass.gov

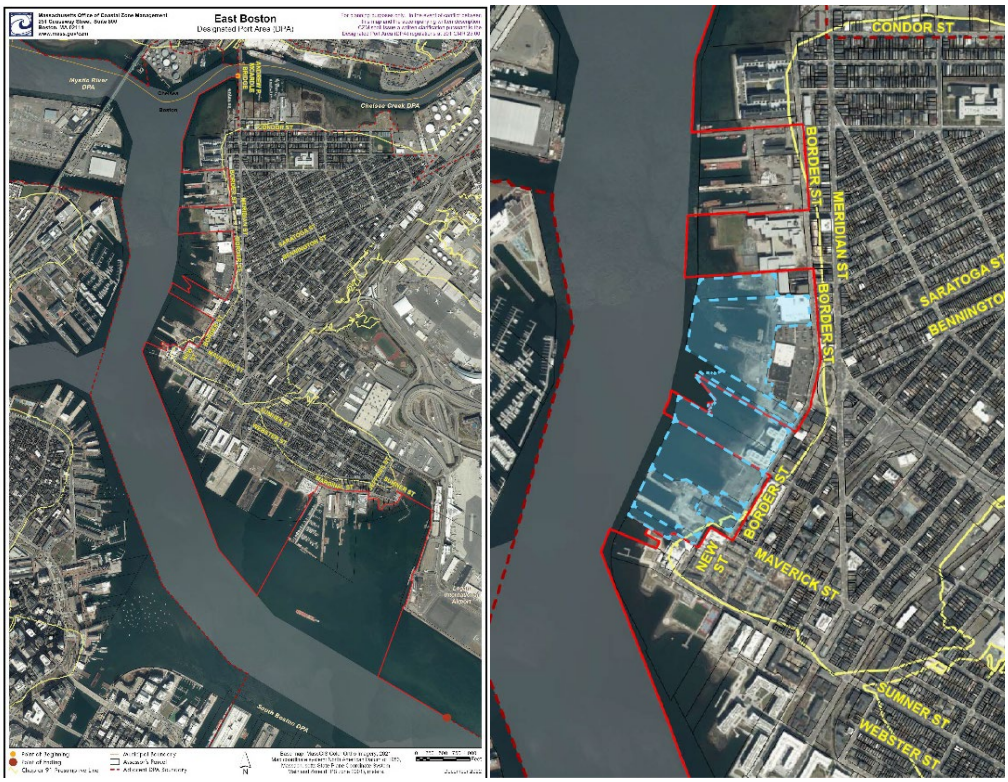


Figure 29. Project parcels (shown in Blue) located within the East Boston DPA (EBDPA) Boundary which is shown in red.

Within DPAs, proposed uses cannot conflict with 310 CMR 9.36 "Standards to Protect Water-dependent Uses". This regulation stipulates projects "shall not include fill or structures for non-water-dependent or water-dependent, non-industrial uses which preempt water-dependent industrial use within a Designated Port Area (DPA)." Notwithstanding the above, in its response to comments on the Boundary Review Designation Report, included in the 2022 EBDPA Designation Decision, CZM stated the following: "Structural resilience strategies such as elevated sites and linear berms along upland parcel edges can be implemented within DPAs to address coastal flood risks." Currently only 246-260 Border Street has active water dependent industrial use through the C. White Marine, a marine construction company is leasing property along the waterfront behind the shopping mall. 34-36 New Street has occasional active water dependent industrial use through storage docking of barges when possible.

City of Boston Zoning

The project area falls under the Waterfront Mixed Use Subdistrict of the City of Boston Zoning Code (Figure 30), which was amended by the PLAN: East Boston process and approved in December of 2023.

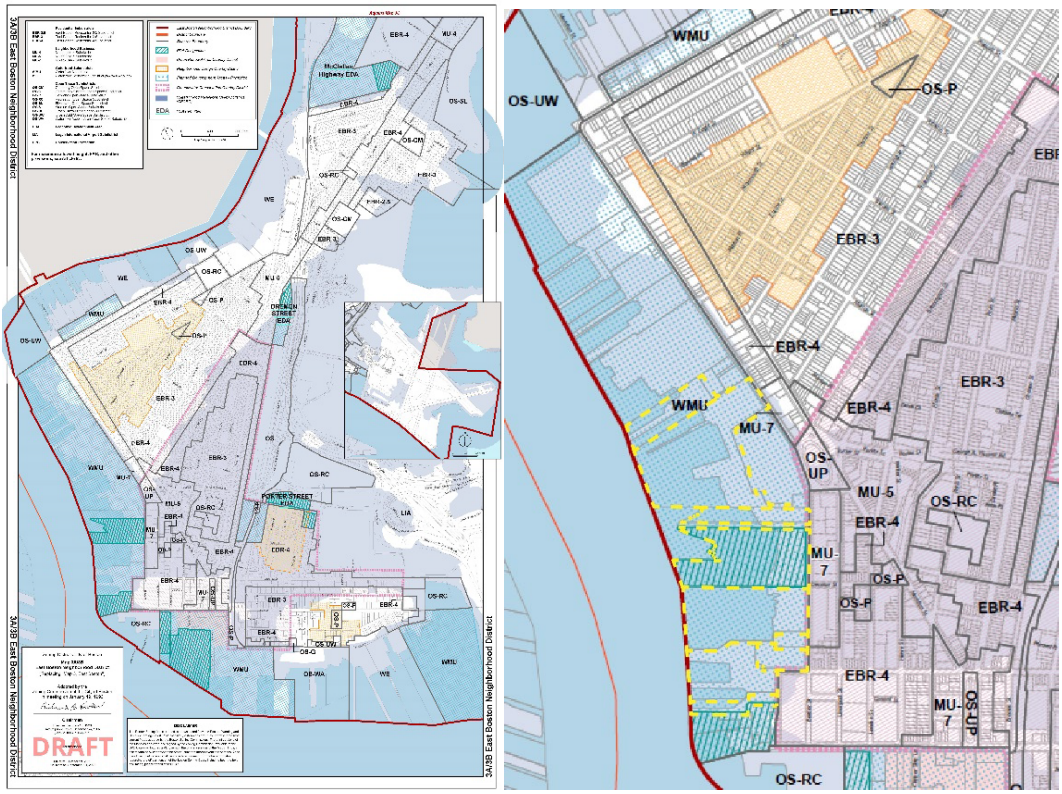


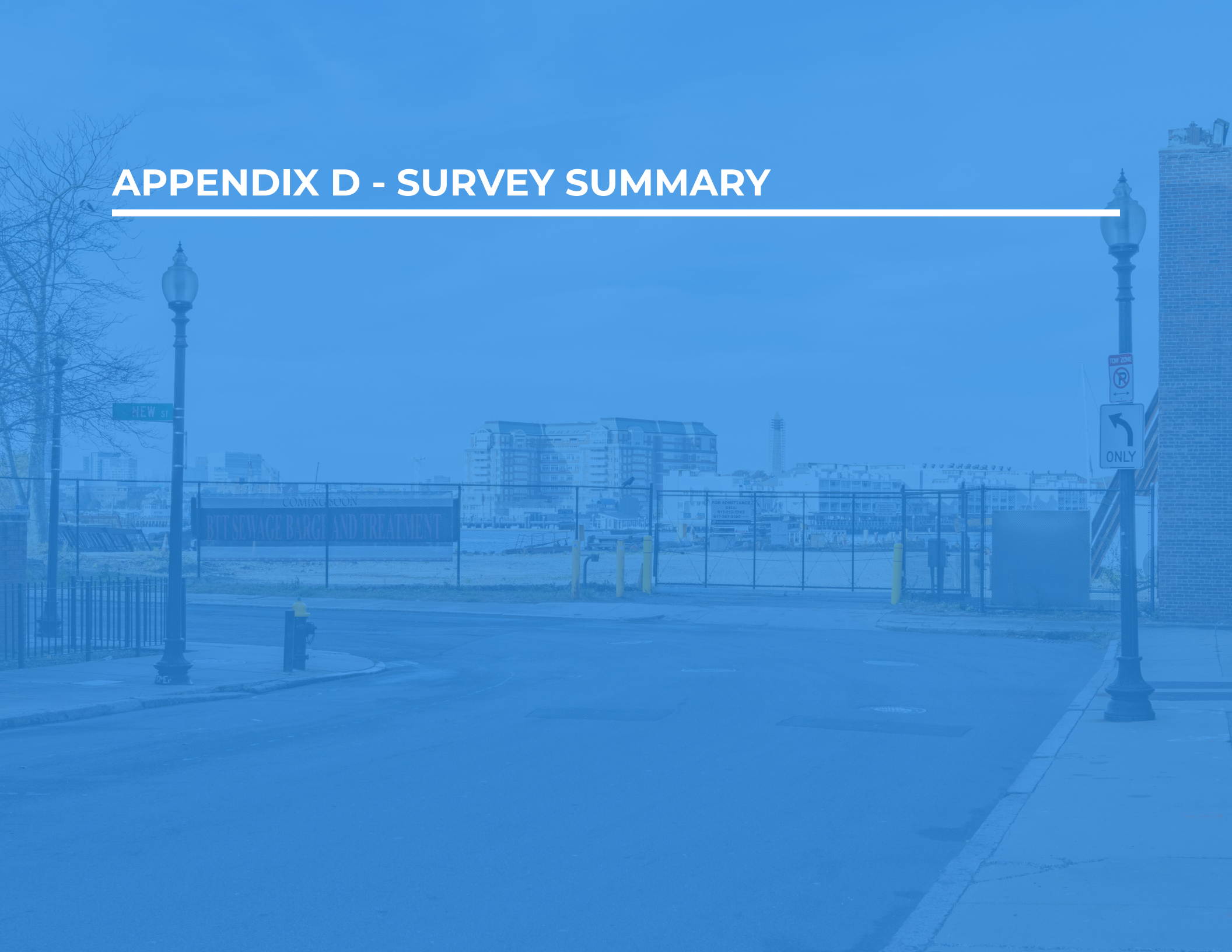
Figure 30. Waterfront Mixed Use Subdistrict as depicted on the PLAN: East Boston Amended Zoning Map. Properties within the plan area are shown in yellow on the right.

Waterfront Mixed Use Subdistrict

One of two new waterfront subdistricts, the Waterfront Mixed-Use (WMU) subdistrict provides a mix of residential, commercial, and service establishments along the East Boston waterfront areas, include the Border Street waterfront properties included within the scope of this project. This new subdistrict is in replacement of the previous Border Street Maritime Economy Reserve (MER), which previously regulated the project area.

The new zoning regulations allow for more mixed uses to take place along the waterfront, but much of the area is still constrained by the Chapter 91 and CZM DPA regulations.

APPENDIX D - SURVEY SUMMARY



Community Engagement and Outreach

Community engagement for the Resilient Border Street Waterfront project was planned to ensure that community members and residents of East Boston received information about the Resilient Border Street Project and were offered opportunities to ask questions and provide feedback about features of coastal resilience that they would like to see in their neighborhood. Community engagement was led by a combination of City of Boston Office of Climate Resilience and Environment Department staff, the Consensus Building Institute, and Weston & Sampson.

Following meetings with established stakeholder groups in the spring of 2024, the project team began extensive public engagement efforts using a threefold approach: (a) issue an online survey, (b) attend local events, and (c) facilitate interactive exercises in the neighborhood.

A. Online Survey

The project team created an online survey to understand East Boston residents' experiences and level of concern about coastal flooding, seek feedback about features they would like to see on the waterfront, and identify areas of concern regarding the waterfront. The survey was publicized during team participation at local events and through the networks of local community organizations. The survey was available in English and Spanish and could be completed on paper or online. In total, 42 people completed the survey. Themes from survey responses are detailed below.

Themes from the East Border Street Survey Responses (as of October 15, 2024)

Total responses: 42
Response languages: 40 English, 2 Spanish

Q1: have you ever experienced flooding in East Boston? (40 responses)

- 50% of respondents have experienced flooding
- 42.5% have not experienced flooding
- 7.5% said they don't know if they have

Q2: Where did you experience flooding? (14 responses)

- I live at The Mark (99 Sumner Street). Last fall, during two storms, the water levels of the harbor came well up and into the grounds by our building and all along the Harbor Walk. For instance, by the Smoke House, water was all the way to their front steps.

- LoPresti
- Chelsea Bridge
- Between Portside and Clippership
- Waterfront area around Clippership apartments/condos
- Along E Pier Drive
- Orleans and Marginal Street at the greenway
- Lewis Street, MEW Greenway
- At the intersection of Putnam St. and Bennington St.
- By the Border Street stop and shop
- Mary Ellen Welch Greenway
- Street
- The Shipyard and Jefferies Point
- At my home, in the basement

Q3: How did you respond to flooding you experienced? (9 responses)

- When faced with flooding, 3 left the area, 1 moved valuables to a higher location and 5 didn't know what to do.

Q4: Level of concern about flooding (1-5 scale , 1 not at all, 5 very) (36 responses)

- Avg concern level = **3.9 of 5**

Q5 + Q6: Which images best convey the changes you would like to see in this part of the East Boston Waterfront? Select all that apply. (31 responses)

Note: Answers to Q6 (what do you like best about the images you selected?) are pasted directly under each image they selected, so are repetitive when someone identified more than one image.

Image 1 - selected by 11 people

- The natural esthetic with pedestrian focus
- Community oriented activity
- Bermed waterfront, classy designs, pedestrian access
- nice use of stone blocks, especially for walking
- I like the greenery incorporated with the coastal resiliency measures. The East Boston Greenway is my favorite part of the city and is a huge point of pride as an East Boston property owner. Seeing it expanded towards my Eagle Hill home would be incredible.
- It prioritized nature over man-made structures.
- I like that they're not just flood barriers but also usable public spaces that enhance enjoyment of the neighborhood & the waterfront

Image 2 - selected by 21 people

- Simple and clean
- The natural esthetic with pedestrian focus
- Scenic and flat
- Community oriented activity
- wide harbor walk
- Important infrastructure but still centers community and people
- usable walkways and waterfront recreation would be nice
- Bermed waterfront, classy designs, pedestrian access
- Near and walk friendly
- easily usable by pedestrians.
- Access to waterfront, greenery l, increased elevation relative to sea level
- nice use of stone blocks, especially for walking
- Top end construction with high reparian walls
- Walkable access to waterfront
- Can walk along
- I like that they're not just flood barriers but also usable public spaces that enhance enjoyment of the neighborhood & the waterfront
- Public access and beautiful views.

Image 3 - selected by 4 people

- Community oriented activity
- usable walkways and waterfront recreation would be nice

Image 4 - selected by 20 people

- I selected 4 because there are a lot of walkers/runners along the Harbor so this is a nice extension of the already existing area
- Simple and clean
- Walkways
- Scenic and flat
- wide harbor walk
- Important infrastructure but still centers community and people
- usable walkways and waterfront recreation would be nice
- Bermed waterfront, classy designs, pedestrian access
- easily usable by pedestrians.
- Access to waterfront, greenery l, increased elevation relative to sea level
- nice use of stone blocks, especially for walking
- Walkable access to waterfront
- I like the greenery incorporated with the coastal resiliency measures. The East Boston Greenway is my favorite part of the city and is a huge point of pride as an East Boston property owner. Seeing it expanded towards my Eagle Hill home would be incredible.
- Can walk along
- I like that they're not just flood barriers but also usable public spaces that enhance enjoyment of the neighborhood & the waterfront
- I would like a boardwalk with railing, it would be safer to walk on.

Image 5 - selected by 15 people

- Scenic and flat
- wide harbor walk
- usable walkways and waterfront recreation would be nice
- Bermed waterfront, classy designs, pedestrian access
- easily usable by pedestrians.
- nice use of stone blocks, especially for walking
- Mixed use playground, and walking features close to the water is fun.
- Walkable access to waterfront
- Can walk along
- I like that they're not just flood barriers but also usable public spaces that enhance enjoyment of the neighborhood & the waterfront
- Public access and beautiful views.

Image 6 - selected by 14 people

- Walkways

- The natural esthetic with pedestrian focus
- Important infrastructure but still centers community and people
- usable walkways and waterfront recreation would be nice
- Bermed waterfront, classy designs, pedestrian access
- Ocean view where the kids can play
- Access to waterfront, greenery l, increased elevation relative to sea level
- nice use of stone blocks, especially for walking
- Mixed use playground, and walking features close to the water is fun.
- Walkable access to waterfront
- I like that they're not just flood barriers but also usable public spaces that enhance enjoyment of the neighborhood & the waterfront
- Public access and beautiful views.

Q7 - What community benefits would you like to see on the Border St Waterfront? (24 responses, listed in order of number of people who selected that response)

- *21* - Access along the water
- 18 - Views of the water (piers, overlooks)
- 14 - Access to nature
- 14 - Seating
- 13 - Access onto the water (boats)
- 11 - Lighting
- 10 - Green infrastructure / stormwater management
- 9 - Shade structures
- 9 - Social gathering places
- 8 - Natural habitat for wildlife / shoreline restoration
- 7 - Community gardens
- 7 - Signage (wayfinding, educational)
- 7 - Security / safety measures
- 4 - Places to learn
- 1 - Cultural spaces
- 1 - Other ideas: Playgrounds and interactive features for kids

Q8 - what would make this area of the waterfront feel welcoming? (16 responses, grouped here by theme)

- A *cleaner waterfront*
    - Just cleaning it up would make it more welcoming
    - It is currently filthy and full of trash
    - More openness, less decaying infrastructure.
    - Needs a plan for cleaning and upkeep

    - Don't want trash to pile up.
- *Lighting and visibility*
    - Well lit
    - Lighting/well-lit at night
    - Parks and open space that is visible from the street
- *Ease of access*
    - Easy access. As opposed to Piers Park where there is a 6' tall iron fence, and parking lot separating the waterfront from pedestrians.
- *Green space*
    - Green areas with trees and small areas to gather along with a continuous running path would be ideal.
- *Amenities*
    - Seating and nice stonework.
    - Wide harbor walk
    - Waterfront cafes, bars, and restaurants with patio seating, easy access to public transport, bike path connectivity.
- *All*
    - All of the above features

Q9 - Can you share examples of waterfront spaces in Boston you like or that have features you would like to see here? (17 responses)

- Just cleaning this area and bringing back nature to it would be lovely.
- Piers Park 1 (expansion is kind of sad in comparison)
- Seaport vibes
- Paul Revere Park, North Point Park, Nashua Street Park, and the walkways under Zakim connecting Charlestown and West/North End
- Piers Park, esplanade, kayaking
- Piers Park, Harbor walk both sides of harbor, natural coastline at Clippership Wharf.
- I like the east Boston waterfront near Piers Park and Lopresti Park
- Harborwalk, ICA/Pier 4 area, Esplanade
- Piers Park I & II are amazing: views, walking paths, greenery, places to gather.
- Paul Revere Park, the walkway along the waterfront from Long Wharf to Rowes Wharf & beyond, the walkways along Constitution Beach & Carson Beach, the walkway around Deer Island
- By piers park
- I like Piers Park a lot. The shady areas and the little concert amphitheater are fantastic.
- The condo buildings in Jeffries Point I think have done a great job of providing nice public access
- Piers Park one and two are very nice

- Favorite section is the area by Jefferies point mixed with parks and paths that are unique.
- Seaport waterfront, Clippership Wharf in Eastie
- Seaport

Q10 - What else is important for the Border Street waterfront? (11 responses, listed in order of number of people who selected each response)

- 18 - efforts to cool the area (trees, shade)
- 15 - stormwater management
- 12 - more commercial spaces on the waterfront
- 7 - create new jobs
- 6 - more lower income housing
- 5 - preserve existing jobs
- 1 - Other ideas
    - Get rid of DPA zoning so you can put the land to better use

Q11 - What concerns do you have about the existing waterfront in this area? (14 responses)

- Trash dirty dangerous
- Contaminated sites from history. Being cut off from the waterfront by Massport closing it at night
- It is still very industrial, may be difficult to make this area comfortable and safe for community enjoyment
- Current shabby condition, homelessness, creating a natural looking habitat
- The Designated Port Area is a huge obstacle to development. The area does not have appropriate land access to allow maritime development even if the need were ever there for such uses.
- Decaying buildings, new buildings making the waterfront feel like private spaces for building occupants instead of public spaces, lack of shade, limited access from the street
- Flooding and not walkable
- It is completely inaccessible and is also becoming a bit of an encampment for unhoused individuals behind the Kappys/CVS
- Dirty, inaccessible to public
- Deteriorating
- Lots of crime and not so pretty, also most of it is chained off and inaccessible.
- Too much low-income housing
- Industrial history, parts of it still look very polluted and abandoned - see all the stuff in 30-90 border and warehouse immediately south of Liberty Plaza and Wigglesworth properties.
- Not pleasant

Q12 - Is there anything else you would like to share with the project team? (9 responses)

- Thank you for taking on this project. It's wonderful to hear that this work is underway. There are a lot of people who care about the neighborhood and will become involved. Pls share the info in the apartment buildings. I shared your flyer with many of The Mark residents. Thanks again!
- Fix it up!
- Do not let Massport have any input, say, or control
- The ability to change the current restrictive zoning could stifle development
- Public spaces behind private property can seem inaccessible so the infrastructure needs to make it clear that the waterfront is a public space. Signage can't do that because it isn't readable by everyone.
- This is an amazing project that I am fully supportive of
- Really need to get rid of DPA in East Boston.
- Looking forward to this new project. Look to NYC, Brooklyn and dumbo waterfront as well as the Bloomberg projects on the Hudson River. Some of the parks and waterfront elements are amazing.
- Avoid creating "wind tunnels

Q14 - What brings you to the Border Street waterfront area? (22 responses, listed in order of number of people who selected each response))

- 19 - live in the area
- 11 - shop or dine at Liberty Plaza
- 3 - visit friends or family in the area
- 2 - travel in the area for leisure
- 1 - got to school or my child goes to school in the area
- 1 - other ideas
    - I grew up in the area & go for walks to see how it's changed
- 0 - work along Border St
- 0 - own a business along Border St

Q15 - How do you typically get to the Border Street waterfront area? (22 responses, listed in order of number of people who selected each response))

- 16 - walk or roll
- 9 - by car
- 3 - by bike or scooter
- 3 - by boat
- 2 - by train
- 1 - by bus

Q16 - What is your age? (22 responses)

- 9 - 25-34
- 3 - 35-44
- 3 - 45-54
- 3 - 55-64
- 4 - over 65

Q17 - What language(s) do you use at home? (21 responses)

- 19 - English
- 1 - Haitian Creole
- 1 - Mandarin
- 1 - Farsi

Q18 - What is your gender? (22 responses)

- 19 - Male
- 2 - Female
- 1 - Non-binary, gender non-conforming or genderqueer

Q19 - What is your race/ethnicity? (21 responses)

- 19 - White
- 2 - Asian
- 1 - Middle Eastern or North African

B. Participation in Local Events

The project team participated in eight public events during summer and fall 2024. At each event, the team engaged with community members by providing information about the project and answering questions. Residents were invited to complete the survey and to participate in two interactive activities.

List of Local Events and Activities

Event Name	Event Date	Host Organization
Eastie Community Cruise	July 16, 2024	Boston Harbor Now
Be Red Cross Ready	July 18, 2024	Red Cross East Boston Branch Library

Eastie Beach Bash	July 23, 2024	Save the Harbor, Piers Park Sailing,
East Boston Neighborhood Clean Up	July 27, 2024	Councilor Coletta Zapata
East Boston Farmers Market	August 14, 2024	East Boston Neighborhood Health Center
Open Streets East Boston	September 15, 2024	East Boston Main Streets
Eagle Hill Civic Association Monthly Meeting Presentation	October 30, 2024	Eagle Hill Civic Association
Mario Umana Academy SSC	November 19, 2024	Mario Umana School

C. Interactive Exercises

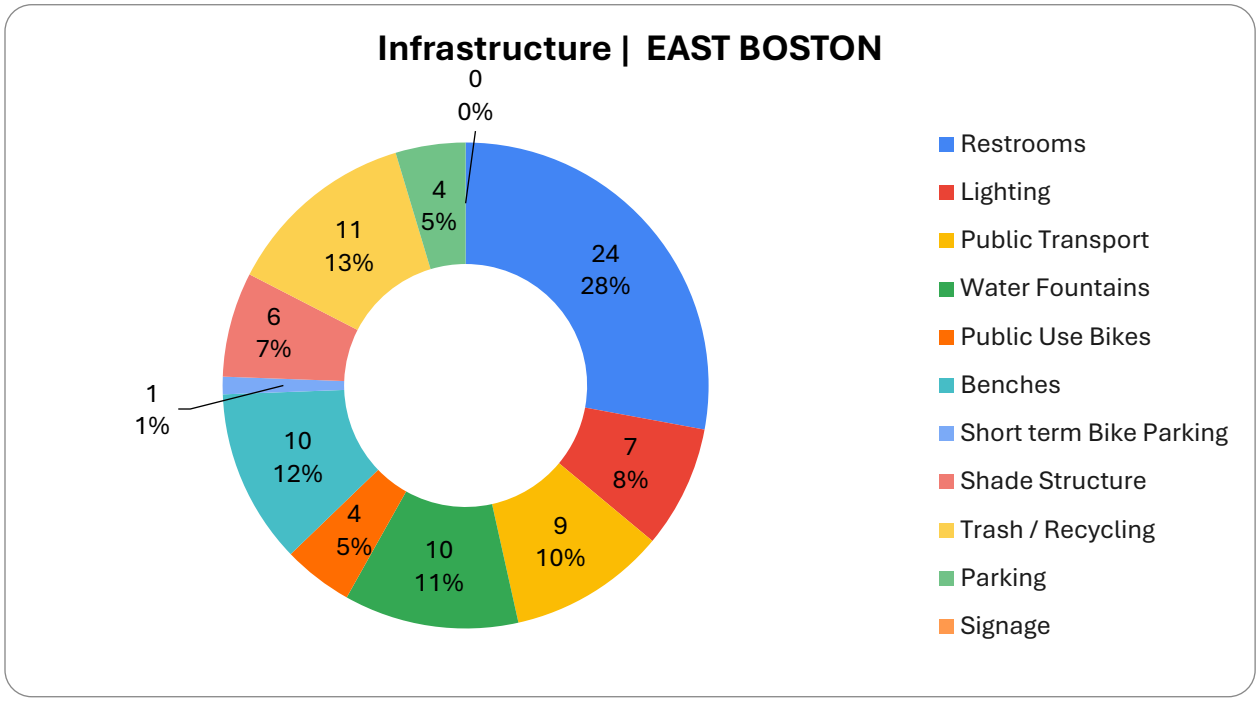
The project team used two forms of interactive activities to gather input from community members. These were:

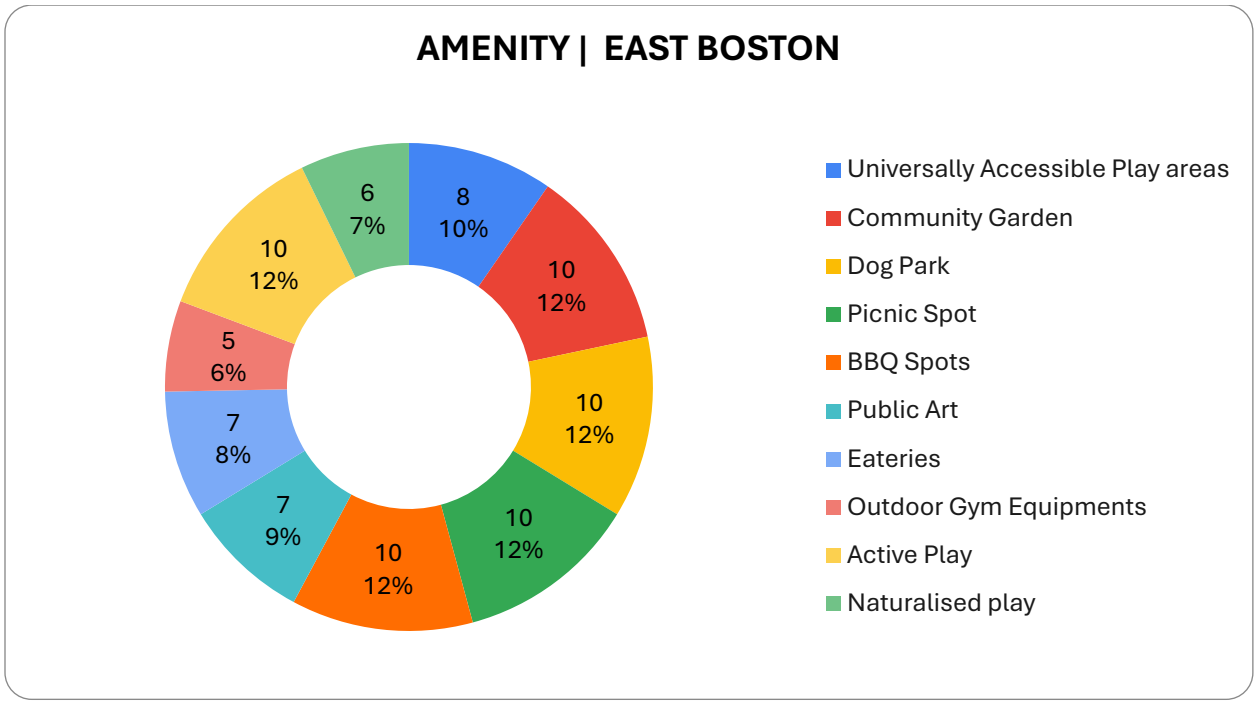
1. ***Mapping Exercise: Experience of Flooding in East Boston***
   The project team brought a map of the project area and its surrounding neighborhood to each public event. Community members were invited to place a sticker on any location where they have experienced flooding. The same map was brought to all events, allowing people to see the responses of their neighbors.

2. ***Interactive 3D Park Play Kit: Design Your Ideal Waterfront***
   Community members were invited to share their vision for an ideal waterfront park using an interactive activity that asked participants to prioritize the types of features they would want in an ideal waterfront park. The activity offered six categories of park features including infrastructure, amenities, water features, programming, vegetation and paths. Participants could choose three features from each category.

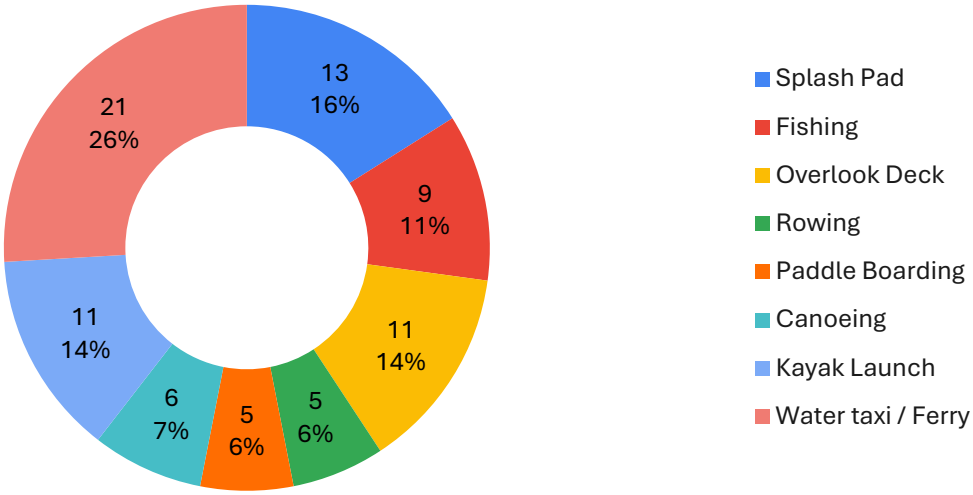
3D Park Play Kit Outcomes
The kit was provided at six public events attended by the project team in East Boston, and 33 people participated. Each kit was photographed and data collected and documented.

The results are shown in the pie charts below. While these results are not a statistical representation of the desires of East Boston residents, they are indicative of priorities held by community members.

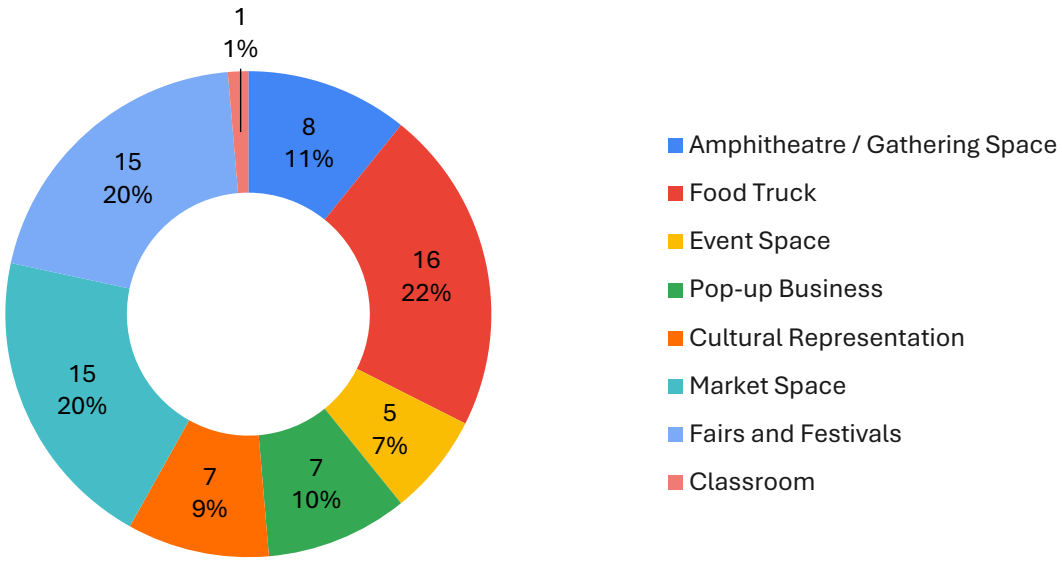




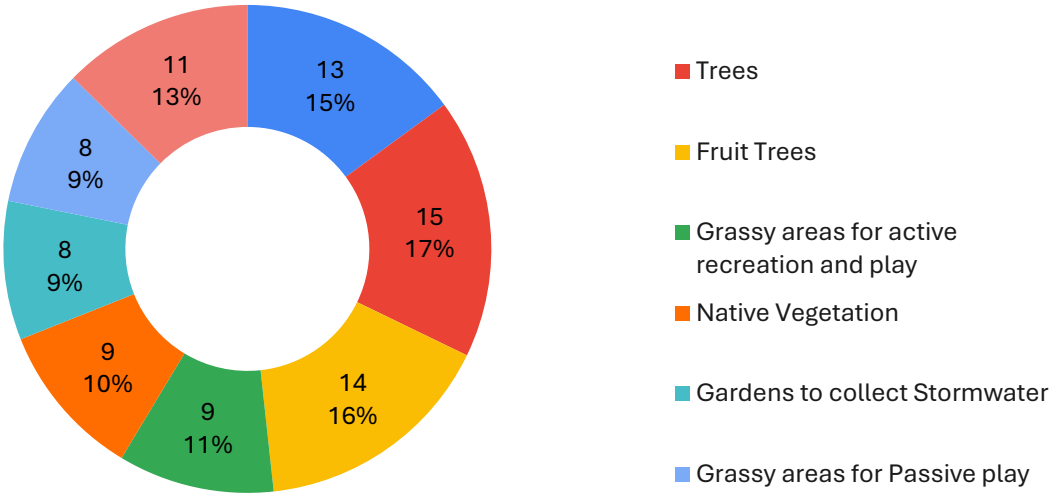
WATER | EAST BOSTON



PROGRAMMING | EAST BOSTON



VEGETATION | EAST BOSTON



PATH | EAST BOSTON