Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Conley Container Terminal, Boston, MA

ENVIRONMENTAL NOTIFICATION FORM

PREPARED FOR
Massachusetts Port Authority

AUGUST 2016

PREPARED BY
VHB

IN ASSOCIATION WITH
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August 31, 2016

Secretary Matthew Beaton
Executive Office of Energy and
Environmental Affairs
MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Conley Container Terminal Revitalization: New Berth 10 and Berth 11 Dredging Project
Environmental Notification Form

Dear Secretary Beaton:

On behalf of the Massachusetts Port Authority (Massport), we are pleased to submit this Environmental Notification Form (ENF) for the *Conley Container Terminal Revitalization: New Berth 10 and Berth 11 Dredging Project* for public review in accordance with the Massachusetts Environmental Policy Act (MEPA).

As described in the ENF, the U.S. Army Corps of Engineers (USACE) is undertaking the Boston Harbor Deep Draft Navigation Improvement Project (BHDDNIP) to provide deeper access for the future needs of vessels calling at Conley Terminal. The channel deepening is necessary to allow the container vessels currently using Boston Harbor to avoid tidal delays, and to allow the larger container vessels using the expanded Panama Canal to call at the Conley Terminal. These ships also require deeper berths. As a condition of the BHDDNIP, Massport must construct two deepwater berths at Conley Terminal with a minimum depth of 50 feet. The deepwater berths will be crucial for the terminal to maintain competitiveness and accommodate changes to vessels in the global shipping industry.

The BHDDNIP Final Supplemental EIS/Final Environmental Impact Report (EEA #12958, April 2013) discusses deepening of Conley Berths 11 and 12 to meet Massport's deepwater berths requirement. With recent and projected changes in the international cargo ship fleet, these larger vessels now require taller cranes than can be used at the existing Conley Berth 12, which is within the restricted airspace of Boston-Logan International Airport. Accordingly, Massport proposes to shift one of the two required deepwater container ship berth from Berth 12 to Berth 10. Berth 10 is located on the adjacent former Coastal Oil property now owned by Massport, and both Berth 10 and the existing Berth 11 will be dredged to a depth of -50 feet to meet federal project requirements.

The new Berth 10 will restore a former maritime terminal and berth to active maritime use by replacing deteriorated and unusable berth infrastructure with a new modern facility. The new Berth 10 will include a new pile-supported concrete wharf designed for vessels up to 10,000 TEU (twenty foot equivalent units) capacity. The proposed wharf will support three new larger Ship-to-

Shore container cranes, which are required for loading and unloading containers from anticipated bigger and taller vessels.

Consistent with the original plan for Berths 11 and 12, at the conclusion of the MEPA process for Berth 10, Massport plans to jointly advance proposed improvements at Berths 10 and the deepening of Berth 11 through the local, state, and federal environmental permitting processes as a single action.

Massport respectfully requests that EEA Publish the Notice of Availability of the ENF in the September 7, 2016 edition of the *Environmental Monitor*. A 30-day public comment period would close on October 7, 2016, and a decision on the ENF would be due October 14, 2016. A MEPA site visit and public consultation session has been scheduled for 5:45 PM on September 28, 2016, at the Tynan School in South Boston. Massport and MEPA staff will be in attendance to answer questions pertaining to project and the MEPA review process.

In addition to the distribution list, the ENF is available for public viewing at the Boston Public Library (Main and South Boston branches). An electronic copy of the complete ENF is also available on Massport's website at http://www.massport.com/environment/environmental-reporting/environmental-filings/.

If you have any questions regarding the ENF, please contact me at 617-568-3524 or Michael Gove at 617-568-3546 or mgove@massport.com.

Sincerely,

Massachusetts Port Authority

Stewart Dalzell, Deputy Director
Environmental Planning & Permitting

Enclosures: ENF

Cc: L. Wieland, M. Gove, C. Myers/Massport

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only
EEA#: _____
MEPA Analyst: _____

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: **Conley Container Terminal Revitalization: New 10 and Berth 11 Deepening Project**		
Street Address: **East First Street**		
Municipality: **Boston**	Watershed: **Boston Harbor**	
Universal Transverse Mercator Coordinates: **19N 333236E 4689407N**	Latitude: **42°20' 20.7" N** Longitude: **71°1' 28.3" W**	
Estimated commencement date: **2017**	Estimated completion date: **2020**	
Project Type: **Transportation**	Status of project design: **25% complete**	
Proponent: **Massachusetts Port Authority (Massport)**		
Street Address: **One Harborside Drive**		
Municipality: **Boston**	State: **MA**	Zip Code: **02128-2909**
Name of Contact Person: **Michael Gove**		
Firm/Agency: **Massport**	Street Address: **One Harborside Drive, Suite 200S**	
Municipality: **Boston**	State: **MA**	Zip Code: **02128-2909**
Phone: **617-568-3546**	Fax:	E-mail: **mgove@massport.com**

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☐Yes ☒No

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8)) ☐Yes ☐No

a Special Review Procedure? (see 301CMR 11.09) ☐Yes ☐No

a Waiver of mandatory EIR? (see 301 CMR 11.11) ☐Yes ☐No

a Phase I Waiver? (see 301 CMR 11.11) ☐Yes ☐No

(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?

An ENF is required because the Proposed Project exceeds review thresholds in 301 CMR 11.03(3) (Wetlands and Waterways). (For specific threshold exceedances see below "WETLANDS, WATERWAYS, AND TIDELANDS SECTION.)

Which State Agency Permits will the project require?

The Project will require an Order of Conditions under the Massachusetts Wetlands Protection Act (Boston Conservation Commission), Water Quality Certificate (MassDEP), and Coastal Zone Management Consistency Review (MACZM).

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres: **This Project is funded by, and on land owned by Massport, an independent Agency of the Commonwealth.**

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	8.1 Acres		
New acres of land altered		7.5 Acres[1]	
Acres of impervious area	1.5 Acres	5.6 Acres	7.1 Acres
Square feet of new bordering vegetated wetlands alteration		0 ACRES	
Square feet of new other wetland alteration		5.2 Acres (excluding land subject to coastal storm flowage)	
Acres of new non-water dependent use of tidelands or waterways		0.0 Acres	
STRUCTURES			
Gross square footage	0	0	0
Number of housing units	n/a	n/a	n/a
Maximum height (feet)	n/a	211 Feet (crane)	211 Feet (crane)
TRANSPORTATION			
Vehicle trips per day	n/a	n/a	n/a
Parking spaces	n/a	n/a	n/a
WASTEWATER			
Water Use (Gallons per day)	n/a	n/a	n/a
Water withdrawal (GPD)	n/a	n/a	n/a
Wastewater generation/treatment (GPD)	n/a	n/a	n/a
Length of water mains (miles)	n/a	n/a	n/a
Length of sewer mains (miles)	n/a	n/a	n/a
Has this project been filed with MEPA before? ☐ Yes (EEA #_____) ☒No			
Has any project on this site been filed with MEPA before? ☒ Yes (EEA #15053) ☐No			

[1] The entire Project Site has been previously altered through prior filling, dredging, and/or development.

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Conley Container Terminal is New England's largest full service container terminal with the only deepwater access in the Port of Boston. Owned and operated by the Massachusetts Port Authority (Massport), Conley is located within the South Boston Designated Port Area (DPA) on the Reserved Channel. The Port of Boston is the oldest continuously active major port in the Western Hemisphere and is the region's major seaport handling more than 13 million metric tons of containerized and bulk cargo per year. More than 1,600 companies use the port to import and export goods. Port activities support 50,000 jobs annually contributing more than $4.6 billion to the local, regional, and national economies.

The U.S. Army Corps of Engineers (USACE) is undertaking the Boston Harbor Deep Draft Navigation Improvement Project (BHDDNIP) to provide deeper access for the current and future needs of vessels calling at Conley Container Terminal. Cargo shipments to and from Conley Terminal are transported in shipping containers, which are built to international standards to be handled on ships, trucks, and rail facilities worldwide. The channel deepening is necessary to allow the container vessels currently using Boston Harbor to avoid tidal delays, and to allow the larger container vessels using the expanded Panama Canal to call at the Conley Terminal. These larger vessels require taller cranes than can be used at the existing Conley Berths 11 and 12, which are within the restricted airspace of Boston-Logan International Airport. These ships also require deeper berths to accommodate the draft of the anticipated larger vessels.

As a condition of the BHDDNIP, Massport must create two deepwater berths at Conley Terminal with a minimum depth of 50 feet. The deepwater berths will be crucial for the terminal to maintain competitiveness and accommodate changes to vessels in the global shipping industry.

Massport proposes to construct a new deepwater container ship berth, Berth 10, on the adjacent former Coastal Oil property now owned by Massport, and to dredge both the new Berth 10 and the existing Berth 11 to a depth of -50 feet. The new Berth 10 will restore a former maritime terminal and berth to active maritime use by replacing deteriorated and unusable berth infrastructure with a new modern facility. The new Berth 10 will be a new pile-supported concrete wharf designed for vessels with capacity for up to 10,000 TEUs (twenty foot equivalent units, the standard measure of a container). The wharf deck will include berthing fenders and mooring fixtures suitable for the large vessels. The wharf will support three new larger Ship-to-Shore (STS) container cranes, which are required for loading and unloading containers from anticipated bigger and taller vessels. This ENF describes the construction of a new deepwater container ship berth at Berth 10. As required in the 2013 Final Supplemental Environmental Impact Statement/Final Environmental Impact Report (FSEIS/FEIR), Massport will also deepen the adjacent Berth 11 to a depth of 50 feet. Berth 10 dredging would replace the previously approved deepening at Berth 12. At the conclusion of the MEPA process for Berth 10, the improvements at Berth 10 and the deepening of Berth 11 would advance through the local, state, and federal environmental permitting processes as a single action.

The BHDDNIP has been in planning for over 20 years and is now approaching the construction stage. The project will deepen the inner harbor channels, including the Reserved Channel, to a minimum depth of 47 feet below Mean Low Water (MLLW) and requires that Massport deepen two berths at Conley Terminal to a minimum depth of 50 feet below MLLW. The BHDDNIP was planned to accommodate the larger ships anticipated as a result of the Panama Canal Expansion and it is now critical to the continued viability of Conley Terminal that the shoreside facilities are also upgraded to accommodate the larger vessels. The FSEIS/FEIR (EEA #12958, 2013) included the Massport requirement to deepen two berths at Conley Terminal to a minimum depth of 50 feet below MLLW (main channel depth plus three feet). The BHDDNIP FSEIS/FEIR assumed that Massport would deepen existing Conley Berths 11 and 12 to meet project requirements.

Since circulation of the FSEIS/FEIR there have been significant changes in the shipping industry tied largely to the Panama Canal Expansion. In order to achieve greater economies of scale, the container shipping lines are deploying larger vessels globally; the U.S. West Coast ports are already receiving vessels of up to 18,000 TEUs. The Port of New York & New Jersey handled its first 10,000 TEU vessel in July 2016. Accordingly, ships expected to serve the Port of Boston in the future are now expected to be wider and have a deeper draft than previously anticipated. In July of 2016, 8,500-TEU ships started calling on Conley Container Terminal on the Asia to East Coast service. The ships were restricted to a limited tidal window and cannot be effectively or efficiently serviced by the current cranes. Massport has performed studies to identify likely future vessel sizes and ships with capacity up to 10,000 TEUs are anticipated to regularly call at the Terminal.

Those larger ship dimensions and the cranes needed to serve them can conflict with Boston Logan International Airport Airspace depending on locations. Recent studies by Massport indicate that this next generation of international cargo container ships cannot be efficiently served at existing Conley Berth 12. Rather than deepening existing Berths 11 and 12, Massport proposes to deepen existing Berth 11 as described in the FSEIS/FEIR and shift the second 50-foot berth to adjacent Berth 10 along the former Coastal Oil property now owned by Massport. Until the early 2000s, the Coastal Oil site had been in active use as a marine offloading facility since 1936. The remaining oil storage tanks and landside facilities were demolished after Massport purchased the property in 2008, but the former fuel offloading facilities along the shoreline at the proposed Berth 10 location remain in place. Bulkheads, riprap, dolphins (man-made marine structures that extend above water level but are not connected to the shore), and oil offloading structures are still present along the southern edge of the Reserved Channel.

Although the BHDDNIP stipulates that Massport dredge two berths, it is anticipated that only Berth 11 would be dredged under this authorization and that Berth 10 dredging would replace the anticipated dredging at Berth 12. Although the BHDDNIP recognized the potential for expansion of Conley Terminal onto the Coastal Oil site, it did not discretely approve dredging Berth 10. As the BHDDNIP also did not contemplate the restrictions of airspace, Berths 11 and 12 (with upgrade cranes) were believed to be sufficient to handle 10,000 TEU vessels. Although the FSEIS/FEIR included the total area of dredging and the proposed maintenance dredging for Berth 11, additional dredging will be needed to provide the 50-foot deep berth. This ENF addresses the impacts of that additional dredging at Berth 11, as well as the construction and dredging of a new berth at Berth 10.

ALTERNATIVES:

The existing Conley Terminal berths are subject to a number of key operational constraints including significant Federal Aviation Administration (FAA) air space restrictions due to their location beneath the flight paths leading to and from Logan International Airport. Studies by Massport show that the STS Container Cranes required to service the new bigger (and taller) vessels would be too high to comply with current air space restrictions within the existing berth limits at Berth 12. Massport conducted an alternatives analysis to identify the least-environmentally damaging alternative that met the federal requirement for two 50-foot deepwater berths at Conley Terminal.

This analysis found that the only feasible location for a berth with the ability to service the larger ships was west of the existing berths where Logan Airport's air space limitations are not as restrictive. Accordingly, Massport proposes to construct the new Berth 10 to a depth of -50 feet, rather than deepening Berth 12 as described in the FSEIS/FEIR to minimize conflict with Logan Airport airspace. Two location alternatives were considered for the proposed Berth 10, as well as a No-Build Alternative. Alternative A was chosen as the Proposed Action, as it minimized environmental impacts while meeting the need for a new berth for larger cargo vessels. The differences among the alternatives are described below.

Alternative A, the Proposed Action, consists of a new wharf (to be known as Berth 10) constructed immediately west of existing Berth 11 at Conley Terminal. This new wharf would be located on the former Coastal Oil site and extends

to the west approximately 1,275 feet in length from the end of Berth 11. The berthing face of this new wharf would be aligned with the existing container ship berths (Berths 11 and 12) and will be provided with mooring equipment and fenders. This alternative extends partway across the embayment for the Boston Harbor Lobstermen's Cooperative, but is not expected to restrict safe access to that facility. As design proceeds, Massport may determine that it would be prudent to relocate some of the existing slips at the Lobstermen's Cooperative. Massport will evaluate that scenario and include any changes in the orientation of the floats or related bulkhead rehabilitation into the subsequent permit filings. The berth would be a pile supported concrete deck over the water. Three new STS cranes would operate on the new wharf deck to service the new berth. The estimated total area of dredging to be undertaken by Massport for Berth 10 is 295,000 square feet with an estimated volume of approximately 276,600 cubic yards (CY). An additional 89,500 CY of dredging will be required to deepen Berth 11 beyond the dredging envisioned in the FSEIS/FEIR. This alternative would fill approximately 0.5 acres of marine resources, but would result in a net increase of intertidal and subtidal resources. Alternative A was chosen as the Proposed Action because it provides a functional facility for vessels up to 10,000 TEU with the least impact to marine resources and to operations of the Boston Harbor Lobstermen's Cooperative.

Alternative B consists of a new wharf constructed in the less restricted airspace 400 feet west of existing Berth 11, allowing all of the new cranes to have optimum height and reach to fully load or unload the larger container vessels. The new wharf would extend approximately 1,680 feet in length across the full width of the former Coastal Oil site, across the full width of the embayment, and onto the upland lease area of the Boston Harbor Lobstermen's Cooperative. This alternative would eliminate any vessel navigation in and out of the embayment and require that the Boston Harbor Lobstermen's Cooperative be relocated. The portion of the facility extending across the embayment could be a pile supported concrete deck over the water but, in order to create an effective operational facility, the area behind the new wharf would be filled for truck movement and container storage and handling in proximity to the new berth. In addition to the vessel berth dredging, additional deepening of the Reserved Channel would be required for a length of 345 feet beyond the limit proposed in the BHDDNIP. The estimated total area of dredging to be undertaken by Massport is 515,000 square feet with an estimated volume of nearly 500,000 CY, and would require filling approximately 4.5 acres of additional marine intertidal and subtidal resources. Although this alternative would provide the optimum operational benefits, it was dismissed because it would result in substantially greater impacts to the aquatic environment and to operations of the Boston Harbor Lobstermen's Cooperative.

The No-Build Alternative would maintain the existing container ship facilities at Conley Terminal in Berth 11 and 12. The existing depth in Berth 11 is less than 40 feet and the existing depth in Berth 12 is 45 feet. Existing cranes have an outreach of 150 feet and a lift height above wharf deck of 101 feet. The existing cranes have both insufficient outreach and lift height to reliably service the larger ships. The required crane outreach is a minimum of 175 feet and crane lift height is a minimum of 147 feet for 10,000 TEU ships. Neither Berth 11 nor Berth 12 has sufficient depth to reliably service the larger ships which have maximum design drafts of up to 50 feet. These ships also have an air draft (height) of more than 150 feet, which would penetrate the air space. The No-Build Alternative is not a viable alternative for continued container ship operations at Conley Terminal and does not meet BHDDNIP requirements.

PROPOSED PROJECT

For this ENF, the Proposed Project will reconstruct the former oil offloading Berth 10 and infrastructure as a second deepwater berth. The berth would be deepened to a depth of 50 feet, and a pile-supported concrete wharf designed for vessels up to 10,000 TEU capacity would be constructed. The outshore face of the proposed wharf will be aligned generally with the outshore face of the existing berths to provide a continuous berthing face and will extend approximately 1,275 feet west from the end of existing Berth 11. The wharf will consist of a concrete deck structure approximately 110 feet wide and supported by steel pipe piles. The wharf deck will include berthing fenders and mooring fixtures suitable for the large vessels. The wharf will support three new larger STS container cranes, which are required for loading and unloading containers from anticipated bigger and taller vessels. As the Project moves into

the next phase of environmental permitting, the improvements to Berth 10 and deepening Berth 11 to a depth of 50 feet, as described in the BHDDNIP FSEIS/FEIR, will be combined as a single action.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

Is the project within or adjacent to an Area of Critical Environmental Concern?

☐Yes (Specify_____)
☒No

if yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;
If yes, describe how the project complies with this plan.

_____

Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;
If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.

_____

RARE SPECIES:

Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? *(see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)*

☐Yes (Specify_____) ☒No

HISTORICAL /ARCHAEOLOGICAL RESOURCES:

Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☐Yes (Specify _____) ☒No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐Yes (Specify_____) ☒No

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? ___Yes _X_ No;
if yes, identify the ORW and its location. _____

(NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and bordering wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the Surface Water Quality Standards, 314 CMR 4.00.)

Are there any impaired water bodies on or within a half-mile radius of the project site?
_X_ Yes ___No; if yes, identify the water body and pollutant(s) causing the impairment:

The Boston Inner Harbor, located directly north of Conley Terminal (Segment ID MA70-02), is listed as a Category 5 waterbody, requiring a Total Maximum Daily Load (TMDL). This segment of the Boston Harbor is

impaired due to Enterococcus, Fecal Coliform, PCB in Fish Tissue, Dissolved Oxygen and according to the Final Massachusetts Year 2014 Integrated List of Waters.

. See Chapter 4, *Water Quality* for discussion of Water Quality.

Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission? ___Yes _X_No

STORMWATER MANAGEMENT:

Stormwater from the Project Site will be collected and treated in accordance with the MassDEP Stormwater Management Standards. Stormwater outfalls will be stabilized to prevent erosion. The Proposed Project will include the installation of a stormwater management system that is designed to meet MassDEP Stormwater Management Standards to the maximum extent practicable. The proposed stormwater management system will include deep sump and hooded catch basins and proprietary structures (water quality units). Deep sump and hooded catch basins and area drains are proposed to provide pre-treatment in the impervious areas of the parking lot. Six water quality structures are proposed for water quality pretreatment in areas of the site where space is limited. These best management practices (BMPs) will be designed to remove greater than 80% total suspended solids (TSS) in conjunction with their associated deep sump and hooded catch basins. Stormwater flow from the proposed BMPs will discharge to the Reserved Channel using new outfalls.

The Proposed Project will improve water quality by:

- **Adding new stormwater treatment BMPs;**
- **Providing long-term protection to water quality in the Reserved Channel and Boston Harbor by constructing a permanent impermeable barrier between the Channel and oil-containing soils on the former Coastal Oil site; and**
- **Amending Massport's existing Stormwater Pollution Prevention Plan (SWPPP) for the Conley Terminal, as required by the U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit[2] to incorporate additional stormwater BMPs and an updated operations and maintenance plan for Berth 10.**

MASSACHUSETTS CONTINGENCY PLAN:

Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? Yes _X_ No ___ ; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification):_____

Berth 10 would be constructed within a portion of the Former Coastal Oil Site which is a Massachusetts Contingency Plan (MCP) site in its entirety (RTN-3-0257) and construction would be in accordance with the MCP. This site is currently in compliance with the MCP. For further information, please see Chapter 7, *Hazardous Materials*.

Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes_X_ No ___; if yes, describe which portion of the site and how the project will be consistent with the AUL:

An Activity and Use Limitation (AUL) was placed on the Coastal Oil property identifying the presence of residual petroleum contamination and soil management requirements. In 2015, a Partial Permanent Solution with

2 Permit MA 0000787

Conditions was prepared for the Coastal Oil site (CONE On-Terminal Site) bringing most of the property to regulatory closure. The Project Area is located on the northern portion of the On-Terminal Site and is within boundaries of the Partial Permanent Solution and the AUL. Residual petroleum contamination is present in the Project Area and residual Light Non-Aqueous Phase Liquid (LNAPL) is present at locations within the On-Terminal Site. On-going NAPL gauging and recovery is occurring on the portion of the Site that has not yet attained a Permanent Solution.

Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN?
Yes ___ No _X_; if yes, please describe:_____

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:_____

(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills. See 310 CMR 19.017 for the complete list of banned materials.)

Massport consistently recycles/reuses nearly 100 percent of construction and demolition waste. Massport will follow all state recycling guidelines to effectively and sustainably manage construction and demolition debris. Contaminated material encountered during construction would be managed in compliance with the MCP and Massachusetts General Law 21E. During construction, existing soil and groundwater contamination would be addressed, as needed, in compliance with the MCP. A Soil Management Plan may be required to determine whether any excavated soils generated through foundation construction could be reused on-site and/or determine requirements for off-site reuse, recycling, or disposal.

Will your project disturb asbestos containing materials? Yes___ No _x__ ;
if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm

Describe anti-idling and other measures to limit emissions from construction equipment:

During construction, idling of construction vehicles would be kept to a minimum in accordance with the Massachusetts anti-idling regulations. In addition, Massport will require contractors to retrofit appropriate diesel construction equipment with diesel oxidation catalysts and/or particulate filters. Please refer to Chapter 8, Other Short-term Construction Impacts for more information.

DESIGNATED WILD AND SCENIC RIVER:

Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes ___ No_X_;
if yes, specify name of river and designation: _____

If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River?
Yes ___ No ___ ;
if yes, specify name of river and designation: _____;

if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River.

Yes ___ No ___ ;

if yes,describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.

ATTACHMENTS:

1. List of all attachments to this document.

   Attachment 1 – Supplemental Narrative
   Attachment 2 – Project Plans

2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries.

   Figure ENF-1, USGS Site Map Project Area

3. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities.

   Attachment 1, Figure 1-1

4. Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts.

   Attachment 1, Figure 3-1, Berth 10 Existing Coastal Resources

5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase).

   Attachment 2

6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2).

   Attachment 1, Chapter 9, *ENF Distribution List*

7. List of municipal and federal permits and reviews required by the project, as applicable.

   List of Permits Included in Attachment 1.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1) ___ Yes _X_ No; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of buildings	0	0	0
Internal roadways	0	0	0
Parking and other paved areas	1.5 Acres	5.6 acres	7.1 Acres
Other altered areas	6.6 Acres	(5.6 acres)	1.0 Acres
Undeveloped areas	0	0	0
Total: Project Site Acreage	8.1 Acres	0	8.1 Acres

B. Has any part of the project site been in active agricultural use in the last five years?

___ Yes _X_ No; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?

___ Yes _X_No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97?
___ Yes _X_No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction?
___ Yes_X_ No; if yes, does the project involve the release or modification of such restriction?
___ Yes ___ No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A?
___ Yes _X_ No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B?
Yes ___ No _X_; if yes, describe:

III. Consistency

A. Identify the current municipal comprehensive land use plan Title: **South Boston Waterfront District Municipal Harbor Plan Renewal and Amendment**

B. Date: **June 2016**

C. Describe the project's consistency with that plan with regard to:

1) economic development. **The Proposed Project is consistent with the South Boston Waterfront District Municipal Harbor Plan and amendments, especially in preserving and enhancing the industrial port while also ensuring the port remains an integral part of the Massachusetts economy. The Proposed Project will expand and upgrade Conley Terminal, through the construction of new Berth 10 and the deepening of Berth 11, to accommodate larger container vessels anticipated as a result of the Panama Canal Expansion.**

2) adequacy of infrastructure. **The Proposed Project is consistent with the infrastructure-related goals and objectives of the Plan. The Proposed Project will be served by Massport's new Dedicated Freight Corridor now under construction.**

3) open space impacts. **The Proposed Project will not have any impact on the open spaces in the vicinity of the Project.**

4) compatibility with adjacent land uses. **The Proposed Project is compatible with adjacent land uses, and will further enhance the use of the Port of Boston through providing additional port infrastructure and facilities. The majority of land uses in the vicinity of the Project Site are designated as industrial uses. Residential land uses are South of East First Street approximately 1,080 feet from Berth 10.**

D. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)

RPA: **Metropolitan Area Planning Council (MAPC)**

Title: **MetroFuture**

Date: **May 2008**

E. Describe the project's consistency with that plan with regard to:

1) economic development. **Boston is considered a regional port, with Conley Container Terminal playing a significant role in the regional economy by moving roughly one-third of the waterborne cargo in and out of the New England market. The Proposed Project, a construction of a new berth to accommodate larger Post Panamax container vessels, will enable the Port of Boston to remain competitive in the shipping industry and meet current vessel fleet requirements. Port activities support 50,000 jobs annually contributing more than $4.6 billion to the local, regional, and national economies.**

2) adequacy of infrastructure. **The Proposed Project supports MAPC's regional goal of focusing new growth at previously developed land and buildings. The Proposed Project Site is a vacant, brownfield site. Formerly owned by the Coastal Oil Company, the site was purchased by Massport in 2008 with the intention of expanding Conley Terminal container operations.**

3) open space impacts. **The Proposed Project will not have any impact on the open spaces in the vicinity of the Project. The East First Street buffer park, located between East First Street and the Dedicated Freight Corridor, was created to mitigate for the Conley Terminal expansion.**

RARE SPECIES SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **rare species or habitat**? ___ Yes _X_ No

C. Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes _X_ No.

D. If you answered "No" to all questions A, B and C, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)?
___ Yes ___ No. If yes,

1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? ___Yes ___No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species?
___ Yes ___ No; if yes, attach the letter of determination to this submission.

2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No;
if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts.

3. Which rare species are known to occur within the Priority or Estimated Habitat?

4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? ___ Yes ___ No

5. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ___ Yes ___ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ___ Yes ___ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No;
if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat:

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? _X_ Yes ___ No; if yes, specify, in quantitative terms:

301 CMR 11.03(3)(b)1.a – alteration of coastal dune, barrier beach, or coastal bank. Approximately 1,525 linear feet of Coastal Bank (manmade) would be altered for the construction of the new Berth 10.

301 CMR 11.03(3)(b)2 – dredging of 10,000 or more cubic yards (CY) of material. Estimated total area of dredging is 295,000 square feet and an estimated volume of 366,100 CY. Project Site dredging will occur in areas that have been dredged previously.

301 CMR 11.03(3)(b)6 – construction, reconstruction, or expansion of an existing solid fill structure of 1,000 or more square feet base area or of a pile-supported or bottom-anchored structure of 2,000 or more square feet base area. The estimated total base area of the pile-supported deck is 153,000 square feet.

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? _X_ Yes ___ No; if yes, specify which permit:

The Project will require an Order of Conditions under the Massachusetts Wetlands Protection Act (Boston Conservation Commission), Water Quality Certificate (MassDEP), and Coastal Zone Management Consistency Review (MACZM).

Note: Massport is exempt from licensing under the M.G.L. Chapter 91 by the Massachusetts Port Authority Enabling Act (Massachusetts General Law, Part I, Title XIV, Chapter 91 Waterways).

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? _X_ Yes ___ No;
if yes, has a Notice of Intent been filed? ___ Yes _X_ No;
if yes, list the date and MassDEP file number: _____;
if yes, has a local Order of Conditions been issued? ___ Yes ___ No;
Was the Order of Conditions appealed? ___ Yes ___ No.
Will the project require a Variance from the Wetlands regulations? ___ Yes _X_ No.

B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site:

Wetland resources on the Project Site include Land Under the Ocean, Designated Port Areas, Coastal Banks, Coastal Beach, Land Subject to Tidal Action, and Land Subject to Coastal Storm Flowage. All of the wetland resource areas located on the Project Site have been previously disturbed or constructed.

The Project will expand and enhance intertidal and subtidal habitat by providing containment for contaminated upland soils (see Chapter 8, *Other Short-Term Construction Impacts*) and providing new riprap shoreline and piles. The piles and riprap offer more structure for benthic invertebrates and will substantially improve the quality of the habitat by preventing further erosion from the existing site.

The Proposed Project results in limited unavoidable impacts to Land Under the Ocean, Land Subject to Tidal Action, Coastal Bank, Coastal Beach, and Land Subject to Coastal Storm Flowage to construct a pile-supported deck and associated dredging. The Project will not result in any net loss of aquatic habitat.

The Project would increase Land Under the Ocean by approximately 28,000 square feet.

The Proposed Project requires an Order of Conditions, an Army Corps of Engineers Section 404 Permit (Individual Permit), and a Water Quality Certificate, but is exempt from licensing under M.G.L. Chapter 91 by the Massport exemption at 310 CMR 9.03(3)(a).

Re-use of the former Coastal Oil Site for Conley Terminal operations has been reviewed and approved in a previous ENF for the Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open-Space (EEA # 1503). This Proposed Project would support this redevelopment, allowing Conley Terminal to be used by larger modern vessels and promoting the continued viability and competitiveness of the Port of Boston.

C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

	Area (square feet) or Length (linear feet)	Temporary or Permanent Impact?
Coastal Wetlands		
Land Under the Ocean	185,000 SF	Permanent
Designated Port Areas	352,000 SF	Permanent
Coastal Beaches	2,170 SF	Permanent
Coastal Dunes	0	
Barrier Beaches	0	
Coastal Banks	1,525 LF	Permanent
Rocky Intertidal Shores	27,880 SF (land subject to tidal action)	Permanent
Salt Marshes	0	
Land Under Salt Ponds	0	
Land Containing Shellfish	0	
Fish Runs	0	
Land Subject to Coastal Storm Flowage	120,000 SF	Permanent
Inland Wetlands		
Bank (lf)		
Bordering Vegetated Wetlands		
Isolated Vegetated Wetlands		
Bordering Land Subject to Flooding		
Riverfront Area		

D. Is any part of the project:

1. proposed as a **limited project**? ___ Yes _X_ No;
   if yes, what is the area (in sf)?____

2. the construction or alteration of a **dam**? ___ Yes __X_ No;
   if yes, describe:

3. fill or structure in a **velocity zone** or **regulatory floodway**? __X_ Yes ___ No

4. dredging or disposal of dredged material? _X_ Yes ___ No;
   if yes, describe the volume of dredged material and the proposed disposal site:

   The estimated total area of dredging is 295,000 square feet with an estimated volume of 366,100 CY for both Berth 10 and Berth 11. Disposal of dredged material depends on the suitability determination by the USACE. The BHDDNIP proposes that maintenance material (harbor silt) is placed in CAD (Confined Aquatic Disposal) Cells and improvement material (naturally occurring glacial till, Boston Blue clay, etc.) will be disposed offshore at the Massachusetts Bay Disposal Site (MBDS). It is proposed that all material dredged by Massport for this project will be disposed in a similar manner – maintenance material in a new CAD Cell to be constructed by the USACE and clean natural material offshore at MBDS. In addition to the maintenance dredging volume, a significant volume of this dredge material is expected to comprise historic fill placed in early 20th century. It is assumed that this historic fill material will also be disposed within the new CAD Cell. All improvement dredging is in addition to what was approved for the BHDDNIP.

Material	Berth 10 Volume	Berth 11 Volume	Total
Oil impacted soils	32,500 CY	0	32,500 CY
Maintenance Dredging/Historic Fill	100,100 CY	11,100 CY	111,200 CY
Remaining Improvement Material including overdredge to 52 feet MLLW	140,300 CY	78,400 CY	218,700 CY
Rock Removal	3,700 CY		3,700 CY
Total Volume to be dredged	276,600 CY	89,500 CY	366,100 CY

Note: CY = cubic yards
MLLW = Mean Low Low Water

5. a discharge to an **Outstanding Resource Water (ORW)** or an **Area of Critical Environmental Concern (ACEC)**? ___ Yes _X_ No

6. subject to a wetlands restriction order? ___ Yes _X_ No;
   if yes, identify the area (in sf):

7. located in buffer zones? _X_ Yes ____No;
   if yes, how much (in sf): **153,000 SF**

E. Will the project:

1. be subject to a local wetlands ordinance or bylaw? ___ Yes _X_ No

2. alter any federally-protected wetlands not regulated under state law? ___ Yes _X_ No;
   if yes, what is the area (sf)?

III. Waterways and Tidelands Impacts and Permits

A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? ___ Yes _X__ No; if yes, is there a current Chapter 91 License or Permit affecting the project site? ___ Yes ___ No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:

Note: Massport is exempt from licensing under the M.G.L. Chapter 91 by the Massachusetts Port Authority Enabling Act (Massachusetts General Law, Part I, Title XIV, Chapter 91 Waterways).

B. Does the project require a new or modified license or permit under M.G.L.c.91?_Yes _X_ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use?
Current ___ Change ___ Total ___
If yes, how many square feet of solid fill or pile-supported structures (in sf)?

C. For non-water-dependent use projects, indicate the following:

Area of filled tidelands on the site:_____

Area of filled tidelands covered by buildings:_____

For portions of site on filled tidelands, list ground floor uses and area of each use: _____

Does the project include new non-water-dependent uses located over flowed tidelands? Yes ___ No ___

Height of building on filled tidelands_____

Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.

D. Is the project located on landlocked tidelands? ___ Yes _X_ No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations?
___Yes _X_ No; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

F. Is the project non-water-dependent **and** located on landlocked tidelands **or** waterways or tidelands subject to the Waterways Act **and** subject to a mandatory EIR? __Yes _X_No;

(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)

G. Does the project include dredging? _X_ Yes ___ No;
if yes, answer the following questions:

What type of dredging? Improvement ___ Maintenance ___ Both _X__

What is the proposed dredge volume, in cubic yards (cys) 366,100 cubic yards

What is the proposed dredge footprint **1,200** length (ft) **160 feet width** (ft) **50 feet** depth (ft);

Will dredging impact the following resource areas?

Intertidal Yes_X_ No__; if yes, **21,330 sq ft**

Outstanding Resource Waters Yes__ No_X_; if yes, ___ sq ft

Other resource area (i.e. shellfish beds, eel grass beds) Yes__ No__X; if yes __ sq ft

If yes to any of the above, have you evaluated appropriate and practicable steps to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?

If no to any of the above, what information or documentation was used to support this determination?

Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.

Chapter 2, *Proposed Project and Alternatives Considered,* of Attachment 1 provides a detailed alternatives analysis.

Sediment Characterization

Existing gradation analysis results? __Yes _X__No: if yes, provide results.
Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6?
___Yes ___X_No; if yes, provide results.

Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.

Beach Nourishment ___
Unconfined Ocean Disposal ___
Confined Disposal:
Confined Aquatic Disposal (CAD) X_
Confined Disposal Facility (CDF) ___
Landfill Reuse in accordance with COMM-97-001 ___
Shoreline Placement ___
Upland Material Reuse____
In-State landfill disposal____
Out-of-state landfill disposal ____
(NOTE: This information is required for a 401 Water Quality Certification.)

IV. Consistency:

A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone? _X_ Yes ___ No; if yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:

The Proposed Project is within the Massachusetts Coastal Zone. The Coastal Zone Management (CZM) Program encourages water-dependent industrial use within Designated Port Areas (DPAs).

Conley Terminal and the parcels associated with Berth 10 also fall within the CZM-established South Boston Designated Port Area. The Proposed Project is consistent with the Coastal Zone Management Plan since it will maintain and enhance the capacity of the site to support water-dependent industrial activities.

B. Is the project located within an area subject to a Municipal Harbor Plan? _X_ Yes ___ No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

The Proposed Project is within an area subject to the South Boston Waterfront District Municipal Harbor Plan. One of the primary goals of the Harbor Plan is to "preserve and enhance the industrial port and balance growth of mixed use and recreational activity along Boston Harbor with the needs of maritime commerce." The Proposed Project will enhance Conley Terminal's capacity to accommodate the growing shipping industry due to the Panama Canal Expansion and will be able to service the larger vessels.

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons per day (gpd), the volume and source of water use for existing and proposed activities at the project site:

	Existing	Change	Total
Municipal or regional water supply	_____	_____	_____
Withdrawal from groundwater	_____	_____	_____
Withdrawal from surface water	_____	_____	_____
Interbasin transfer	_____	_____	_____

(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)

B If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ___ Yes ___ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted? ___ Yes ___ No; if yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. _____

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? _____ Will the project require an increase in that withdrawal? ___Yes ___No; if yes, then how much of an increase (gpd)? _____

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ___ Yes ___No. If yes, describe existing and proposed water supply facilities at the project site:

	Permitted Flow	Existing Avg Daily Flow	Project Flow	Total
Capacity of water supply well(s) (gpd)	_____	_____	_____	_____
Capacity of water treatment plant (gpd)	_____	_____	_____	_____

F. If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve:

1. new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district? ___ Yes ___ No

2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?

3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities? ___ Yes ___ No

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes __ X No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? ___ Yes _ X No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the Transportation -- Traffic **Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):

	Existing	Change	Total
Discharge of sanitary wastewater	_____	_____	_____
Discharge of industrial wastewater	_____	_____	_____
TOTAL	_____	_____	_____

	Existing	Change	Total
Discharge to groundwater	_____	_____	_____
Discharge to outstanding resource water	_____	_____	_____
Discharge to surface water	_____	_____	_____
Discharge to municipal or regional wastewater facility	_____	_____	_____
TOTAL	_____	_____	_____

B. Is the existing collection system at or near its capacity? ___ Yes ___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility?
___ Yes ___ No; if yes, describe as follows:

	Permitted	Existing Avg Daily Flow	Project Flow	Total
Wastewater treatment plant capacity (in gallons per day)	_____	_____	_____	_____

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)

F. Does the project involve new sewer service by the Massachusetts Water Resources Authority (MWRA) or other Agency of the Commonwealth to a municipality or sewer district?
___ Yes ___ No

G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials?
___ Yes ___ No; if yes, what is the capacity (tons per day):

	Existing	Change	Total
Storage	_____	_____	_____
Treatment	_____	_____	_____
Processing		_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.

III. Consistency

A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:

B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **state-controlled roadways**?
___ Yes X__No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	Existing	Change	Total
Number of parking spaces	_____	_____	_____
Number of vehicle trips per day	_____	_____	_____
ITE Land Use Code(s):	_____	_____	_____

B. What is the estimated average daily traffic on roadways serving the site?

Roadway	Existing	Change	Total
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:

D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

E. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? ____ Yes ____ No; if yes, describe if and how will the project will participate in the TMA:

F. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? ____ Yes ____ No; if yes, generally describe:

G. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **roadways or other transportation facilities**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:

B. Will the project involve any

1. Alteration of bank or terrain (in linear feet)? _____
2. Cutting of living public shade trees (number)? _____
3. Elimination of stone wall (in linear feet)? _____

III. Consistency

Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))?

B. Does the project require any state permits related to **energy**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	Existing	Change	Total
Capacity of electric generating facility (megawatts)	_____	_____	_____
Length of fuel line (in miles)	_____	_____	_____
Length of transmission lines (in miles)	_____	_____	_____
Capacity of transmission lines (in kilovolts)	_____	_____	_____

B. If the project involves construction or expansion of an electric generating facility, what are:

1. the facility's current and proposed fuel source(s)?

2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency

Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	Existing	Change	Total
Particulate matter	_____	_____	_____
Carbon monoxide	_____	_____	_____
Sulfur dioxide	_____	_____	_____
Volatile organic compounds	_____	_____	_____
Oxides of nitrogen	_____	_____	_____
Lead	_____	_____	_____
Any hazardous air pollutant	_____	_____	_____
Carbon dioxide	_____	_____	_____

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes __X__ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**?
__Yes _X__ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Treatment, processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

B Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	Existing	Change	Total
Storage	_____	_____	_____
Recycling	_____	_____	_____
Treatment	_____	_____	_____
Disposal	_____	_____	_____

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency

Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Have you consulted with the Massachusetts Historical Commission? X Yes ___ No; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? X Yes __No; if yes, attach correspondence

The adjacent Conley Berth 10 Project area was included within the general study area of the BHDDNIP. The Massachusetts Historical Commission (MHC) and Massachusetts Board of Underwater Archaeological Resources (MBUAR) were consulted during review of that project. In letters dated October 18, 2012, and November 27, 2012, MHC and MBUAR determined that no significant resources are expected to be impacted during planned dredging in Boston Harbor including the two deepwater berths along the Reserved Channel.

The Conley Berth 10 Project area is also in the Terminal Improvement, Dedicated Freight Corridor, and Buffer Open Space project area. In a letter dated August 10, 2012, the MHC recommended that the U.S. Army Corps of Engineers make a finding of "no adverse effect" for the Conley Terminal Improvement, Dedicated Freight Corridor project based on the minimal impacts to cultural resources. In a letter dated October 15, 2012, MBUAR determined that the adjacent project area was unlikely to impact submerged cultural resources.

B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes X No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes X No; if yes, please describe:

C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes X No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes X No; if yes, please describe:

D. If you answered "No" to all parts of both questions A, B and C, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

II. Impacts

Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

There are no known listed or inventoried historical or archaeological resources within the Project Site.

III. Consistency

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

The Proposed Project will not directly impact any significant historic or archaeological resources, consistent with M.G.L. Chapter 9, ss. 26-27 C as amended by Chapter 254 of the Acts of 1988.

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

   (Name) Boston Herald (Date) SEPTEMBER 7 2016

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Signatures:

8/31/16		8/31/2016	Lisa A. Standley
Date	Signature of Responsible Office or Proponent	Date	Signature of person preparing ENF (if different from above)

Michael Gove	Lisa A. Standley
Name (print or type)	Name (print or type)
Massport	VHB
Firm/Agency	Firm/Agency
One Harborside Drive, Suite 200S	101 Walnut Street
Street	Street
East Boston, MA 02128	Watertown, MA 02472
Municipality/State/Zip	Municipality/State/Zip
617-568-3546	617-607-2164
Phone	Phone

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Source: USGS The National Map, Bourne Consulting Engineering

FIGURE ENF-1 USGS Site Map Project Area

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Proposed Project

Previously Reviewed Conley Terminal Improvements Project

Previously Reviewed BHDDNIP

0 500 1000 2000 Feet

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Port of Boston

Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Environmental Notification Form

Attachment 1, Project Narrative

Submitted to:

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Unit

Proponent:

Massachusetts Port Authority (Massport)

Logan Office Center, Suite 200S
East Boston, MA 02128

Prepared by VHB
In association with Bourne Consulting Engineers,
Epsilon Associates, Inc., Normandeau Associates, Inc., Moffat-Nichol and GEI Consultants

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Table of Contents

List of Tables

List of Figures

1 Introduction

1.1 Introduction

The Paul W. Conley Container Terminal (Conley Terminal) is a vital transportation and economic resource in the Port of Boston serving Massachusetts and New England. The U.S. Army Corps of Engineers (USACE) is undertaking the Boston Harbor Deep Draft Navigation Improvement Project (BHDDNIP) to provide deeper access for the needs of current and future vessels calling at Conley Terminal. The channel deepening is necessary to allow the container vessels currently using Boston Harbor to avoid tidal delays, and to allow the larger container vessels using the expanded Panama Canal to call at the Conley Terminal. In conjunction with the channel deepening, the USACE's Final Supplemental Environmental Impact Statement (FSEIS) requires that the Massachusetts Port Authority (Massport) deepen two berths at the Conley Terminal to at least 50 feet below Mean Low Low Water (MLLW), three feet deeper than the approved 47-foot depth of the Reserved Channel, to accommodate the larger ships. These larger vessels require taller cranes than can be used at the existing Conley Berths 11 and 12, which are within the restricted airspace of Boston-Logan International Airport (Logan Airport).

Massport proposes to construct a new deepwater container ship berth, Berth 10, on the adjacent former Coastal Oil property, now owned by Massport, and to dredge both the new Berth 10 and the existing Berth 11 to a depth of -50 feet. Figure 1-1 shows the Proposed Project's location. The new Berth 10 will restore a former maritime terminal and berth to active maritime use by replacing deteriorated and unusable berth infrastructure with a new modern facility. The new Berth 10 will be a pile-supported concrete wharf designed for vessels up to 10,000 TEU (twenty foot equivalent units) capacity. The wharf deck will include berthing fenders and mooring fixtures suitable for the large vessels. The wharf will support three new larger Ship-to-Shore (STS) container cranes, which are required for loading and unloading containers from bigger and taller vessels.

The Proposed Project represents a unique opportunity to sustain the competitiveness and regional economic importance of the Port of Boston in the global container shipping business, especially with the Panama Canal Expansion. It will also address a number of key operational constraints, including air space restrictions, faced by existing Conley Terminal berths due to their location beneath the flight paths leading to and from Logan Airport.

FIGURE 1-1 Project Location

Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Proposed Project

Previously Reviewed Conley Terminal Improvements Project

Previously Reviewed BHDDNIP

0 500 1000 2000 Feet

1.2 Project Proponent

The proponent for this Proposed Project is the Massachusetts Port Authority (Massport) at One Harborside Drive, Suite 200S, East Boston, MA 02128.

1.3 Massport, the Port of Boston, and Conley Terminal

Massport has been a self-sustaining public authority of the Commonwealth of Massachusetts since 1956. Massport owns and operates Boston-Logan International Airport, L.G. Hanscom Field, Worcester Regional Airport, and several major maritime terminals, and other waterfront properties within the Port of Boston including the Conley Container Terminal and the Flynn Cruiseport Boston at Black Falcon Terminal. Massport's premier transportation facilities generate more than $17.9 billion of economic activity each year,[3] and stimulate economic growth and vitality both in Boston and throughout the Northeast.

The Port of Boston is the oldest continuously active major port in the western Hemisphere. It is the region's major seaport, and a center of domestic and international shipping and commerce. The Port of Boston handles more than 13 million metric tons of containerized and bulk cargo per year, and operations have been steadily growing. Port activities support approximately 50,000 jobs annually, contributing more than $4.6 billion to the local, regional, and national economies. Conley Container Terminal has two active berths (11 and 12), with direct access to the open ocean through the existing 40-foot depth channels.

The operations at Conley Terminal are modest in scale compared to larger ports, such as the Port of New York/New Jersey; however, Conley Terminal plays a significant role in the regional economy by moving roughly one-third of the New England cargo in and out of the market. Seven of the world's top ten container lines call on Conley, providing service on three major trade lanes, including Asia, Northern Europe and the Mediterranean. Conley Terminal is also able to receive trans-Atlantic shipments from Europe and the Mediterranean a day or more ahead of other major United States ports on the Atlantic coast because of its geographic position. Boston's top imports through Conley Terminal include alcoholic beverages, frozen seafood, footwear, and furniture. Top exports include hides and skins, logs and lumber, frozen seafood, paper (including wastepaper), and scrap metal. Loss of any service at Conley Terminal would have a significant negative impact to the local and regional economy and to the Commonwealth's tax receipts.

In 2014, vessels regularly calling on the Port of Boston ranged from 2,700 to 5,100 TEUs; this increased to 8,000 TEUs in 2015, and an 8,500-TEU vessel called for the first time in 2016. The numbers of ships in the global fleet with a capacity greater than 10,000 TEUs is expected to increase by more than 150 percent between 2012 and 2019. The largest ships, 14,000 to 20,000 TEUs, are being deployed in waters between Europe, Asia, and the Pacific coast. Once deployed, they will replace existing ships in the West Coast market. As these mid-sized ships are shifted to the East Coast, the smallest vessels that currently service Conley Terminal and other U.S. East Coast ports will be displaced. Because container ships already call on multiple ports on the East Coast that can accommodate these larger ships, it is imperative that Conley Terminal can routinely service these vessels without restrictions. The improvements included in this Proposed Project will allow the Port of Boston to

3 Massport maritime facilities generate $2.9 billion of the $17.9 billion. The remainder is generated by Massport's aviation facilities throughout the Commonwealth. Aviation values are provided in MassDOT's *Massachusetts Statewide Airport Economic Impact Study*, May 2015. Maritime numbers provided by Martin Associates, *Economic Impact of the Port of Boston*, July 2014.

continue as a competitive port. Without these upgrades, Conley Terminal will be limited in its ability to serve as a viable resource for container shipments with the shift in the global fleet to larger container vessels. As a result, the more than 245,000 TEUs currently moving through Conley Terminal may shift to the Port of New York/New Jersey or Port of Halifax, Nova Scotia. Trucking this cargo to New England would increase costs for local importers and exporters, and would increase emissions of air pollutants and greenhouse gases.

1.4 Regulatory Framework

In accordance with the Massachusetts Environmental Policy Act (MEPA) Regulations, 301 Code of Massachusetts Regulations (CMR) 11.00, Massport has prepared this Environmental Notification Form (ENF), which describes the Proposed Project, the potential environmental impacts, and mitigation strategies. An ENF is required because the Proposed Project exceeds review thresholds in 301 CMR 11.03(3) for an ENF and Other MEPA Review if the Secretary so requires, specifically those at 301 CMR 11.03(3)(b):

- (1)(a) – New fill or expansion of existing fill in a velocity zone;
- (1)(f) – Alteration of ½ or more acres of any other wetland;
- (3) – Dredging more than 10,000 cubic yards (CY) of materials; and
- (6) – Construction, reconstruction, or expansion of an existing solid fill structure of 1,000 or more square feet base area or of a pile-supported structure of 2,000 or more square feet base area, provided the structure occupies flowed tidelands or other waterways.

The construction of two deepwater berths has already completed MEPA review (EEA #12958) and relocation from the previously approved Berth 12 deepening to Berth 10 does not exceed any review thresholds for an Environmental Impact Report (EIR). Massport has met with MEPA staff to confirm MEPA jurisdiction.

This section describes the prior MEPA reviews relevant to this Project.

1.4.1 Boston Harbor Deep Draft Navigation Improvement Project EEA #12958

This Project is being performed in the context of the Boston Harbor Deep Draft Navigation Improvement Project (BHDDNIP), authorized by the Congress and the U.S. Army Corps of Engineers, pursuant of the Water Resources Reform and Development Act of 2014. The BHDDNIP (Figure 1-3) will deepen the North Entrance Channel from the current depth of 45 feet to 51 feet below MLLW, and the Main Channel from the current depth of 40 feet to 47 feet below MLLW. The BHDDNIP project will cost approximately $350 million, with Massport and the Commonwealth of Massachusetts partnering to provide the $130 million local cost share. BHDDNIP has been in planning and is now approaching the construction stage. The FSEIS/FEIR also included the requirement that Massport dredge two berths at Conley Terminal to a new minimum depth of 50 feet below MLLW, to provide critical infrastructure for the terminal to accommodate vessels calling on Boston. While it was originally envisioned that Berths 11 and 12 would be deepened to meet this requirement, further review has prompted Massport to consider Berth 10 and deepening Berth 11 rather than deepen Berths 11 and 12, because the airspace constraints at Berths 11 and 12 restrict their ability to serve the current and future cargo fleet.

Although the BHDDNIP included Massport's dredging of two 50-foot deepwater berths, it is anticipated that only Berth 11 would be dredged consistent with that authorization, and that Berth 10 dredging would replace dredging at Berth 12. Although the BHDDNIP recognized the potential for expansion of Conley Terminal onto the Coastal Oil site, it did not anticipate the need to improve Berth 10 as the restrictions associated with Berth 12 (including the need for taller cranes needed for 10,000 TEU vessels) had not yet been identified.

1.4.2 Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space Project EEA #15053

This ENF described the expansion of existing Conley Terminal operations onto the adjacent former Coastal Oil site in order to remain competitive in the global container shipping business (Figure 1-2). Upland and operations-related components, including potential changes to transportation, noise, and air quality were previously reviewed and approved by MEPA (EEA #15053). As mitigation for expansion onto the former Coastal Oil site, the Dedicated Freight Corridor (DFC) will remove truck traffic from residential streets as the terminal continues to grow and expand. A final Certificate was issued by the Executive Office of Energy and Environmental Affairs (EEA) on July 12, 2013.

1.4.3 Permits and Approvals

Table 1-1 below presents a list of federal, state, and local permits and approvals anticipated for the Project.

Table 1-1 Permits and Approvals

Agency/Department	Permit/Approval
Federal	
U.S. Army Corps of Engineers	Section 404, Section 10 Permits
U.S. Environmental Protection Agency	NPDES Construction Stormwater General Permit
Commonwealth of Massachusetts	
Massachusetts Department of Environmental Protection	Water Quality Certificate
Massachusetts Historic Commission	Section 106, National Historic Preservation Act
Coastal Zone Management	Consistency Review
City of Boston	
Boston Conservation Commission	Order of Conditions

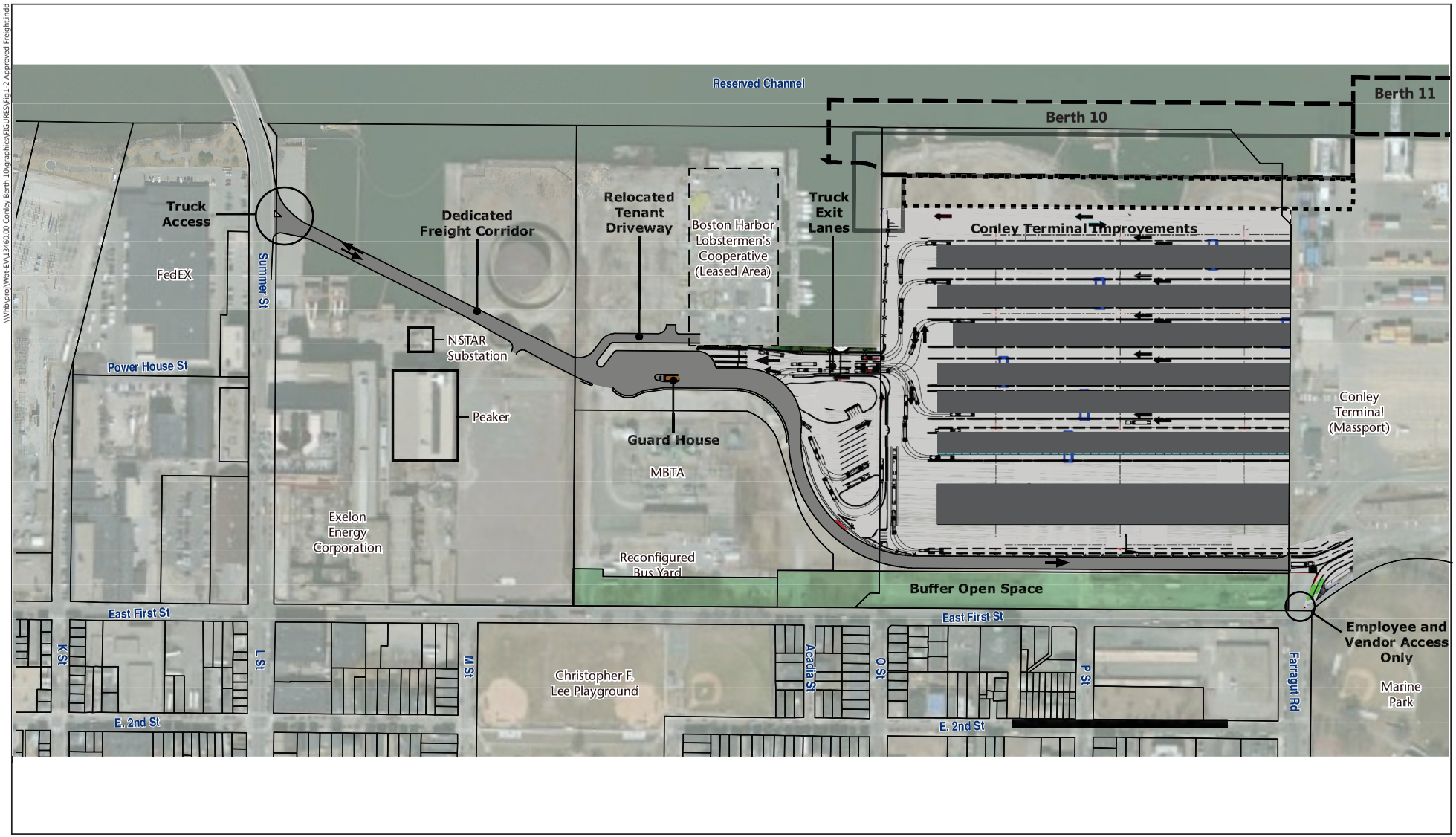

FIGURE 1-2 Approved Dedicated Freight Corridor and Conley Terminal Improvements EEA No. 15053

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Dedicated Freight Corridor
Buffer Open Space
Container Stacks

Proposed Dredging
Proposed Berth 10 Deck
Proposed Berth 10 Inshore Area

0 125 250 Feet

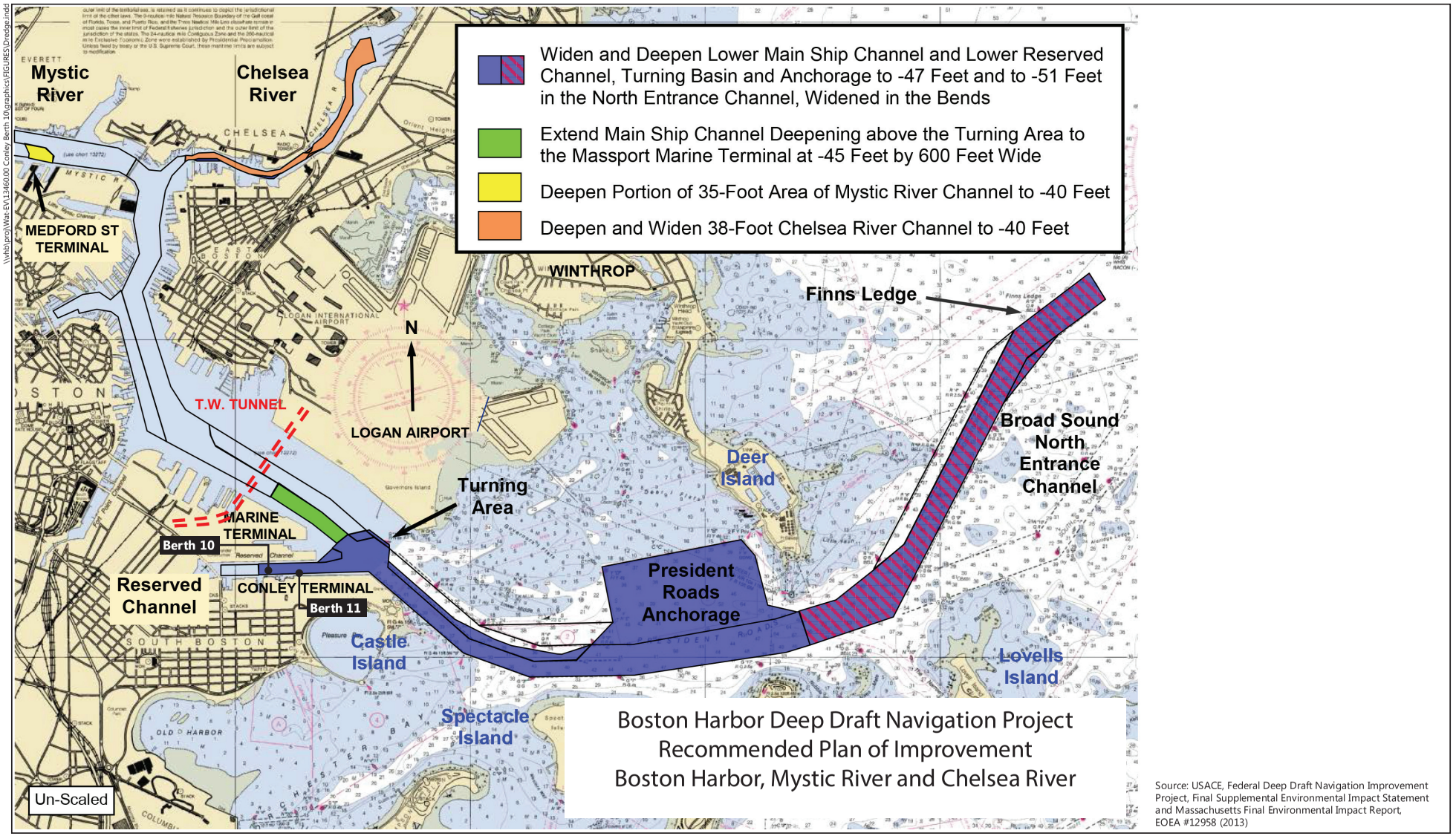

FIGURE 1-3 Boston Harbor Deep Draft Navigation Project

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

0 1400 2800 Feet

1.5 Purpose and Need

Massport seeks to upgrade the Conley Container Terminal by developing the two deepwater berths required under the BHDDNIP. The deepwater berths are needed to accommodate the larger container vessels that are part of the current fleet and the larger container vessels anticipated as a result of the Panama Canal Expansion. Massport has performed studies to identify likely future vessel sizes and ships, and concluded that vessels with capacity up to 10,000 TEUs[4] are anticipated to regularly call at the Terminal. The Panama Canal Expansion Project enables larger ships with a length of 1,200 feet, beam of 160 feet, and draft of 42 feet to transit the Canal. The Proposed Project is necessary to ensure the continued relevance and function of the Port of Boston in the face of these changes. The Conley Berths must be deepened to handle the new Panamax container vessels that are calling on Conley Terminal, the only deepwater full-service container terminal in New England.

To unload the larger vessels, STS cranes that are larger and taller than the existing cranes at Conley will be required (Table 1-2). These ships also require deeper berths (-50 feet) than currently exist at Conley. The BHDDNIP will deepen the federal navigation channel approaching Conley Terminal to a minimum depth of 47 feet. The requirement of the USACE as part of the BHDDNIP is that the two berths at Conley Terminal will be deepened to a minimum depth of 50 feet—three feet greater than the proposed Reserved Channel and main ship channel depths in the inner harbor. The increased berth depths are necessary to allow vessels with deeper drafts to enter and leave the harbor at higher tides but remain in berth at lower stages of the tide for loading and unloading operations.

Table 1-2 Operational and Design Criteria

Vessel Size	Length (ft)	Beam (ft)	Draft (ft)	Keel to top of Stack (ft)	Minimum Crane Outreach (Ft)	Crane Lift Height above Wharf (ft)
Current Vessels	950	106	38.2	-	150	101
10,000 TEU	1,148	160	50	222	175	147

Conley Terminal currently has two container ship berths, Berths 11 and 12, which total approximately 2,000 linear feet of hardened edge. Berth 12 at Conley Terminal was dredged to approximately 40 feet and 45 feet MLLW in 2015. In early August 2010, Massport kept pace with the Panama Canal Expansion by acquiring a pair of pre-owned low-profile cranes and four rubber tired gantry (RTG) yard cranes at a cost of $15 million. With this acquisition, Conley Terminal now operates four cranes that have the height and reach to serve vessels with container stacks four high and 17 wide. Two additional, older cranes have a reach of 13 containers.

The Federal Aviation Administration (FAA) takeoff airspace restriction for Logan Airport Runway 22R requires that the new deepwater berth be shifted westward of the existing Berth 11. Crane lift height is limited by the maximum crane height feasible within the Logan Airport airspace restrictions. Conley Terminal is positioned under the takeoff flight path of Runways 22R and 22L and FAA regulations limit the height of obstructions within the potential flight path. All of the airspace over Conley Terminal is restricted due to flight operations from Logan Airport (Figure 1-4). Runway 22L

4 Container terminal capacity is generally determined based on three components: the capacity of the berths to accommodate and load/unload vessels, the capacity of the terminal to move and store containers, and the capacity of the system of roadways serving the terminal. Because containers vary in size, the number of containers handled are often referred to as TEUs (twenty foot equivalent units), which are standard 20-foot long containers.

is longer and extends closer to Conley Terminal resulting in a lower ceiling for flight operations. Existing cranes at Conley Terminal are limited to a maximum elevation of 145 feet NAVD. Based on these limitations, Conley Terminal berths have the capacity to serve vessels generally in the 3,000 to 6,000 TEU range, which are considered small to medium given the trend toward large container ships.

Constructing two deep water berths at Conley Terminal to accommodate 10,000 TEU vessels is needed to maintain the competitiveness of the Port of Boston, a vital transportation and economic resource for New England. Currently, the Port handles approximately one-third of the containers moving to and from the New England region. The majority of container shipping to and from the region occurs through the Port of New York/New Jersey, with additional but lesser amounts via major West Coast terminals and other eastern ports. However, Conley Terminal remains the largest container terminal in New England and has the only deepwater access in the Port of Boston.

The global container shipping business is complex and highly competitive. Ports compete regionally, nationally, and even internationally, to secure commitments from international shipping lines to import and export goods, which are transported to/from the container terminals by truck and rail. The competitiveness of a port is determined generally by the cost and speed with which it can move a container between producers and consumers. Low costs, efficient terminals, and good connections to inland transportation systems that serve an established customer base are critical to port competitiveness. The quality and capacity of container terminal infrastructure impacts each of these factors. The global trend in shipping is to deploy larger vessels that are more economical to operate, transporting larger cargo volumes in fewer trips.

Without the capacity to service larger container vessels, Massport expects that vessels up to 10,000 TEUs will be diverted to other east coast ports. The USACE estimates that the volume of Conley shipping will double after dredging and infrastructure improvements to handle larger ships. If no improvements are made, this potential loss in service would have an enormous negative impact on the local economy, and to Massachusetts state tax receipts. More than 50,000 jobs within the New England region are associated with the activity at the Port of Boston. Therefore, the increase in capacity, afforded by the extension of container storage and handling, in concert with improved ground access, is anticipated to result in new and expanded business for the Port of Boston. The Conley Terminal Revitalization Project supports the continued competiveness of the Port of Boston, thereby helping to support this important local jobs creator and tax base.

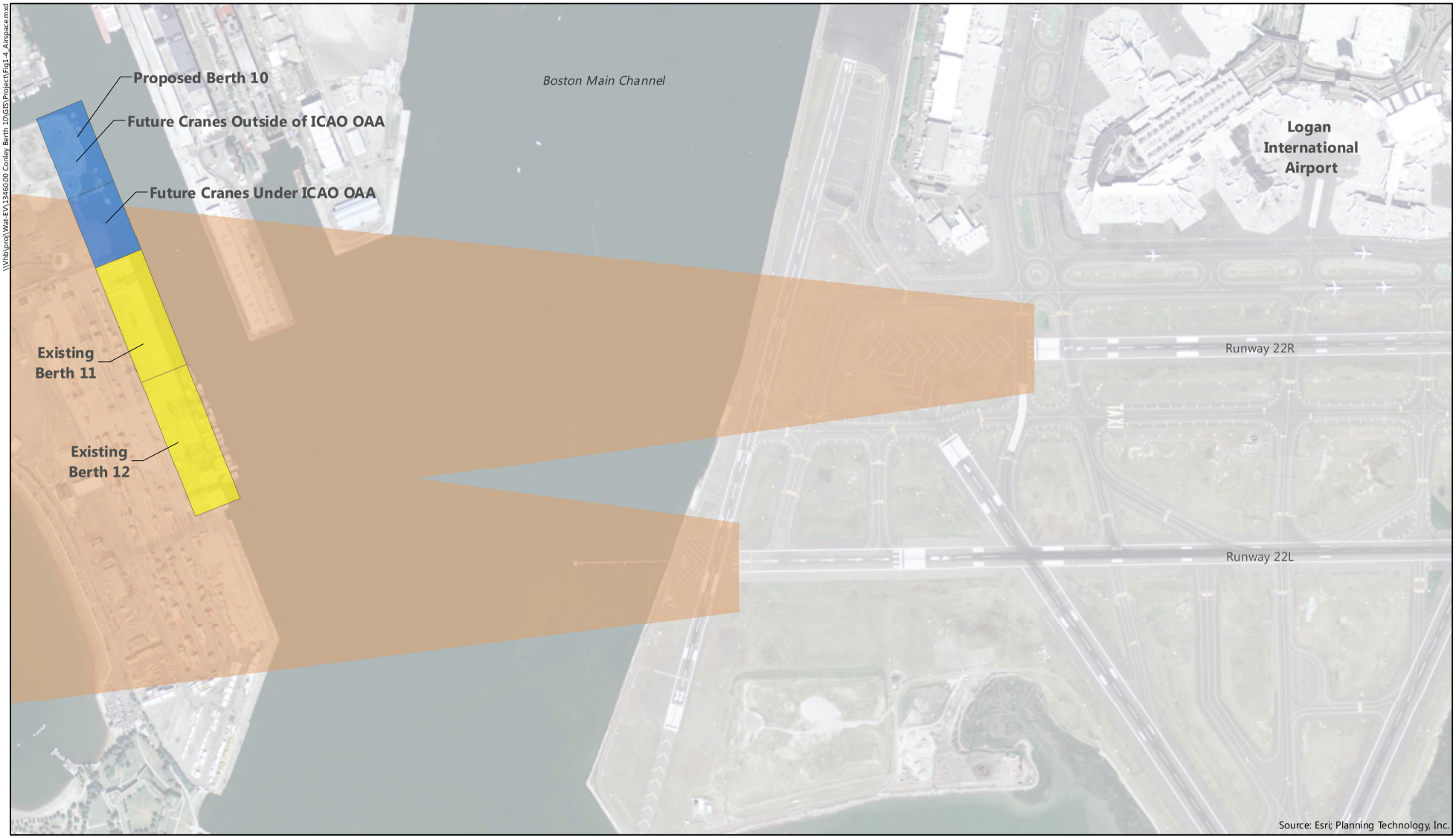

FIGURE 1-4 Logan Airport Airspace Constraints

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Clearance Surface* | Existing Berth
Proposed Berth 10

0 250 500 Feet

* ICAO OAA: International Civil Aviation Organization, Obstacle Accountability Area

Note: Not all airspace surfaces shown.

1.6 Massport Sustainability Policy

Sustainability has played a significant role in Massport's planning and decision-making for many years. In 2000, Massport adopted an Environmental Management Policy, which includes a commitment to:

- Operate all facilities in an environmentally sound and responsible manner;
- Minimize the impact of its operations on the environment to the extent feasible and practicable;
- Define and apply sustainable design principles in the planning, design, operation, and decommissioning of its facilities; and
- Ensure environmental considerations are included in the business, financial, operational, and programmatic decisions.

1.6.1 Sustainable Design Standards and Guidelines

In June 2009, Massport developed the Sustainable Design Standards and Guidelines (SDSG), as one component of Massport's overall sustainability program. The SDSG, revised and reissued in March 2011, provides a sustainable building framework for design and construction of both new construction and rehabilitation projects for both building and non-building projects (for example, pavement projects). The SDSG applies to a wide range of project-specific criteria, such as site design, project materials, energy management and efficiency, air emissions, water management quality and efficiency, indoor air quality, and occupant comfort. The new standards have been used to guide over $200 million in capital projects Massport-wide between fiscal years 2010 to 2013, including over $30 million for maritime projects.

1.6.2 Port Sustainability Initiatives

Massport is committed to operating all of its facilities, including maritime industrial terminals and commercial development projects, in an environmentally responsible and sustainable manner. For both environmental and financial reasons, Massport has a strong interest in developing and maintaining efficient, high-performance facilities. As a self-financed authority, Massport strives to make strategic initial capital investments and optimize its facility operations to reduce on-going costs. Overall, Massport manages its assets with environmental, economic, and community needs and impacts in mind. Massport has implemented several programs that contribute to the environmentally sustainable operation and maintenance of facilities at the Port, and encourages its tenants to do the same. Massport strives to minimize the impact of its operations on the environment through the continuous improvement of its environmental performance and the implementation of pollution prevention measures. The following are key examples of Massport's commitment to sustainability as an organization and specifically within the Maritime Department:

- An Environmental Management Policy, with a specific commitment to sustainable development, sustainable operations, and continuous improvement;
- Development and implementation of an Environmental Management System (EMS) at its facilities, including the ISO-14001 certified EMS at Conley Terminal (Conley Terminal has been ISO certified since 2004);
- Implementation of a Clean Truck Program which provided federal and Massport funding for up to 50 percent of the cost (up to $25,000) for the replacement of tractor trailers that are 15 to 26 years old with a 2007 emission compliant truck or newer;

- Compliance with Massport's *Sustainable Design Standards and Guidelines* for new and renovated facilities;
- Using the Massachusetts Leadership in Energy and Environmental Design (LEED) Plus green building design and construction standard for development on Massport properties;
- Committing to maintain first-class open space on the Boston waterfront;
- Voluntarily implementing programs to reduce environmental impacts, such as air emissions, in a manner above and beyond that required by regulations;
- Seeking to redevelop underutilized and brownfield properties and support regional "smart growth" policies.
- Developing "green" lease terms with tenants, environmental audits, and voluntary sustainable tenant initiatives, including a single-stream recycling program; and
- Replacing floodlights with Conley Terminal with LEDs.

1.7 Agency Coordination

To ensure effective and inclusive outreach to stakeholders throughout various stages of the Project's development, Massport implemented a stakeholder process that includes local, state, and federal agencies.

Table 1-3 lists all the meetings with local, state, and federal agencies, and the topics discussed at each meeting. In the future, in support of Project permitting, Massport plans to conduct meetings with the City of Boston Conservation Commission and the Massachusetts Department of Environmental Protection (MassDEP), in addition to a MEPA meeting associated with this ENF filing.

In anticipation of this ENF and forthcoming permitting, Massport held an interagency project briefing on July 7, 2016 with representatives of EEA's MEPA Office, the USACE, MassDEP, the Division of Marine Fisheries (MADMF), the U.S. Environmental Protection Agency (EPA) and the Boston Conservation Commission to discuss the Proposed Project, alternatives considered, anticipated environmental impacts, and potential permitting issues. Massport also met with Massachusetts Coastal Zone Management (CZM) staff on August 16, 2016 to provide a project overview.

1.8 Public Outreach

Massport implemented a community outreach process that provided information and sought input from interested community members, including neighborhood groups and other stakeholders. During preparation of this ENF, Massport held a series of community or public meetings with public and elected officials (Table 1-3).

Table 1-3 Agency, Public and Elected Officials Meetings

Meeting Date	Stakeholder
May 12, 2016	South Boston Delegation & City of Boston Mayor's Office
May 17, 2016	MA State Representative Nick Collins
June 1, 2016	Congressman Stephen Lynch
June 1, 2016	South Boston Community Meeting
June 13, 2016	President of the Boston Harbor Lobstermen's Cooperative
July 7, 2016	Interagency Briefing to Environmental Regulatory Agencies
August 16, 2016	Briefing to Coastal Zone Management staff

1.9 Organization of this ENF

This ENF Narrative provides an introduction to the Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project (Chapter 1); Proposed Project and alternatives considered (Chapter 2); the environmental resources impacted by the Proposed Project, including wetland and coastal resource areas and water quality (Chapter 3 through 4); and other construction impacts including navigation, changes in land use, hazardous materials, and other construction impacts (noise and air quality) (Chapter 4 through 8). Chapter 9 provides the Distribution List as required by MEPA regulations.

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2

Proposed Project and Alternatives Considered

2.1 Introduction

This chapter describes the Proposed Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project which includes constructing a new deepwater container ship berth (Berth 10) and associated dredging on the former Coastal Oil property at Conley Terminal in the South Boston Designated Port Area. The Project also includes deepening the existing berth at Berth 11. This chapter also presents alternatives considered during the planning and design of the Proposed Project. Details on the sustainable components of the Proposed Project are also provided in this chapter.

The Proposed Berth 10 and Berth 11 improvements are a critical element of the previously-approved federal BHDDNIP and also supports various City of Boston goals and objectives related to the economic development of the industrial waterfront. The goals of the *South Boston Waterfront District Municipal Harbor Plan* (last amended 2009), the *South Boston Seaport Public Realm Plan* (1999), and the *Port of Boston Economic Development Plan* (1996) encourage the preservation and enhancement of the industrial port, including Conley Terminal, while balancing the growth of mixed use and recreational activity in this area with the needs of maritime commerce. The Proposed Project is also consistent with the Massachusetts Coastal Zone Management Plan and the Designated Port Area (DPA) that encourages water-dependent industrial use. The Berth 10 construction and Berth 11 deepening supports these overall goals by preserving the viability of Conley Terminal by accommodating the soon-to-be-arriving generation of larger container vessels.

2.2 Existing Conditions

Over the last decade, Massport has invested millions of dollars in capital improvements at Conley Terminal to increase facility efficiency and capacity. In 2007, Massport completed a two-year enhancement project costing nearly $30 million. Upgrades included adding new environmentally-friendly equipment, drainage, lighting, and reinforced pavement. In 2008, Massport acquired the former Coastal Oil property, an approximately 32-acre brownfield site adjacent to the existing Conley Terminal. Figure 2-1 shows the Coastal Oil terminal in 1974. When it acquired this property, Massport accepted responsibility for the on-going clean-up of the site. With proper remediation, the additional land was envisioned to allow for future growth of the container operations at Conley Terminal.

In 2011, Massport implemented a $1.2-million Marine Terminal Operating System (MTOS) at Conley Terminal that has streamlined terminal management and will facilitate more efficient truck gate operations. As discussed in Chapter 1, *Introduction,* in 2013, Massport proposed to expand the Conley Terminal operations onto the adjacent former Coastal Oil site, in order to accommodate the trending rise in container traffic and to remain competitive in the global container shipping business. As a result of this expansion, truck traffic along East First Street and Summer Street are projected to increase. In response to this, Massport is constructing a new 3,100-foot long Dedicated Freight Corridor (DFC) and an approximately 4-acre East First Street Buffer Open Space as forms of community mitigation for the Conley Terminal expansion. Construction of the DFC is anticipated to be complete by the end of 2017.

FIGURE 2-1 Former Coastal Oil Site, 1974

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

0 1400 2800 Feet

2.2.1 Conley Terminal

As a container port, Conley Terminal is equipped with infrastructure required to maintain efficient cargo loading and unloading operations. This infrastructure includes berths, wharves, cranes, truck routes, loading areas, container storage areas, and other facilities, and covers approximately 100 acres. Cargo to and from Conley Terminal are transported via shipping containers, which are built to international standards to be handled on ships, trucks, and rail facilities worldwide. Due to various sizes of containers, the number of containers handled are often referred to as TEUs, which are standard 20-foot long containers. The level of containers handled annually at Conley Terminal reached more than 246,000 TEUs in FY2016.

Conley Terminal has two active ship berths (Berths 11 and 12) along the Reserved Channel, which are served by six low profile Ship-to-Shore (STS) electric cranes. Import and export containers are stacked and handled by twelve RTGs, which move parallel to the berth. These RTGs service six container stack rows oriented in an east-west direction. Containers are transported from the stacks to the ship (and vice versa) through yard tractor trailer trucks, and from the street to the stacks (and vice versa) via street trucks. Inbound (export) and outbound (import) containers pass through the Terminal gate complex, which is on the south side of the Terminal, via the entrance/exit gate at the corner of Farragut Road and East First Street. As an interim measure, in 2011, Massport constructed a truck queuing yard to receive arriving trucks on the Terminal and prevent them from backing up on to East First Street in the early morning. Completion of the previously-mentioned DFC project will remove truck traffic altogether from East First Street.

Seven of the world's top ten international shipping lines serve Conley Terminal and provide direct and trans-shipment service between Boston and major ports throughout the world:

- Mediterranean Shipping Company (MSC) provides direct Northern European service;
- MSC and Maersk operate a weekly Mediterranean service; and
- China COSCO Shipping (COSCOS) and its partners, "K" Line, Yang Ming, Hanjin, Evergreen, and CMA CGM provide a weekly ship call with direct service between major ports in Asia and the East Coast via the Panama Canal.

2.2.2 Project Site

The Project Site includes the area of the proposed Berth 10 and the adjacent areas that will be dredged for Berth 10 and Berth 11. The Proposed New Berth 10 is located at the western end of the Conley Terminal on the northern shoreline of the former Coastal Oil site. The approximately 32-acre Coastal Oil site functioned primarily as petroleum receiving, distribution, and bulk storage facility from 1937 to 2000, and was purchased by Massport in 2008. The site is predominately former tidelands which were filled in the late 19th and early 20th centuries to accommodate deepwater access to the Reserved Channel. The site is bounded to the north by the Reserved Channel, to the east by existing paved surface of Conley Terminal and Berth 11, and to the west by a portion of the Reserved Channel commonly referred to as the Lobstermen's Cove, and former Massachusetts Bay Transportation Authority (MBTA) property which is now owned by Massport. The Proposed New Berth 10 will occupy the northern 20 percent of the former Coastal Oil site as well as a portion of the watersheet for a total site area of approximately eight acres.

The existing Berth 10 shoreline consists predominately of placed riprap and failing bulkheads which are remnants of the former Coastal Oil operation dating back to the mid-1930s. Remaining dock structures include a

barge dock along the western end of the berth face featuring two concrete capped filled steel cells, a tanker dock, multiple concrete capped dolphins connected to the shoreline by a timber pier, and a single timber dolphin in the northeast corner of the site. The upland areas of the site contain the remnants of former access roads and concrete pads for tanks and piping, the majority of which were removed after Coastal Oil ceased operations in 2000.

As described in Chapter 3, *Wetlands and Coastal Resources,* the Project Site contains coastal resource areas protected by state and federal regulations, however all of these areas have been previously disturbed through past filling, dredging, maintenance, and development. The majority of the Site is located within the current Federal Emergency Management Agency (FEMA) floodplain. As a result of the previous industrial activity on-site, the Project Site is regulated under the Massachusetts Contingency Plan. As described further in Chapter 7, *Hazardous Materials,* the former Coastal Oil site is a vacant industrial brownfield site, with an extensive history of industrial and commercial uses.

2.2.3 Boston Harbor Lobstermen's Cooperative

The Boston Harbor Lobstermen's Cooperative facility, formally referred to as the Cardinal Medeiros docks, is directly west of the Project Site along the Reserved Channel. The Cooperative has operated in concert with Conley Terminal and the cruise terminal for many years. It is among the largest and most active commercial fishing piers in the City of Boston, and supports approximately 30 commercial fishing vessels. The docks were originally constructed with public funding in the late 1980s in a cooperative effort to provide local lobstermen with affordable dock space which was being displaced by real estate developers in the city. The Boston Harbor Lobstermen's Cooperative is located on land leased from Massport, and includes over three acres of upland laydown area for trap storage/maintenance, as well as the docks and floats.

2.3 Proposed New Berth 10 and Berth 11 Deepening

The Proposed Berth 10 is a new pile-supported concrete wharf designed for vessels up to 10,000 TEU capacity (Figure 2-2). The outshore face of the proposed wharf will be aligned generally with the face of the existing berths to the east to provide a continuous berthing face and will extend approximately 1,275 feet west from the end of existing Berth 11. The wharf will consist of a concrete deck structure approximately 110 feet wide and supported by steel pipe piles. The wharf deck will include berthing fenders and mooring fixtures suitable for the 10,000-TEU vessels. The wharf will support three new larger STS container cranes, which are required for loading and unloading containers from anticipated bigger and taller vessels.

The proposed Berth 10 will be dredged outshore of the new wharf deck with a minimum depth of 50 feet below Mean Low Water (MLLW) and extending into the proposed deepened Reserved Channel. The new authorized depth of the Reserved Channel, at a minimum of 47 feet below MLLW, has been already established within the SFEIS/FEIR document prepared for the BHDDNIP. Some additional dredging will be required within the Reserved Channel to accommodate the -50-foot depth berth.

Specific changes required for the larger vessels are:

- Adequate berth length to accommodate a 1,200-foot long vessel – the Neo Panamax 10,000-TEU vessel's approximate size will be 1,200 feet long, 160 feet beam, and 50-foot draft. Current vessel sizes are typically existing Panamax length of 1,060 feet and a longer berth with the greater draft will be required;
- Improved and upgraded fendering and mooring equipment – the larger vessels represent an increase in vessel displacement (total weight) of approximately 50 percent more than existing. Larger fenders and mooring bollards will be required to accommodate the larger ships; and
- Taller and longer outreach STS container handling cranes – the larger ships are significantly higher and wider than existing vessels. The existing STS cranes can service a vessel with a cargo stack up to an absolute maximum of 17 containers wide but will be unable to reach the outer stacks of containers on the larger wider ships. Vessels (and above deck cargo stacks) will be higher and the existing crane height will be insufficient.

2.3.1.1 Facility Layout

Berth 10 will extend a minimum of 100 feet beyond each end of the design vessel in its moored position. Design criteria and layout for this proposed new berth are dictated to a significant degree by the existing Conley Terminal facility, as summarized below.

- The container transfer operation between ship and shore needs to be a highly efficient rapid operation due to the large numbers of containers per vessel. The movement of containers within the terminal is by tractor trailer. Multiple trucks are in use at any one time with multiple lanes in operation beneath the STS cranes. Efficient truck movement is based on straight line travel for the full length of the vessel being handled and a straight alignment between the new berth and the existing berth facilities maintains the efficiency of the operation.
- Efficient container handling also depends on a uniform container storage area behind the berths. Maintaining wharf deck width and alignment allows for uniform storage arrangement through the entire terminal.
- Existing STS crane rail gauge and alignment will be matched to the extent practical to allow cranes to travel the full length of all three berths. This maximizes the flexibility of operations by allowing additional cranes to service vessels within their reach and providing backup in the event of a crane breakdown.
- Alignment of the berthing face through all three container berths results in safer berthing conditions for vessels by eliminating jogs and obstructions. A straight alignment also allows greater flexibility for positioning ships in the event of a crane breakdown or, maintenance.

2.3.1.2 Concrete Wharf

The proposed concrete wharf structure will be a pile-supported reinforced concrete deck structure (Figure 2-3). Approximately 900 steel pipe piles will be driven to bedrock below the site to provide support for the new deck. Typical pile diameters for the majority of the concrete deck are 26 inches outside diameter (OD) spaced on approximately 14 feet, 8 inches by 20 feet grid. The proposed STS cranes result in very high loads along each

crane rail and the proposed piles at these locations are larger at 30 inches OD and spaced more tightly at 7 feet, 4 inches along each rail. A steel sheetpile bulkhead supports the existing soils and fill inshore of the concrete deck. The steel sheetpile bulkhead will be constructed along the entire length of the berth. The steel sheetpile bulkhead will be constructed early in the Project to provide containment of oil-impacted soils remaining in the upland inshore areas of the Project Area.

The separation between the crane rails for the STS cranes is 96 feet resulting in an overall concrete deck width of 110 feet. The new deck structure will abut directly to the end of existing Berth 11 but will be an independent structure separated by an expansion joint. The total length of the new wharf will be 1,275 feet to accommodate vessels up to 1,160 feet in length. Longer vessels could be accommodated by using a section of the existing Berth 11. The proposed length of the wharf results in an overhang beyond the available length of shoreline along the Reserved Channel. The additional length of structure is approximately 125 feet beyond the top of the existing riprap slope at the western shoreline, partially across the Lobstermen's Cove, and the entire footprint of this extended structure will be a pile supported concrete deck. The pile supported deck is approximately 110 feet wide, but expands to a 250-foot width where it extends off the western shoreline to maintain full facility width. As design proceeds, Massport may determine that it would be prudent to relocate some of the existing slips at the Boston Harbor Lobstermen's Cooperative. Massport will evaluate that scenario and include any changes in the orientation of the floats or related bulkhead rehabilitation into the subsequent permit filings.

The overall width of construction for the proposed facility (inclusive of the pile supported deck and inshore paving) is between 250 feet and 265 feet to allow for truck circulation inshore of the deck. The paved surface inshore of the bulkhead will be conventional heavy duty pavement on grade consistent with the container handling equipment.

The new concrete wharf will incorporate utilities including electrical, lighting, communications, water, and stormwater, elevated to be above coastal flood elevations and accommodating future sea level rise. The stormwater runoff will be directed to through-deck drainage structures from where it will be piped back to stormwater treatment structures at the inshore bulkhead line (see Chapter 4, *Water Quality*).

2.3.1.3 Ship-to-Shore (STS) Cranes

Three new STS cranes are proposed to provide the ability to service the taller and wider 10,000-TEU vessels anticipated at Conley Terminal. Two cranes will be 206 feet in height, and one will be 146 feet high (Figure 2-2).

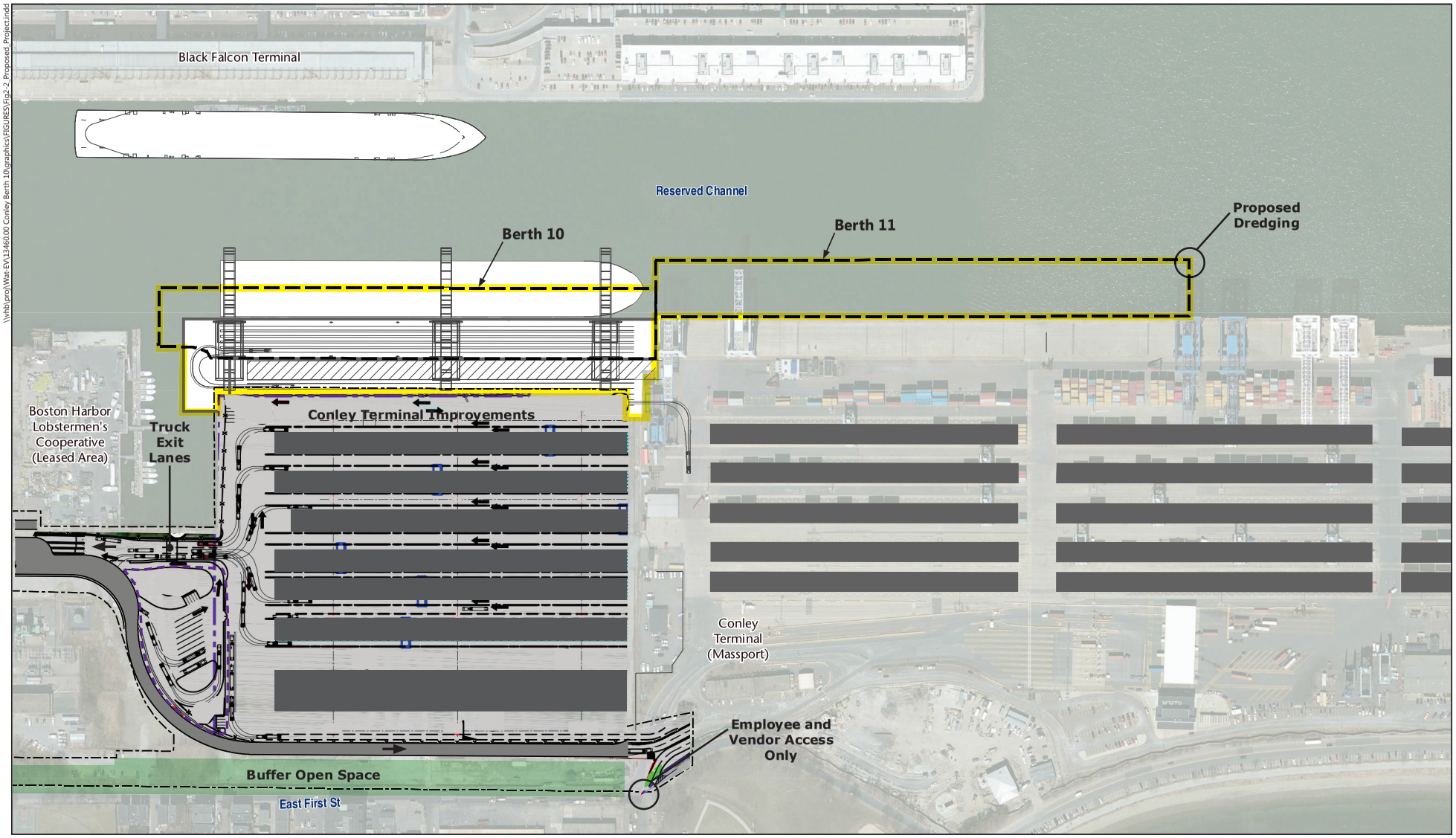

FIGURE 2-2 Proposed Project

Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Project Area
Dedicated Freight Corridor
Buffer Open Space
Container Stacks
Proposed Dredging

0 125 250 Feet

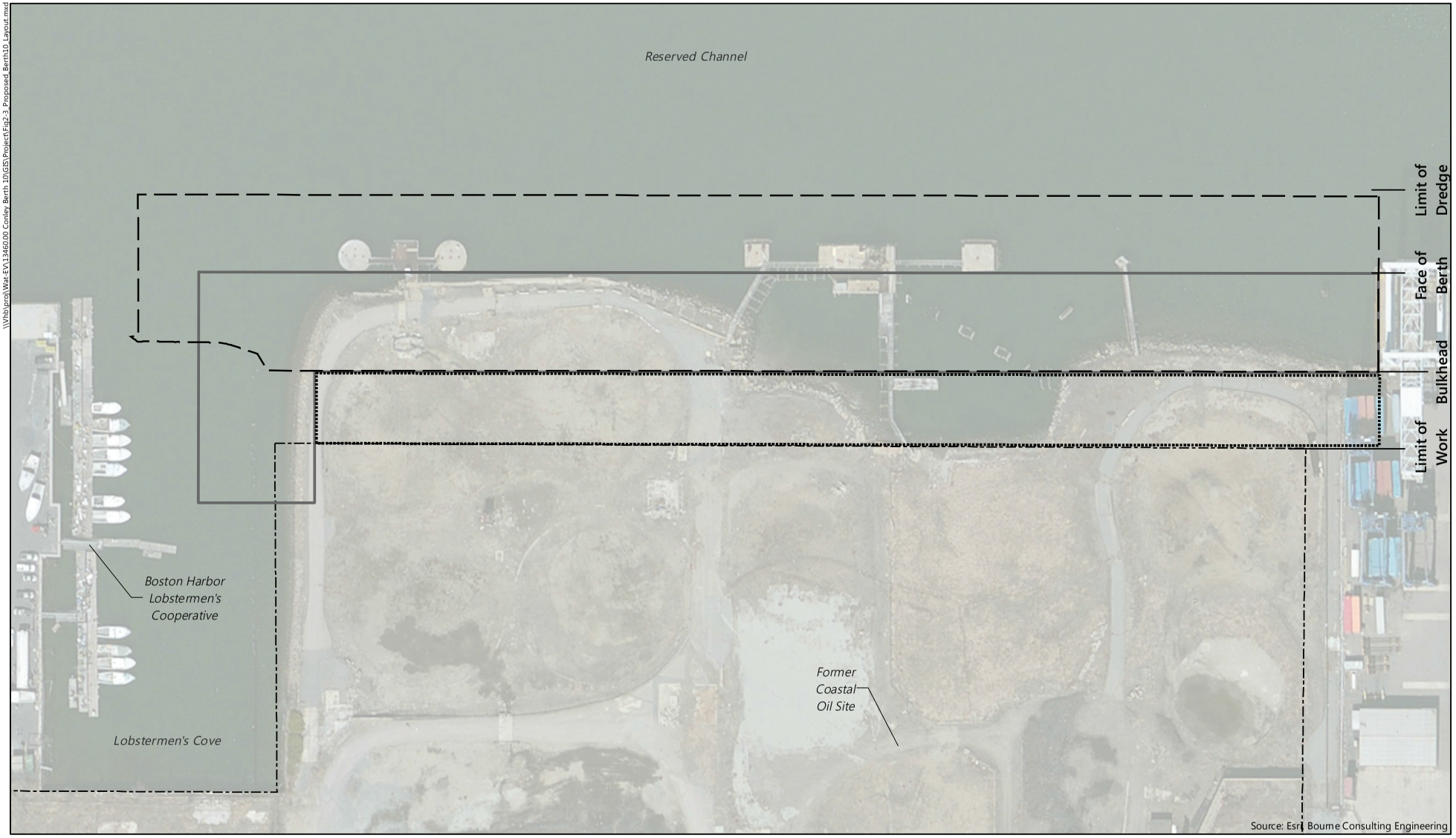

FIGURE 2-3 Proposed Berth 10 Layout

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

— — Proposed Dredging
Proposed Berth 10 Deck
– – – – Previously Reviewed Conley Terminal Improvements Project
Proposed Berth 10 Inshore Area

0 25 50 100 Feet

2.3.2 Dredging

Dredging criteria for Berth 10 are based primarily on the BHDDNIP, which is now approaching the construction stage. The channel deepening project was planned in order to accommodate the larger vessels and proposes to deepen the inner harbor channels to a minimum depth of 47 feet below MLLW and requires two berths at Conley Terminal to a minimum depth of 50 feet below MLLW. Deeper draft is required alongside the berth. The larger ships have typical operating drafts approaching 50 feet and would be required to enter the harbor at high tide to meet Harbor Pilot operating criteria. The ships remain alongside for loading/unloading through one or more tidal cycles and need adequate vessel draft at extreme low tide condition. The proposed depth of the berth is 50 feet below MLLW which was established and approved within the FSEIS/FEIR document prepared for the BHDDNIP.

The proposed dredge footprint is based on the new design vessel characteristics – approximately 1,200 feet long, 160 feet beam, and 50-foot maximum draft. The design dredge depth remains 50 feet below MLLW with a 2-foot overdepth allowance. In the event that the exposed substrate is rock or other hard hazard (boulders, etc.) to vessels, an additional 2-foot safety clearance is required. The additional 2-foot safety clearance for depth is consistent with the BHDDNIP.

Geotechnical investigations conducted at the site show that rock is present at the eastern end of the new berth close to the existing shoreline. Additional investigation of the area in question will be performed to further delineate the depths and full area of the rock within the dredge footprint; however, measurements of hardness of the rock conducted to date indicate that blasting will be required to assist in removing the rock. Any areas within the proposed footprint for which rock is exposed will be required to have the additional 2-foot safety clearance on dredge depth. Proposed dredge depth where rock is present will be a minimum of 52 feet below MLLW with a 2-foot overdredge (overall depth 54 feet below MLLW).

Dredging is classified by MassDEP regulations (314 CMR 9.00) as maintenance or improvement. There is a previously dredged footprint for the Coastal Oil terminal shown on Massachusetts Department of Public Works License No. 4571 (1962) extending from 5 feet outshore of the U.S. Pier and Bulkhead Line (USPBL)[5] to 130 feet outshore of the USPBL and for a total length of 1,108 feet along the shoreline. Licensed dredge depth is shown as 38 feet below Mean Low Water (MLW). Dredging within these limits will be maintenance dredging but the berth is also to be deepened and any deepening will be characterized as improvement dredging.

The western limit of the improvement dredging is proposed to be the western limit of the existing 40-foot depth Reserved Channel which is also the limit of proposed deepening within the BHDDNIP. This line is approximately 70 feet west of the proposed western limit of the proposed wharf. Berth 11 will also be dredged to a depth of 50 feet. The proposed dredge design depth of -50 feet MLLW is based on requirements of BHDDNIP. Side slopes of approximately 3 horizontal to 1 vertical from the boundary of the berth to adjacent areas have been assumed except for the proposed side slope beneath the proposed wharf structure. This slope will be cut at approximately 2 horizontal to 1 vertical and armored with riprap after final excavation to profile.

Disposal of dredged material will ultimately depend on a suitability determination by the USACE. The BHDDNIP proposes that maintenance material (harbor silt) is placed in Confined Aquatic Disposal (CAD) Cells and improvement material (naturally occurring glacial till, Boston blue clay, etc.) will be disposed offshore at the Massachusetts Bay Disposal Site (MBDS). All material dredged from Conley Terminal for this Project will be

5 USPBL is generally a geographic boundary established by one or more Federal statutes beyond which no fill or structure shall be permitted. Such lines were created to preserve navigability in U.S. coastal waters.

disposed in a similar manner – maintenance material in a new CAD Cell to be constructed by the USACE and clean native material offshore at MBDS. A substantial volume of this dredge material is expected to comprise historic fill placed in the early 20th century to create the Coastal Oil terminal. It is assumed that this historic fill material will also be disposed within the new CAD Cell.

The proposed 2:1 side slope extends inshore of existing Mean High Water on part of the shoreline of the site and a steel sheetpile bulkhead will be installed along the inshore limit prior to any dredging. Oil-impacted soils have been found within this former oil storage facility and the bulkhead will provide containment of the remaining oil impacted soil. Oil-impacted material will be pre-excavated from the site and disposed at an approved upland location, as described in Chapter 7, *Hazardous Materials*.

Estimated volumes of dredged material are provided in Table 2-1 below.

Table 2-1 Estimated Dredge Volumes

Material	Berth 10 Volume	Berth 11 Volume	Total
Oil impacted soils	32,500 CY	0	32,500 CY
Maintenance Dredging/Historic Fill	100,100 CY	11,100 CY	111,200 CY
Remaining Improvement Material including overdredge to 52 feet MLLW	140,300 CY	78,400 CY	218,700 CY
Rock Removal	3,700 CY		3,700 CY
Total Volume to be dredged	276,600 CY	89,500 CY	366,100 CY

Notes: CY = cubic yards
MLLW = Mean Low Water

2.3.3 Construction Sequence and Methods

The following presents the approximate sequence and methodology for construction of the Project. The exact sequence of construction activities will be subject to some adjustments to suit the Contractor methodology and final project phasing. The Project is anticipated to take 24 months to complete:

- Project setup, bulkhead construction, and upland excavation: 6 months
- Dredging and rock removal: 9 months
- Pile driving: 12 to 14 months
- Deck construction: 3 months after pile driving is complete
- Utilities, fenders, bollards, crane rails: 6 months after deck construction is complete.

These tasks will overlap somewhat, such that the total of the individual tasks does not represent the anticipated full length of construction (24 months).

2.3.3.1 Project Setup/Site Preparation

The Project will commence with installation of environmental controls around the perimeter of the site on both the land side and waterside to protect against soil seepage and potential contamination to the marine environment. Silt fence and wheel wash equipment will be provided as indicated on the Storm Water Pollution

Prevention Plan (SWPPP) plans. Debris booms will be installed in the water around proposed work areas and relocated as the work progresses. Where required and practicable, a silt curtain and an oil containment boom will be installed around in-water silt producing activities as well as across the embayment waterside of the proposed bulkhead to contain this area during bulkhead construction. It is currently anticipated that using silt curtains and oil booms will be practicable to contain excavation areas close to the southern shoreline of the Reserved Channel, where they can be secured to land in shallow water; however, dredge areas further from shore would limit the practicability of the use of silt curtains and/or their associated anchoring.

2.3.3.2 Demolition

Demolition of the remaining pier and berthing structures will be one of the first elements of the Project. The exact sequence of structure demolition will depend on the Contractor's preferred method for performing this work including the site excavation. Some of these shoreline structures may be useful in the short term for mooring barges or staging construction equipment and demolition of existing structure would be delayed until they are no longer useful.

Timber piers and berthing structures will be dismantled and piles will be pulled if the structures are outshore of the proposed bulkhead line. Piles inshore of the bulkhead line may be cut but otherwise remain in place if they do not obstruct construction activities that will follow. All timber will be disposed at an approved location.

The concrete caps on the dolphins (marine structures extending above the water surface and not connected to the shore) will be cut using mechanical breakers and saws and loaded onto trucks for appropriate disposal or recycling. If suitable material is identified by the Contractor, some portion may be crushed and reused on-site after separation of reinforcing steel. Steel decking will be removed and sent for recycling.

The existing steel cells need to be dismantled in sequence to avoid interior fill spilling out. The cells will be opened by removal of the top cap and the interior fill will be removed prior to any further dismantling of these structures. The interior fill will be removed until interior grade elevation matches exterior grades around the cell. Interior fill has not been tested as yet but could be placed upland in a confined dewatering area for on-site reuse or taken by dump scow to the CAD cell for disposal. After removal of the fill, the steel sheetpiles will be pulled and sent for recycling.

Submerged sheetpile bulkheads are also present on site and these will not be removed until the higher elevation shoreline structures (granite and concrete seawalls, etc.) have been demolished to avoid destabilization. The submerged structures will not be removed until immediately prior to dredging operations.

2.3.3.3 Bulkhead Construction

The steel sheetpile bulkhead will be constructed early in the project to provide containment of oil-impacted soils that are to remain in the upland inshore areas of the site. Bulkhead construction sequence will consist of the steps described below.

Pre-excavation

The intent of pre-excavation is to remove large obstructions which would prevent installation of the sheetpiles as a continuous barrier. The contractor would pre-excavate along the line of the proposed bulkhead to depth as close to low tide elevation as practical. The actual depth of pre-excavation will depend on stability of the ground through the tide cycle. Pre-excavated fill will be sorted to remove large obstructions and replaced into the work

zone. Work will progress across the site with fill being replaced into the trench behind the excavation area. If Insitu Soil Solidification (ISS) is used on the existing site soils the ISS zone would also be "pre-excavated" at the same time. The pre-excavation is to be performed on existing upland areas and the excavation would be performed using a regular bucket excavator operating inland on the site within a conventional hay bale and silt fence protected area.

Pre-filling for Construction Access

The proposed bulkhead line extends across the existing embayment and a work platform will be required for construction equipment access. Clean fill material will be placed in-water to above high tide elevation sufficient to create a stable work platform for crane access during pile driving

Sheetpile Installation

Sheetpiles will most likely be installed using a vibro-hammer mounted on a crane. Installation would commence at one end and progress along the Project Site. The start end would be determined by the contractor to suit the sequencing and construction access.

Insitu Solidification Treatment

Insitu Solidification Treatment or other measures to create a solid barrier (such as a slurry wall) will be provided behind the new bulkhead, for the full length of the new bulkhead, to provide additional redundancy for containment of potential oil seepage. Solidification reduces the mobility of hazardous substances and contaminants in the environment by immobilizing contaminants within the soils instead of removing them through chemical or physical treatment. Solidification then provides a solid barrier for contaminants located behind the solidified area (behind the sheet pile wall). ISS will use heavy construction equipment (typically auger or paddle rigs or excavators) to inject and mix Portland cement additive into the soil matrix. The process will be repeated in overlapping sections to encapsulate the contaminants in a solidified mass. Solidification of the soils in the ISS area to a depth of approximately 20 feet would effectively create a cutoff wall and preclude future migration of oil. A slurry wall, if used, would consist of an impermeable cement/bentonite mix placed in the trench prior to driving sheetpiles.

Excavation of Oil-Containing Soils

The existing soils on site have varying degrees and depths of oil contamination. Depths of contamination typically are between approximate elevations +10 MLLW and -5 MLLW (2 to 17 feet below existing ground surface). After installation of the sheet pile wall and solidification of the soil behind it, silt curtains and an oil containment boom will be installed along the shoreline and oil-impacted material will be excavated and separated for disposal depending on level of contamination.

The upper soils above elevation +10 MLLW have been found to have little oil contamination and will be excavated first and separated to avoid mixing with oil-impacted material. Existing site grades vary between approximately +13 MLLW and +15 MLLW and the upper soils will be excavated "in the dry" by a conventional land based excavator and placed in stockpiles for reuse on site or disposal of excess off site. Stockpiled material will be contained within conventional hay bale/silt fence barriers.

Oil-impacted material that is within the intertidal and shallow subtidal zone will be removed using dredging techniques. An "environmental bucket" will be used where practicable, however the oil-impacted material is known to be within material that is likely too dense to be excavated using this method. The material is mostly granular fill including some larger cobbles, boulders, and other obstructions and it will be excavated using a long reach excavator or conventional clam shell bucket. The excavation will progress along the length of the site to minimize the exposed length of cut face at any one time. The excavation area will be contained using soft controls (dual containment/absorbent boom) to contain oil/sheen during excavation outshore of the bulkhead wall.

Excavated oil impacted material will be placed into a contained upland area or into a scow barge for offsite disposal. The proposed containment will include impermeable barriers to allow collection of dewatering effluent. Dewatering effluent from the excavated material in the contained area or barge will be captured and treated to remove oil prior to discharge.

2.3.3.4 Dredging Process

Dredging of the remaining material to the proposed cut profile will proceed following completion of the new bulkhead and removal of the oil impacted soil outshore of the bulkhead.

The upper layers of material to be removed consist of historic fill placed in the early 1900s to create the current shoreline with organic marine sediments underlying the fill. Lower layers below the marine sediments comprise natural soils including stratified drift (interbedded sand and clay) and glacial till over argillite bedrock. The glacial till includes dense sand and gravel but also boulders which may be too large to remove as single pieces.

All of this work will be subtidal and will be performed by a conventional dredging operation. Final disposal of the dredged material has yet to be determined and approved by the USACE and MassDEP but it is assumed that this project will be generally consistent with the BHDDNIP requirements. Historic fill and maintenance dredging material will be excavated and placed into a split hull scow for transport and disposal in the new CAD cell to be constructed for the BHDDNIP by the USACE. The remaining improvement dredging material will be excavated and placed in a split hull scow for transport and disposal at the MBDS as per the suitability determination for the BHDDNIP and/or a supplemental Suitability Determination obtained from the USACE for this project and/or a supplemental Suitability Determination for the Proposed Berth 10-11 Project.

Dredging will first be performed using an environmental bucket to remove soft sediments to the extent possible. This approach should work for the previously dredged areas but a heavier conventional clamshell bucket will be required for the historic fill areas and for the harder underlying natural soils and till. As outlined above, as dredging proceeds beyond the southern Reserved Channel shoreline, the increased depth of water will make it impracticable to use a silt curtain. This stage of the Project will therefore utilize turbidity monitoring to minimize turbidity impacts. As described in Chapter 4, *Water Quality,* Massport will produce a Water Quality Monitoring Plan outlining the water quality testing that Massport will undertake during the course of work, including the Contingency Plan which will outline measures (preliminary measures and final measures) to be taken if multiple water quality testing results exceed the established Water Quality Parameters over a stipulated time period.

The approach for rock removal is consistent with that assumed within the Final Feasibility Report (April 2013) for the BHDDNIP. The results of preliminary hardness testing of bedrock recovered during geotechnical borings had indicated that while some rock may be "rippable", blasting will be required as part of this project. The rock removal within this Project will be consistent with the BHDDNIP and the blasting plan and mitigation and

management practices will be consistent with the practices developed for that project. When blasting is used to remove rock or large boulders, it becomes a two stage process. The rock would first be first fractured by drilling and blasting and then removed using dredging techniques.

2.3.3.5 Pile Installation and Wharf Deck Construction

The new wharf construction will proceed in sections working along the length. In order to shorten the overall construction period, it would be desirable to work on more than one section concurrently. Construction is expected to proceed in sections of three to four bents (a bent is a line of pilings) at a time with the final number to be determined by the Contractor.

Pile Installation

The proposed Berth 10 will require approximately 900 steel pipe piles, with an anticipated 12- to 14-month construction period. Figure 2-4 shows typical cross-sections at different locations along the berth. The first stage of construction will be installation of the pipe piles. A temporary piling template will be constructed to locate and maintain the alignment of the piles during pile driving. The template will also provide additional temporary support to the piles where rock is shallow and pile embedment is limited. Template piles will be installed by vibro-hammer but may also require seating with an impact hammer. Steel beams spanning between the template piles will be welded or bolted together to provide guides for pile driving. Permanent pipe piles will be installed by setting with a vibro-hammer and then driving to capacity using an impact hammer. The piling operation will probably be staged both from crane barge and from shore to reduce long reach requirements. All pipe piles will be driven to bedrock to achieve the high capacities required.

The presence of shallow rock at the eastern end of the new facility complicates pile installation. It is critical that the tips of all piles are well supported both vertically and horizontally to provide long term stability to the structure. Where rock is shallow and prevents embedment by conventional pile driving an additional fixation (key) into the rock will be required. This key will either consist of a rock socket where a hole is drilled into the rock and the pile is grouted into the hole or pre-trenching to approximately 5 feet below maximum dredge depth to provide the necessary key. If pre-trenching is used, rock removal will be by similar methods to the rock removal for dredging and an additional 1,000 cubic yards (CY) of rock removal may be required.

Where rock has been found to be shallow, a limited number of rock sockets may be used to provide additional temporary stability. Where required, rock sockets will be cored into the rock within an outer casing and the permanent pile will be inserted, driven to seat and then grouted in place. This operation is performed using a crane barge. For the remaining outshore piles on shallow rock, the tip of the piles will be grouted in place within the toe trench to maintain pile location during subsequent construction. Any grouting will be performed through a tremie pipe within confined lengths of toe trench as construction proceeds. The grout will be fully confined within the toe trench.

Following pile installation, the pipe piles will be filled with concrete. Concrete will be placed by concrete pumps operating from the shoreline with the concrete placement fully contained within the piles.

Pile Caps

Concrete pile cap beams will either be precast or cast in place depending on contractor preference. Precast pile caps will be lifted into position using a crane barge and secured by anchoring and grouting to the piles. Cast in

place pile caps would be formed using the pile installation template as temporary support and concrete would be pumped from concrete trucks positioned on the shoreline. Formwork for cast in place concrete will be made sufficiently tight to contain the concrete operation over water and will extend outside the width of the proposed beams to catch any spillage. Any spillage of concrete will be removed from formwork and disposed upland. At shallow depths, the work area can also be confined within a silt curtain to provide secondary containment. After the pile caps are complete, the pile template can be removed and relocated for the next section of the wharf.

2.3.3.6 Riprap

The newly cut side slope below the bulkhead will require protection from erosion and will be covered with a layer of riprap (Figure 2-5). Riprap will be placed in graded layers over the cut slope using a crane bucket to lower stone through the water. Lower layers will comprise smaller stone which will in turn be covered with larger approximately 18-inch stone.

2.3.3.7 Wharf Deck

Precast concrete slabs will be placed between the pile caps using cranes operating from shore and construction barges. The slabs will be secured in position and any gaps between slabs will be sealed with mortar mix. Formwork will be placed around the perimeter and a cast in place topping will be placed over the complete section of wharf deck to tie all components together. All subsequent operations including installation of utilities, fenders, bollards, crane rails, etc. will be performed from the completed section of the deck.

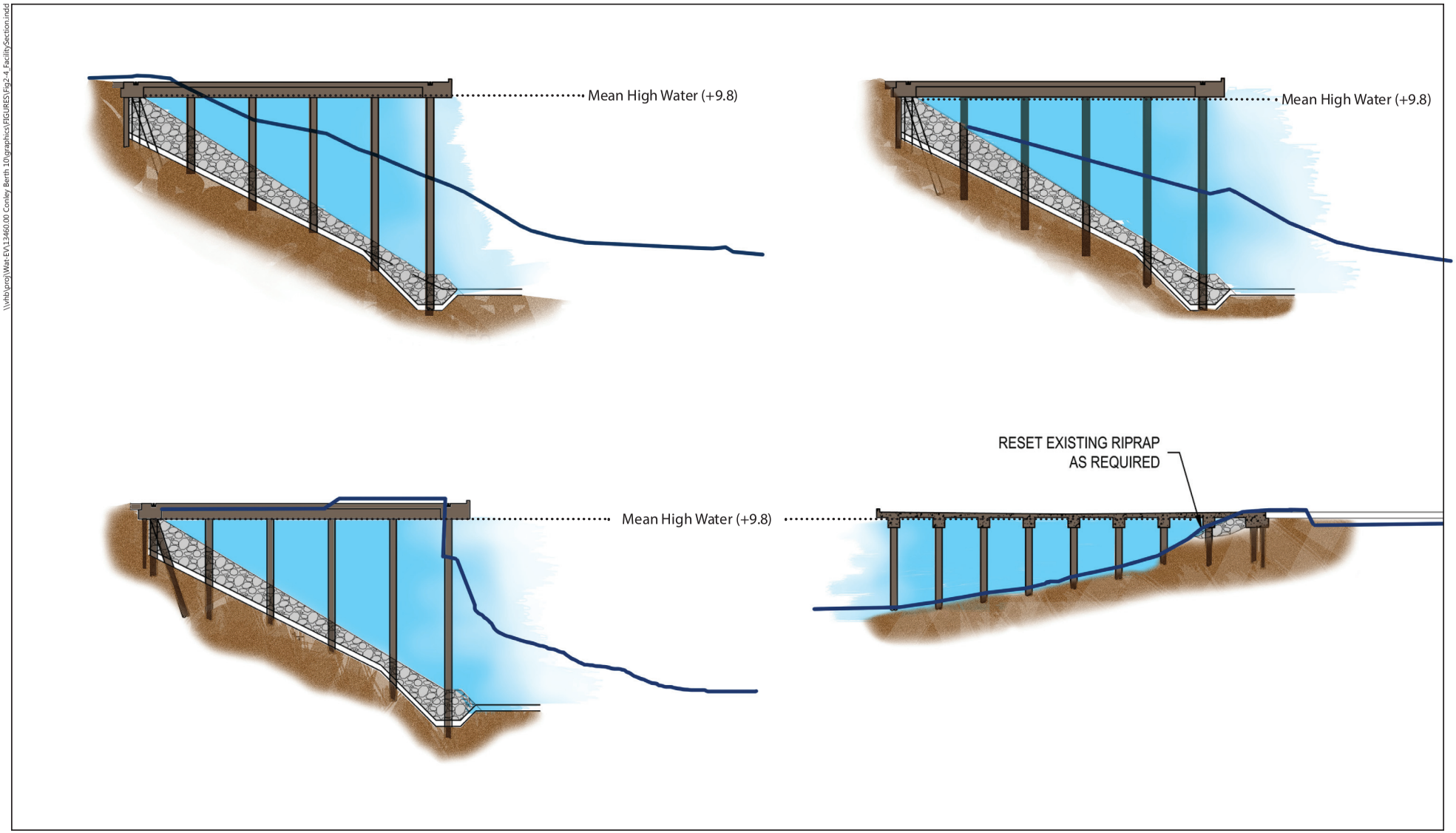

FIGURE 2-4 Proposed Berth 10, Typical Cross Sections

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Existing Substrate

Not to Scale

2.4 Alternatives Considered

A series of Berth 10 design alternatives were initially considered at higher level in an effort to define the preferred location and layout for the Berth 10 facility which were then refined as a range of structural alternatives for the selected location and layout.

2.4.1 Location and Layout

An initial higher level review of alternatives has been performed to establish the preferred location and approximate layout of a berth capable of handling container vessels in the 8,000 TEU to 12,000 TEU size range. The following alternatives have been investigated with respect to berth location and overall facility layout:

1. No-Build
2. Upgrade Existing Berths
3. Construct New Berth on former Coastal Oil Site West of Berth 11
    - Option A – Minimum Footprint
    - Option B – Expanded Footprint

2.4.1.1 No-Build Alternative

The No-Build Alternative would maintain the existing container ship facilities at Conley Terminal in Berth 11 and 12. The existing depth in Berth 11 is less than 40 feet and 45 feet at Berth 12. Existing cranes have an outreach of 150 feet and a lift height above wharf deck of 101 feet. Neither Berth 11 nor Berth 12 has sufficient depth to reliably service the larger ships which have maximum design drafts of up to 50 feet. Existing cranes have both insufficient outreach and lift height to reliably service the larger ships. The required crane outreach is a minimum of 175 feet and crane lift height is a minimum of 147 feet for 10,000 TEU ships. The No-Build Alternative is not a viable alternative for continued container ship operations at Conley Terminal as it would not allow larger ships to access and load/unload at Conley Terminal, which is necessary for the Port to remain viable in the current market. This would not deepen two berths at the Conley Terminal, which is a requirement of the previously approved BHDDNIP.

2.4.1.2 Upgrade Existing Berths 11 and 12

The Upgrade Existing Berths alternative would require significantly higher cranes with longer outreach on the existing berths than can operate proximate to Logan Airport.

Conley Terminal is in close proximity to Logan International Airport and the maximum fixed obstruction height within the terminal is severely restricted by operational and safety requirements for the Airport (Figure 1-4). The majority of Berth 11 and all of Berth 12 are within a zone with a maximum fixed obstruction elevation of 145 feet above Mean Sea Level (AMSL) which is directly equivalent to 145 feet NAVD. Areas east of Berth 12 have even lower allowable elevations, close to 80 feet AMSL.

The minimum required crane lift height for a 10,000 TEU ship is 147 feet which combined with the crane boom depth results in a minimum required overall crane height of 190 feet giving a top of crane elevation of 196 feet NAVD. This elevation is 50 feet higher than the maximum fixed obstruction elevation over the existing

container ship berths and would not be acceptable. Insufficient air space clearance is available within the existing berth footprints at Conley Terminal and upgrade of the existing berths is not a feasible alternative because it would not serve the larger ships at Conley Terminal.

2.4.1.3 Constructing New Berth

Two options were reviewed for a new ship berth on the former Coastal Oil site to the west of Berth 11. This area is also subject to airspace restrictions due to its proximity to Logan Airport. However, its location is only partially within the more restrictive Runway 22R take off zone. The more restrictive zone extends approximately 400 feet west from existing Berth 11 with maximum fixed obstruction elevations of approximately +155 feet NAVD. Beyond this zone (and for the remainder of the site) the allowable obstruction elevation increases to approximately +210 feet NAVD. The two alternatives that were developed at this location considered a new berth immediately abutting Berth 11 and a new berth extended in length to be completely outside the more restricted flight path at the end of Runway 22R.

Option A – Minimal Footprint

This alternative consists of a new wharf constructed immediately west of existing Berth 11 at Conley Terminal. The wharf is located on the former Coastal Oil site and extends approximately 1,275 feet in length from the end of Berth 11. The berthing face of the new wharf is aligned with the existing container ship berths (Berths 11 and 12) and would be provided with mooring equipment and fenders for the container ships. Dredging to a depth of 50 feet below MLLW would extend outshore of the wharf for a width of approximately 180 feet and at least 100 feet beyond the length of the new wharf. This alternative would partially block the inlet to the Boston Harbor Lobstermen's Cooperative. As design proceeds, Massport may determine that it would be prudent to relocate some of the existing slips at the Boston Harbor Lobstermen's Cooperative. Massport will evaluate that scenario and include any changes in the orientation of the floats or related bulkhead rehabilitation into the subsequent permit filings.

Three new STS cranes would be provided on the new wharf deck. The 400-foot length nearest Berth 11 is within the takeoff splay from Runway 22R and has more restricted airspace while the remainder of the berth has higher maximum fixed obstruction elevations. Two different crane heights are provided to comply with airspace limitations but also maximize crane lift height where possible. A shorter crane with a maximum top elevation of +156.4 feet NAVD is located on the first 400-foot length and two taller cranes with a maximum top elevation of +211.3 feet NAVD are located on the remaining length. The shorter crane can operate anywhere along the length of the new facility whereas the two taller cranes cannot access the eastern 400 foot portion. The shorter crane is approximately 15 feet taller that the existing cranes but has a significantly longer outreach. The two taller cranes are approximately 70 feet taller than the existing cranes and have the same longer outreach.

This alternative would require an estimated total area of dredging of 295,000 square feet with an estimated volume of 276,600 cubic yards, would fill approximately 0.5 acres of intertidal and subtidal resources, and would have an estimated total construction cost of $210 million.

Option B – Expanded Footprint

This alternative consists of a new wharf constructed in the less restricted airspace 400 feet west of existing Berth 11 at Conley Terminal (Figure 2-6). The wharf would extend across the full width of the former Coastal Oil site, and across the full width of the Lobstermen's Cove. The facility would be approximately 1,680 feet in length. The berthing face

of the new wharf would be aligned with the existing container ship berths (Berths 11 and 12) and is provided with mooring equipment and fenders for the container ships. Because this berth would be outside of the airspace restrictions, it could accommodate three taller cranes to provide full access to the larger container ships.

This alternative would eliminate any vessel navigation in and out of the Lobstermen's Cove. The portion of the facility extending across the embayment could be a pile supported concrete deck over the water but, in order to create an effective operational facility, the cove behind the new wharf would be filled for truck movement and container storage and handling in proximity to the new berth.

Dredging to a depth of 50 feet below MLLW extends outshore of the wharf for a width of approximately 180 feet and at least 100 feet beyond the length of the new wharf. In addition to the vessel berth dredging, additional deepening of the Reserved Channel is required for a length of 345 feet beyond the limit proposed in the BHDDNIP. This area is outside of the federal navigation channel, and would be the responsibility of Massport for initial dredging and future maintenance. This alternative would have an estimated total area of dredging is 515,000 square feet with an estimated volume of 500,000 cubic yards, would fill approximately 4.5 acres of intertidal and subtidal habitat, and would have an estimated cost of $240 million.

Comparison of Options A and B

Option B provides a new facility utilizing design standards for 12,000 TEU vessels. The proposed cranes would be the maximum height possible within the Logan Airport restrictions. Option A provides a functional facility for vessels up to 10,000 TEU with some limited operational restrictions. Although Option B has the major benefit of providing full unrestricted access to larger 12,000 TEU ships it has significant adverse impacts including:

- Substantially greater impacts to coastal wetland resource areas primarily associated with filling the Lobstermen's Cove (loss of over 4.5 acres of intertidal and subtidal aquatic resources);
- Would require relocating the Boston Harbor Lobstermen's Cooperative, with additional impacts to coastal resource area (as opposed to the minor changes and repairs to the Cooperative floats and adjacent bulkheads potentially necessary under Option A);
- Seventy-five percent greater dredge footprint at 515,000 square feet compared with 295,000 square feet for Option A, and almost double the volume of dredge material (500,000 CY as compared to 276,600 CY);
- Higher cost ($240M vs $210M).

Given the major adverse resource impacts and high cost, Option B cannot be justified based on anticipated vessel size. While there would be operational restrictions for occasional larger ships. Option A would minimize impacts to coastal aquatic resources and has therefore been carried forward as the proposed deepwater berth to complement Berth 11.

2.4.2 Alternatives for Bulkhead Placement

In addition to investigating alternatives for the general layout of the Berth, Massport also considered several alternatives for placement of the proposed bulkhead in relation to the shoreline (Figure 2-7). Alternative bulkhead placement options contemplated shifting the bulkhead to reduce either the volume of excavation or fill required to align the shoreline. Alternatives included:

- Option 1, Bulkhead 180 feet from berth face;
- Option 2, Bulkhead 70 feet from berth face; and
- Option 3, Bulkhead at berth face (solid fill structure).

The selected alternative seeks to balance the amount of excavation and fill to reduce the volume of contaminated soil that needs to be removed from the site, and to reduce the amount of fill placed within the waterway. The loss (fill) within regulated aquatic resource areas range from 0.5 acres (Option 1) to 4.7 acres (Option 3). The selected proposed action incorporates Bulkhead Option 1 and provides the most efficient balance of excavation and fill, which provides the lowest total environmental impact and lowest overall cost. As discussed further in Chapter 3, *Wetland and Coastal Resources*, the Proposed Project will result in a net increase in the overall watersheet, and will expand coastal habitat area in the Reserved Channel.

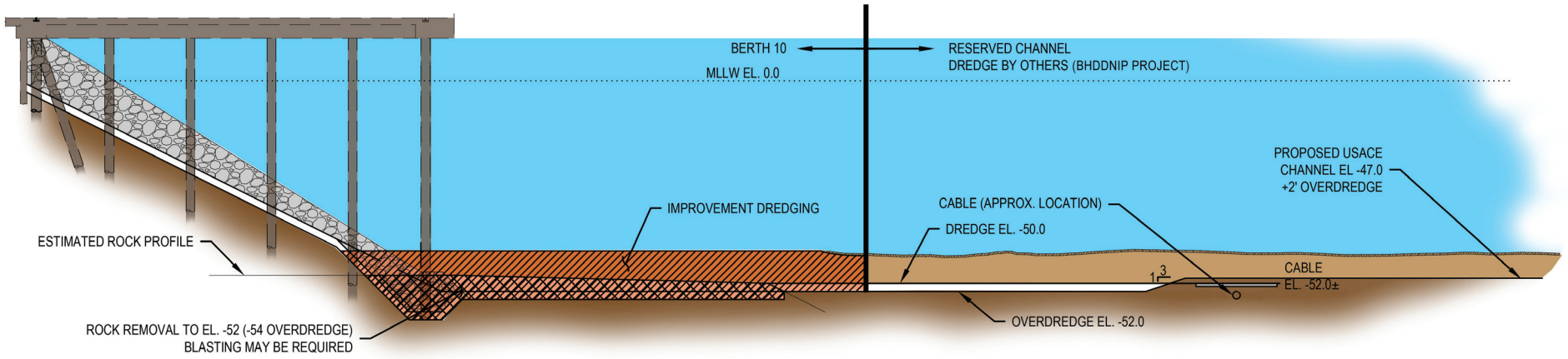

FIGURE 2-5 Berth 10 Cross Section with Typical Dredging

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Improvement Dredging - Berth 10
Rock Removal
BHDDNIP Dredging

0 100 200 Feet

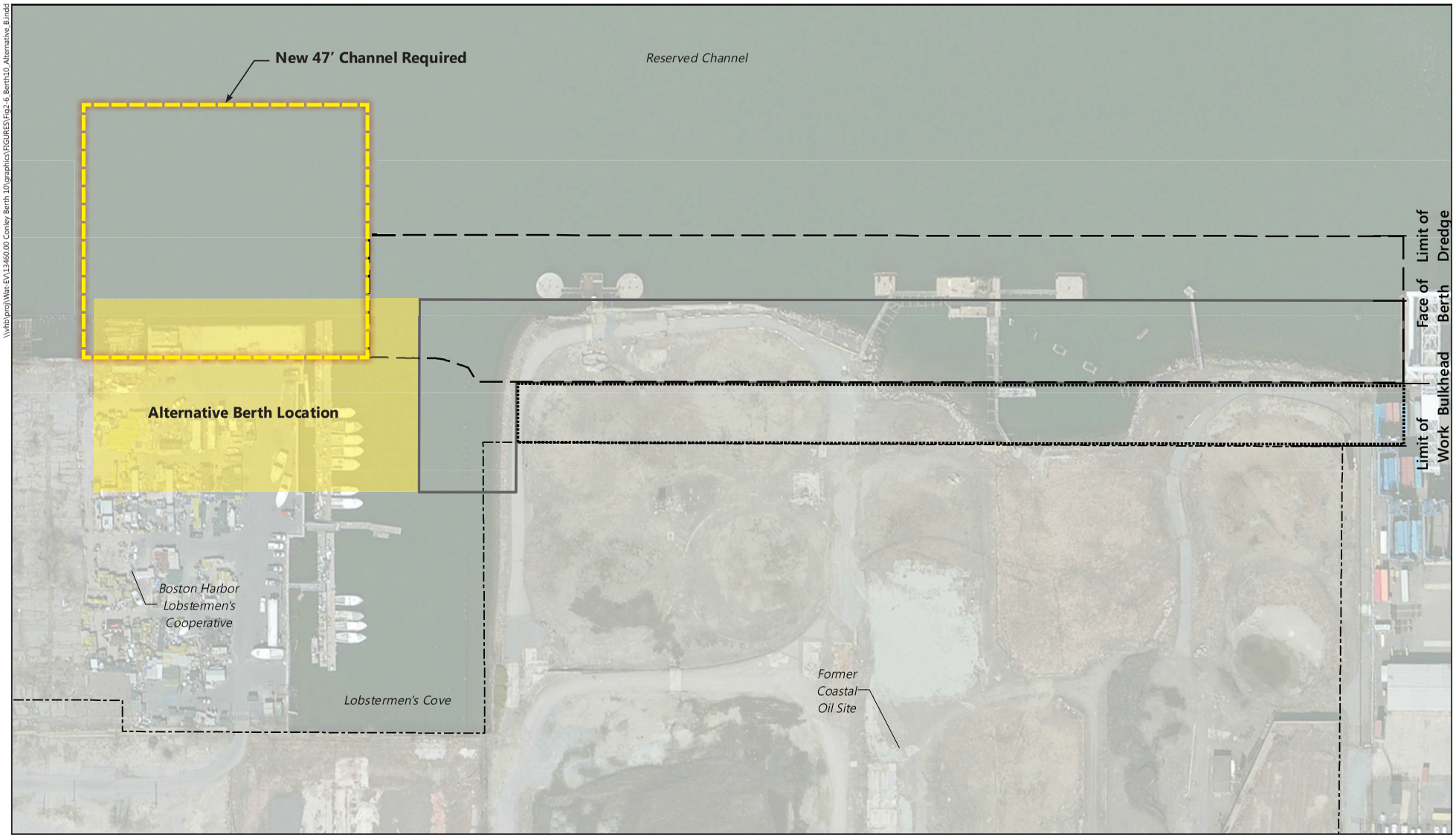

FIGURE 2-6 Berth 10 Alternative B

Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Proposed Dredging
Proposed Berth 10 Deck
Previously Reviewed Conley Terminal Improvements Project
Proposed Berth 10 Inshore Area

0 60 120 Feet

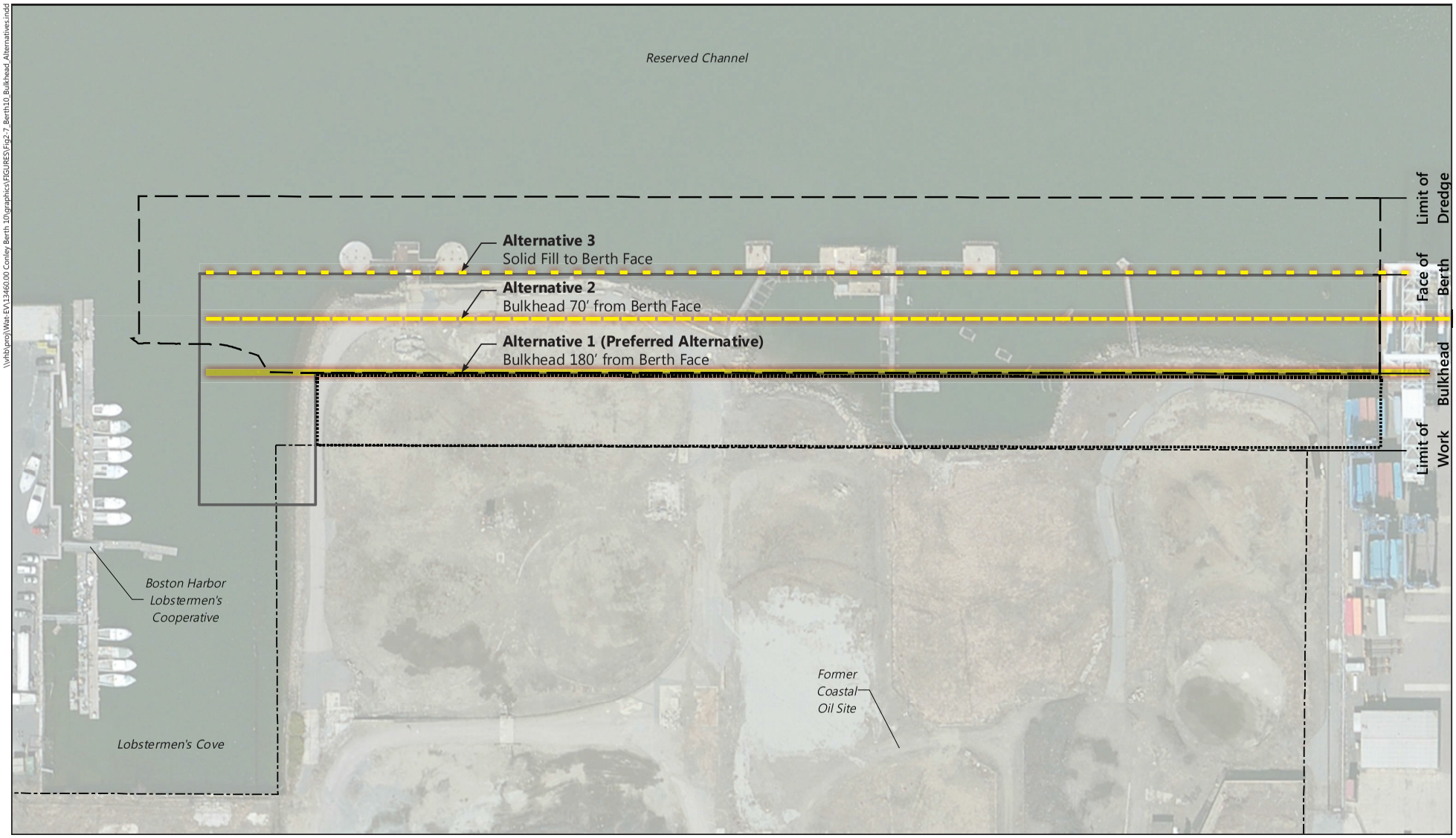

FIGURE 2-7 Berth 10 Bulkhead Alternatives

Conley Terminal Revitalization: New Berth 10 and Berth 11 Deepening Project

Proposed Dredging
Proposed Berth 10 Deck
Previously Reviewed Conley Terminal Improvements Project
Proposed Berth 10 Inshore Area

0 50 100 Feet

2.5 Sustainability, Climate Change and Sea Level Rise

The Proposed Project will follow Massport's Sustainable Design Standards and Guidelines (SDSG), and incorporate sustainable design principles as they relate to the Project Site, design, materials, energy efficiency, water use and management, and air emissions. Constructing a new berth on the Coastal Oil site is consistent with Massport's policy to develop underutilized and brownfield properties, and supports regional "smart growth" policies. In addition, the Proposed Project will be designed for climate change preparedness, rising sea levels, more frequent severe storms, and more weather events, consistent with Massport's Sustainability Policy.

The following sections describe sustainability measures adopted by the Proposed Project, and how the predicted effects of climate change and potential resiliency measures have been considered in the design of the Project. Additional details related to Massport Sustainability Policy and Port Sustainability Initiatives are provided in Chapter 1, *Introduction*.

2.5.1 Sustainability

Massport has adopted a robust suite of sustainability measures at the Conley Terminal Improvements, and will extend these sustainability measures to the Project Site:

- Continuing implementation of the Environmental Management System and ISO 14001 Certification;
- Recycling waste oil;
- Recycling fluorescent bulbs;
- Recycling specialized waste, such as batteries, tires and anti-freeze;
- Integrating environmental considerations into purchasing decisions for new equipment in accordance with Massport's Clean Truck Program;
- Installing diesel oxidation catalysts on mobile equipment to reduce air emission impacts;
- Converting yard equipment to Ultra Low Sulfur Diesel;
- Retrofitting mobile and stationary equipment to use electricity instead of fossil fuels;
- Replacing older equipment with "Green" equipment;
- Protecting new cranes from inundation in storm events;
- Continuing the truck idling reduction policy;
- Continuing participation in EPA's National Clean Diesel Funding Assistance Program described above;
- Continuing implementation of the Clean Truck Program; and
- Continuing to explore alternative adaptation measures to address sea level rise.

Additional sustainable design opportunities will be incorporated as project design progresses into Design Development and Construction Documents, especially as they relate to the proper specification of sustainable materials and construction practices including:

- Incorporating infrastructure for collection, storage and handling of recyclables;
- Including stormwater capture and re-use to conserve water resources;
- Incorporating stormwater treatment infrastructure to reduce water pollution;
- Implementing measures to reduce energy use;
- Implementing measures to reduce water use;
- Incorporating alternative and/or renewable energy systems;
- Installing LED lighting where appropriate;
- Designing a truck layover area to reduce idling;
- Installing STS power conduits and other alternative power infrastructure;
- Painting equipment to blend with sky colors;
- Alternative measures to reduce noise from equipment beacons; and
- Using non-sodium street lighting.

2.5.2 Flood Hazard

Based on the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), for Suffolk County, map number 25025C0084 (effective March 16, 2016) the majority of the Project Site is within the AE Zone of the FEMA 100-year floodplain, which indicates a 1-percent annual chance of flooding at current sea level/climate conditions. The anticipated flood elevation under current conditions during the 100-year storm is 12 feet NAVD88 for the upland portions of the Site, and 13 feet NAVD88 for the portions of the Site over the watersheet. The proposed elevation of the deck is approximately +10 NAVD88 consistent with existing berths at Conley.

2.5.3 Addressing Sea Level Rise

In November 2014, Massport began incorporating its Flood-proofing Design Guide (revised April 2015) into its capital planning and real estate development processes to ensure its infrastructure and operations are more resilient in the face of anticipated flooding threats. The guidelines must be used for new structures and are therefore applicable to the Project. The guidelines establish Design Flood Elevations (DFEs) that go above and beyond existing code requirements. For new facilities at Boston Logan International Airport and in South Boston, including the Project Site, the DFE is 17.0 feet (NAVD88).

The guidelines allow wet flood-proofing for areas that depend on close proximity to the water. Critical infrastructure, including certain electrical, water and plumbing, mechanical, telecommunications, emergency and fire, and hazardous materials must be elevated above the DFE. Massport has also established a detailed flood-proofing design implementation process intended to identify relevant issues early in the design process. Similar to the other berths in Conley, the finished deck elevation is proposed at 10 feet (NAVD88) which is 7 feet below the DFE. The deck elevation will be 6 feet above the mean high tide, and is designed to be submerged during the 100-year storm event. Therefore, wet flood-proofing will be required for the deck and associated

utilities and infrastructure to minimize damage during flood events. Electrical equipment/utilities will be elevated above the DFE grade to reduce the risk of saltwater intrusion.

2.5.4 Shore-to-Ship Power

Shore-to-ship power (SSP) is an innovative technology which allows oceangoing vessels to connect directly to the electrical grid while at berth. Ships connected to the electrical grid can turn their engines off, which reduces vessel emissions while the ship is at berth. Massport evaluated the potential benefits and potential challenges associated with implementing SSP at Conley Container, and determined that the improvements necessary to provide SSP were not practicable at this time since ships currently visiting Conley Terminal are not retrofitted to accept SSP. Challenges to SSP feasibility are summarized by the bullets below:

- Landside Infrastructure Upgrades:
  - No SSP landside infrastructure upgrades have been installed to serve Container Vessels in any East Coast Port.
- Electrical Grid Upgrades:
  - The electrical draw for one container vessel anticipated at Berth 10 (3.36 megawatts) would draw an equivalent amount of power as the largest electrical draw from a terminal at Logan International Airport (Logan Terminal C - 3.7 megawatt avg.);
  - While the electrical draw from SSP would be substantial and temporary, the capacity to provide that temporary power would need to be permanently constructed into the South Boston electrical infrastructure; and
  - The existing South Boston electrical infrastructure is currently insufficient to handle SSP electrical demand.
- Vessel Retrofits:
  - No container vessels serving the Port of Boston are retrofitted to accommodate SSP; and
  - Container vessels allocated to the Port of Boston shift on a year-to-year basis, and sometimes on a service to service basis; therefore, retrofits would be anticipated to be a continuing issue and the initial investments in vessel retrofits may be lost.

No single port on the East Coast of the United States has the ability to institute SSP successfully, because unilateral imposition of SSP on the container line industry via rate increases or technology mandates risks the loss of container business to other nearby ports without such requirements. A regional (i.e. East Coast Port) regulatory structure or a regional agreement between ports, requiring the use of the technology is necessary for SSP to be successful.

Massport will investigate the feasibility of a regional East Coast Port agreement to require the use of SSP. Massport is designing Berth 10 at Conley terminal with the conduits and vaults necessary to facilitate the installation of Shore-to-Ship power at Berth 10 once this challenge has been met.

2.6 Adjacent Projects

The Proposed Project will be implemented in the context of several independent but related projects at Conley Terminal and within the Reserved Channel (Figure 1-2). Although in close proximity, these projects are severable and provide independent utility. These projects include:

- As presented in Section 1.4.2, as part of the BHDDNIP, the USACE is authorized to dredge the Reserved Channel as maintenance and improvement dredging. The impacts of the BHDDNIP have been fully documented, reviewed, and authorized by the applicable regulatory agencies;
- As introduced in Chapter 1, *Introduction,* the DFC Project includes extending Conley Terminal onto the former Coastal Oil site, including the improvement (remediation and paving) of the former Coastal Oil site inshore of the proposed Berth 10, a ¾-mile truck haul road paralleling East First Street to remove container truck traffic from neighborhood streets, and a four-acre open space which will serve as noise and visual barrier for Conley Terminal and create a new amenity for the neighborhood. The DFC project was previously reviewed under MEPA in 2013 and is currently under construction;
- Eversource is proposing measures to protect its underwater cable within the Reserved Channel during dredging operations and the deepened channel. As of the date of this ENF, the project design was underway and permitting is forthcoming; and
- In the near future Massport will also be performing maintenance and repair to the adjacent Berth 11 and 12. The repair and maintenance of Berth 11 and 12 is necessary regardless of the need for the two deepwater berths, is not anticipated to generate any new environmental impact and does not exceed any MEPA review thresholds.

3 Wetlands and Coastal Resources

3.1 Introduction

The Project Site is located on the southern shoreline of Boston's Reserved Channel, within the former oil offloading berth of the Coastal Oil site. The Project Site contains state and federally-regulated coastal wetland resource areas, is located on filled tidelands and is within the Massachusetts Coastal Zone and the South Boston Designated Port Area (DPA). The Project Area is located within the planning boundaries for the 2000 *South Boston Waterfront District Municipal Harbor Plan (*discussed in Chapter 6, *Land Use*).

This chapter describes the Project Site's existing conditions, the Project's potential impacts and compliance with applicable state and federal regulations.

The Massachusetts Environmental Policy Act (MEPA) regulations at 301 CMR 11.03(3)(a) establish Environmental Notification Form (ENF) and Environmental Impact Review (EIR) review thresholds for projects altering state-regulated wetlands or coastal resource areas. The MEPA regulations at 301 CMR 11.03(3)(b) require an ENF and other MEPA review if required by the Secretary for projects that result in specific coastal resources impacts. This Project requires an ENF filing because it proposes to alter Coastal Bank, dredge 10,000 cubic yards or more of material, alter more than ½ acre of wetlands (land under the ocean, land subject to coastal storm flowage), new fill in a velocity zone, and construct a pile-supported structure of more than 2,000 square feet base area. The Project does not exceed any other MEPA review threshold.

While the Proposed Project is located on filled tidelands, no Waterways license is required because the water-dependent industrial activities undertaken by Massport at this facility are exempt from licensing under M.G.L. Chapter 91 by the Massachusetts Port Authority Enabling Act and the MassDEP Waterways Regulations at 310 CMR 9.03(3).[6]

3.2 Key Findings

The key findings related to wetlands and coastal resources include:

6 Massachusetts General Law, Part I, Title XIV, Chapter 91 Waterways.

- The Proposed Project would have a net beneficial effect on the Massachusetts Coastal Zone by maintaining and enhancing the capacity of the area to support water-dependent industrial activities. The expansion of operations will allow Conley Terminal to remain competitive into the future while also supporting the goals of the Massachusetts Coastal Zone Act and its associated DPA;
- The Project will expand and enhance intertidal and subtidal habitat by containing contaminated upland soils (see Chapter 8) and providing new riprap shoreline and piles. The piles and riprap offer structure for benthic invertebrates and will substantially improve the quality of the habitat by preventing further erosion from the existing site;
- The Proposed Project results in limited unavoidable temporary and permanent impacts to Land Under the Ocean, Land Subject to Tidal Action, Coastal Bank, Coastal Beach, and Land Subject to Coastal Storm Flowage to construct a pile-supported deck and associated dredging. The project will not result in any net loss of aquatic habitat;
- The Project would increase Land Under the Ocean by approximately 28,000 square feet;
- The Proposed Project requires an Order of Conditions, an Army Corps of Engineers Section 404 Permit (Individual Permit), and a Water Quality Certificate, but is exempt from licensing under M.G.L. Chapter 91 by the Massport exemption at 310 CMR 9.03(3)(a); and
- Re-use of the former Coastal Oil Site for Conley Terminal has been reviewed and approved in previous ENF for the Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open-Space (EEA No. 1503). This Proposed Project would support this redevelopment, allowing Conley Terminal to be used by larger modern vessels and ensuring continued viability and competitiveness for the Port of Boston.

3.3 Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, sec. 40)

The Project Area contains coastal wetland resources subject to protection under the Massachusetts Wetlands Protection Act (WPA) (M.G.L. Chapter 131, sec. 40) and the Massachusetts Wetlands Regulations (310 CMR 10.00). This jurisdiction, administered locally by the Boston Conservation Commission, includes the resource areas present within the Project Area:

- Land Under the Ocean
- Coastal Bank
- Land Subject to Tidal Action
- Coastal Beach
- Land Subject to Coastal Storm Flowage
- Designated Port Area

3.4 Affected Environment

The Project Site (the area in which construction would occur) is a portion of the former Coastal Oil site now owned by Massport, and a portion of the adjacent Reserved Channel (see Figure 1-1). The Project Area covers approximately eight acres on the South Boston waterfront, and the Project Area is located within the Massachusetts Coastal Zone, the South Boston DPA and contains filled tidelands.

The entire Project Site is within wetland resource areas regulated under the WPA. Portions of the site below the high tide line (HTL) are also regulated by the USACE as waters of the United States. As presented above, state and federally regulated wetlands and coastal resources within the Project Site occur within the waters of the Reserved Channel, the manmade shoreline of the former Coastal Oil site and in adjacent upland areas subject to flooding during the statistical 100-year storm event. In addition, a state-regulated 100-foot buffer zone extends from the top of the Coastal Bank along the shoreline of the Reserved Channel. State jurisdictional coastal resource areas discussed below include Land Under the Ocean, Land Subject to Tidal Action, Coastal Beach, Coastal Bank, and Land Subject to Coastal Storm Flowage. The text also explains why Rocky Intertidal Shore and Land Containing Shellfish are not present. The entirety of the site is located within the South Boston Designated Port Area. Additional information regarding these resource areas is provided in the following sections. Figure 3-1 shows the existing coastal resources within and adjacent to the Project Area.

3.4.1 Coastal Bank

According to 310 CMR 10.30, Coastal Bank is "the seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, or other wetland." Coastal Bank has a 100-foot buffer zone that extends from the upper boundary of the Bank.

The upper boundaries of Coastal Bank were delineated within the Project Site in accordance with the procedures outlined in the DEP Wetland Program Policy 92-1. Multiple profiles were developed from topographic field survey data to determine which of the five DEP Coastal Bank diagrams referenced in the Policy are representative of the Site. Within the Project Site, the top of Coastal Bank is generally located along the top of the stone rip-rap slopes, granite block banks, and seawalls of the Reserved Channel and Exelon Inlet and was defined according to Standard 4 in the Policy. Standard 4 states a "top of coastal bank will fall below the 100-yr floodplain elevation and is the point where the slope ceases to be greater than or equal to 10:1" (DEP Wetlands Program Policy 92-1: Coastal Banks).

3.4.2 Land Subject to Tidal Action

As defined at 310 CMR 10.04, Land Subject to Tidal Action means "land subject to the periodic rise and fall of a coastal water body, including spring tides."

Land Subject to Tidal Action at the site extends from Extreme Low Water (defined by NOAA as Mean Lower Low Water), at elevation 0.0 feet (MLLW datum) [5.51 feet NAVD88] to Extreme High Water (defined by NOAA as Mean Higher High Water), at elevation 10.27 feet (MLLW datum) [4.76 feet NAVD88] which occurs during spring tides. Land Subject to Tidal Action overlaps other WPA resource areas at the site and is present along the shoreline of the entire Project Site. Land Subject to Tidal Action includes the granite blocks, stone rip-rap, unconsolidated sediments, and concrete and steel structures and debris that make up the manmade shoreline.

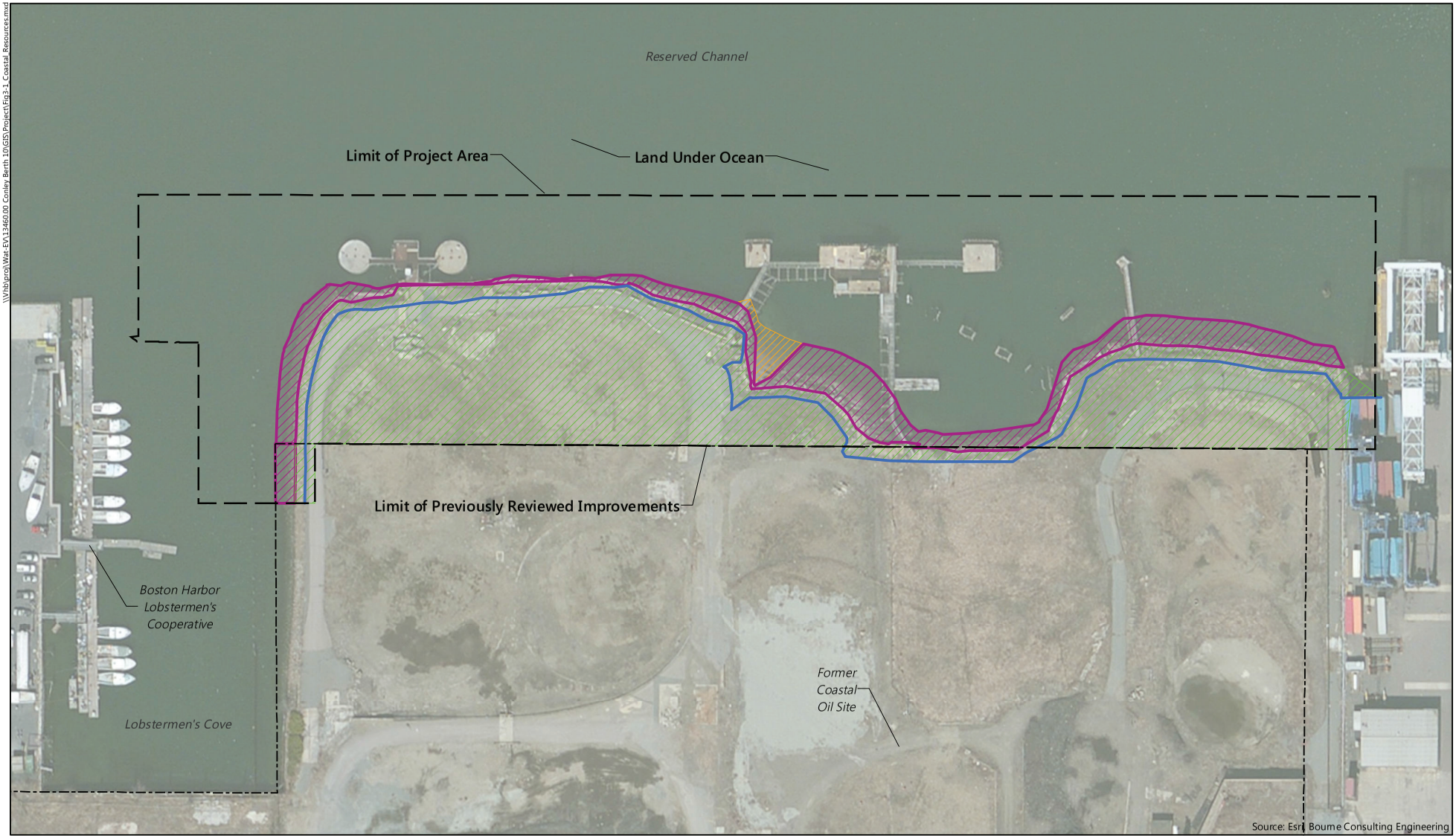

FIGURE 3-1 Berth 10 Existing Coastal Resources

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Land Subject to Coastal Storm Flowage
Coastal Beach
Land Subject to Tidal Action*
Top of Coastal Bank
Limit of Project
Previously Reviewed Conley Terminal Improvements Project

0 25 50 100 Feet

* Riprap is not naturally occuring and area does not meet definition of rocky intertidal.

3.4.3 Coastal Beach

Coastal Beach is defined at 310 CMR 10.27(2) and means "unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal Beaches extend from the mean low water line landward to the dune line, coastal bank line, or the seaward edge of existing manmade structures, when these structures replace one of the above lines, whichever is closest to the ocean." Coastal Beach has a 100-foot buffer zone extending from its edge.

Two areas that appear to meet the definition of Coastal Beach are present within the Project Site. One section is located at the shoreline of the Reserved Channel beyond the base of the steeply sloped rip-rap bank within the central portion of the former Coastal Oil site. These Coastal Beach areas do not appear to be naturally occurring and consist of stony gravel, sediment, and fill material likely eroded from adjacent manmade banks or landforms. The extent of Coastal Beach was determined at these locations as those areas with suitable substrate that extend seaward from the base of the rip-rap slope and seawall to the MLW line.

3.4.4 Rocky Intertidal Shores

As defined in 310 CMR 10.31(2), Rocky Intertidal Shores means "naturally occurring rocky areas, such as bedrock or boulder-strewn areas between the mean high water line and the mean low water line. "

According to data available from MassGIS, Rocky Intertidal Shores are mapped by MassDEP along the shoreline of the Project Site at the northern perimeter of the former Coastal Oil site. Areas exhibiting characteristics of this resource have been identified at the site as occurring within the survey-located limits of stone rip-rap that occurs from MLW to MHW along the steeply sloped banks of the site. However, since the regulatory definition of Rocky Intertidal Shores requires these areas to be naturally occurring, and the rocky shores within the Project Site are manmade filled slopes and placed rip-rap, these areas do not meet this regulatory definition and would be regulated only as Land Subject to Tidal Action, not the more ecologically significant resource area Rocky Intertidal Shores.

3.4.5 Land Containing Shellfish

As defined at 310 CMR 10.34(2), Land Containing Shellfish means "land under the ocean, tidal flats, rocky intertidal shores, salt marshes and land under salt ponds when any such land contains shellfish."

As established by 310 CMR 10.34(3), such lands are significant to the protection of land containing shellfish and to the protection of marine fisheries when they have been identified and mapped by the conservation commission or the Department in consultation with Division of Marine Fisheries or the local shellfish constable.

The most recently available Shellfish Area Classification Map[7] for Boston Inner Harbor (Growing Area Code: GBH4) produced June 28, 2013 by the Massachusetts Division of Marine Fisheries identifies the entire Reserved Channel as prohibited to shellfishing. Therefore, although mussel species (*Mytilus* sp.) were observed on rip-rap areas and other structures at the site, the Project Site does not currently contain the resource area Land Containing Shellfish.

7 http://www.mass.gov/eea/agencies/dfg/dmf/programs-and-projects/designated-shellfish-growing-areas.html

3.4.6 Land Under the Ocean

Land Under the Ocean as defined in 310 CMR 10.25 (2), is (in part), "land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries." Land Under Ocean does not have a 100-foot buffer zone.

Land Under the Ocean exists within the Reserved Channel and Exelon Inlet seaward of the mean low water line at elevation 0.34 feet (MLLW datum). Land Under the Ocean consists of unconsolidated sediments, rocky material, and debris found within the regularly submerged portion of the Reserved Channel and the inlet.

According to data maintained by MassGIS Online Data Viewer (OLIVER), the Project Site does not contain any mapped eelgrass beds, mapped shellfish suitable areas, or areas identified as anadromous fishways.

3.4.7 Land Subject to Coastal Storm Flowage

Land Subject to Coastal Storm Flowage is defined at 310 CMR 10.04 as "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 record, whichever is greater."

As presented above, the current FEMA Flood Insurance Rate Map for the City of Boston, Massachusetts, Community Panel No. 25025C0084J, dated March 16, 2016, identifies the majority of the Project Site as located within Zone AE (special flood hazard area subject to inundation by the 1% annual chance flood) at base flood elevations 12 feet and 13 feet (NAVD88).

There are no performance standards under the WPA regulations and no 100-foot buffer zone associated with Land Subject to Coastal Storm Flowage. As described in Chapter 2, the entirety of the Project has been previously developed and has historically served industrial functions.

3.4.8 Fisheries

Managed fishery resources within the Reserved Channel were determined based on information provided in Massachusetts Division of Marine Fisheries Technical Report TR-47 "Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts."[8] The report is intended to outline required TOY restrictions for managed species in coastal and nearby federal waters, and is not intended to be inclusive of all species within the coastal waters of the Commonwealth. The report identifies two species present in Boston Harbor based on recent documentation, winter flounder and horseshoe crab. Eight additional species were identified as present but not in a spawning run, and therefore not subject to TOY restrictions, including; alewife herring, blueback herring, American shad, rainbow smelt, white perch, American eel, white perch, and tomcod. Atlantic salmon and sturgeon spp. were identified as not present in the area based on best professional judgement.

Boston Harbor is within the mapped geographic area occupied by the Gulf of Maine Distinct Population Segment of the Atlantic sturgeon (listed as Threatened under the federal Endangered Species Act). The National Marine Fisheries Service (NMFS) recently issued a draft designation of Critical Habitat for this species[9]. The nearest designated Critical Habitat occurs in the lower reach of the Merrimack River. The Reserved Channel is

8 Massachusetts Division of Marine Fisheries Technical Report TR-47 "Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts," prepared in April 2011 (revised January 2015) by N. T. Evans, K. H. Ford, B. C. Chase, and J. J. Sheppard.

9 NMFS, Endangered and Threatened Species: Designation of Critical Habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments of Atlantic Sturgeon. Federal Register June 3, 2016, p. 35701.

unlikely to provide foraging habitat for this species due to the quality of the substrate and frequent occupancy by large cruise and container vessels.

3.5 Environmental Consequences and Regulatory Compliance

The construction of Berth 10 will result in temporary and permanent alteration of coastal wetland resources within and adjacent to the Reserved Channel. As presented in Chapter 2, *Proposed Project and Alternatives Considered*, impacts have been minimized to the extent feasible through a thorough analysis of design and layout alternatives. A pile-supported pier deck aligned with the existing Berth 11, and a bulkhead which balances the volume of cut and fill was ultimately selected because it offers the least environmental impact while satisfying the project goals.

The Proposed Project involves the following activities which will result in direct and unavoidable impacts to coastal and wetland resources:

- Demolishing existing pier structures described in Chapter 2, Proposed Project and Alternatives Considered;
- Aligning the shoreline which balances cut and fill to avoid encroachment into the water, including the construction of a 1,300-linear foot sheetpile bulkhead;
- Dredging approximately 185,000 square feet (classified as Land under the Ocean) to a minimum depth of 52 feet with an additional 2 feet of overdredge (overall depth 54 feet below MLLW);
- Constructing a 153,000-square foot concrete pier deck supported by approximately 900 steel pipe piles; and
- Constructing 100,500 square feet of paved upland operations area within a previously disturbed area.

Because the entire Project Site is within regulated coastal wetland resource areas, impacts are not avoidable. The majority of impacts, as described below, would constitute temporary impacts or would convert one resource area to a different type of resource. Resource area impacts associated with the Berth 10 Project are summarized in Table 3-1 below. Figure 3-2 shows the areas of impacts. Figure 3-3 shows the location of aquatic resource areas post-construction. The project will reconfigure the Land Subject to Tidal Action and, by excavating upland, increase the amount of Land Under the Ocean.

Table 3-1 Anticipated Aquatic Resource Area Alteration – Berth 10

Resource Area	Existing	Filled	Dredged/Altered	Post-Construction
Land Under Ocean	197,000 SF	11,000 SF	185,000 SF	224,200 SF
Land Subject to Tidal Action	27,880 SF	6,550 SF	21,330 SF	21,330 SF
Coastal Beach	2,170 SF	2,170 SF	0	0
Total	226,970 SF 5.2 acres	19,720 SF 0.5 acres	206,360 SF 4.7 acres	245,520 SF 5.6 acres

Additional minor impacts may occur due to increases in sedimentation and turbidity resulting from dredging and pile-driving operations. To avoid impacts on resource areas, the Proposed Project will employ a series of environmental controls to stabilize and contain sediments. Additional measures to avoid indirect impacts are discussed in greater detail in Chapter 4, *Water Quality*.

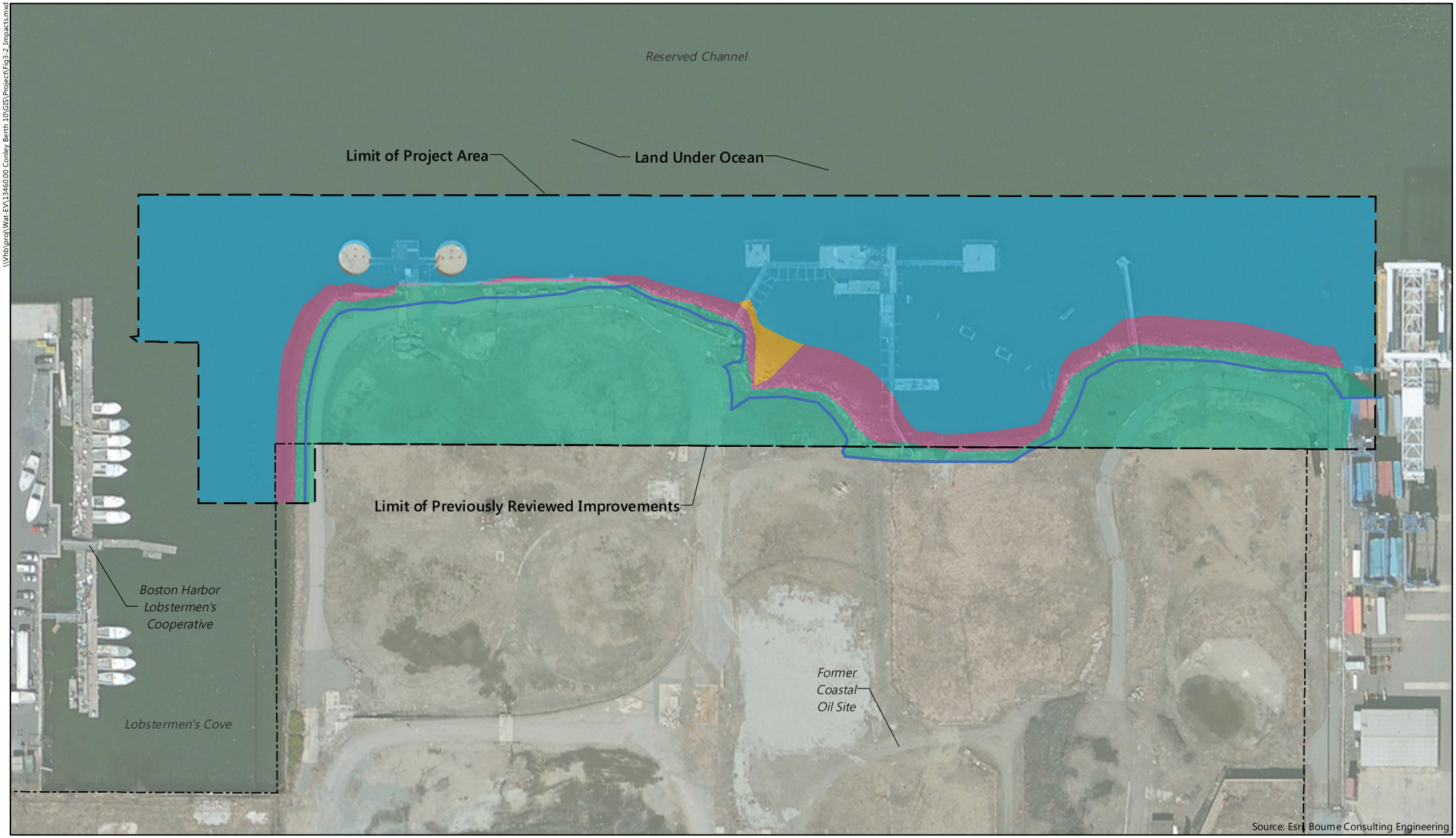

FIGURE 3-2 Berth 10 Impacts to Coastal Resources

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Land Subject to Coastal Storm Flowage
Land Subject to Tidal Action*
Top of Coastal Bank
Limit of Project
Coastal Beach
Land Under Ocean
Previously Reviewed Conley Terminal Improvements Project

0 25 50 100 Feet

* Riprap is not naturally occuring and area does not meet definition of rocky intertidal.

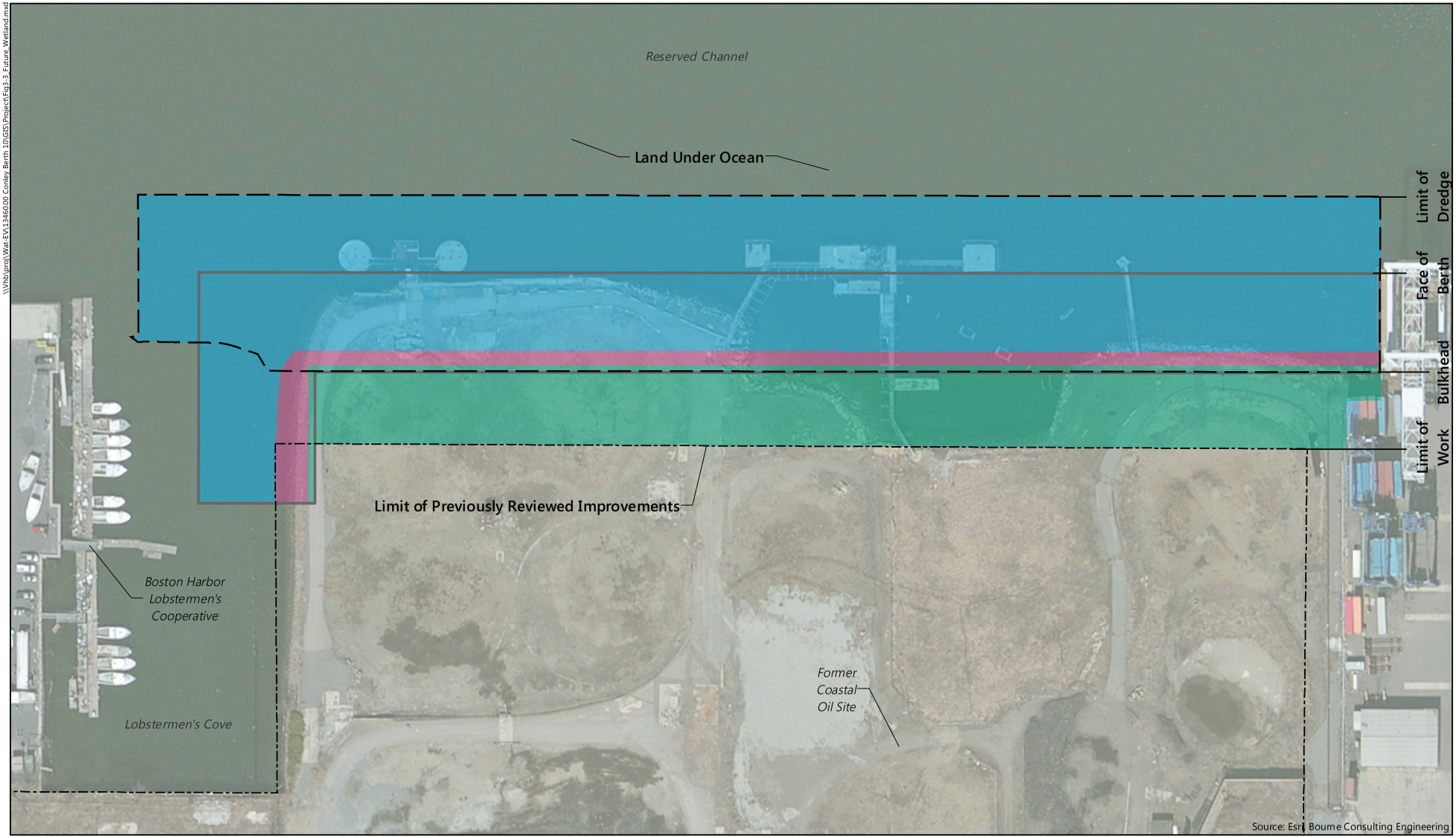

FIGURE 3-3 Berth 10 Future Wetland Resource Areas

Conley Terminal Revitalization:
New Berth 10 and Berth 11 Deepening Project

Land Subject to Coastal Storm Flowage
Land Subject to Tidal Action*
Land Under Ocean
Proposed Dredging
Proposed Berth 10
Previously Reviewed Conley Terminal Improvements Project

0 25 50 100 Feet

* Riprap is not naturally occuring and area does not meet definition of rocky intertidal.

3.5.1 Coastal Bank

The Coastal Bank within the Project Area consists of approximately 1,525 feet of filled rocky slopes, man-made coastal engineering structures, and dumped brick/concrete rubble. There are two types of coastal bank- vertical buffer and sediment source. The Coastal Bank at the Project Site is a vertical buffer but not a sediment source. The Coastal Bank is presumed to be significant to storm damage prevention and flood control because it provides vertical buffer to flood tides. The regulations at 310 CMR 10.30(6) establish the following performance standard for vertical buffer Coastal Banks:

"Any project on such coastal bank or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank."

Although the Project will alter all of the Coastal Bank present on the Site, the project design would result in a net improvement to the stability of the coastal bank and associated buffer by replacing the existing dilapidated shoreline structures with a new steel sheetpile bulkhead. The Project would improve the stability of coastal bank at the Project Site.

3.5.2 Intertidal Resource Areas

The intertidal resources within the Project Site include Coastal Beach and Land Subject to Tidal Action. The Project will alter all of the existing intertidal resource areas to construct Berth 10. The majority of these resources will be replaced with a new rip-rap intertidal slope (21,330 square feet), and 6,550 square feet will be converted to Land Under the Ocean.

The unconsolidated sediment making up the Coastal Beach is not the result of natural accretion, rather it is material that has eroded from adjacent manmade banks or landforms, and therefore is not a natural landform and not significant to the protection of the interests of the Act.

The Project would not result in an adverse effect to these resources because the majority of the Project shoreline consists of manmade structures, and is therefore unlikely to serve as a sediment source or sink for adjacent areas of Boston Harbor or the Reserved Channel. Accordingly, there is no down drift Coastal Beach. The Project will further stabilize the shoreline by providing a retaining wall and riprap.

Construction of Berth 10 will replace the existing intertidal shoreline with approximately 1,250 linear feet of stone riprap. The proposed intertidal resources will continue to contribute to storm damage prevention, flood control, and the protection of wildlife habitat.

3.5.3 Subtidal Resources

The Proposed Project will increase the overall area of Land Under the Ocean within the Reserved Channel by 28,060 square feet by constructing the Berth as a pile supported structure, and reducing fill necessary for the alignment of the shoreline. The selection of a pile-supported design minimizes the placement of structural (solid) fill within Boston Harbor and minimizes the potential for alteration of water circulation or destruction of any benthic habitat in Land Under the Ocean. The small amount of habitat lost due to deck pilings is minor (approximately 0.06 acres), and is mitigated for by the removal of fill and expansion of subtidal resources on site.

The Project will dredge approximately 185,000 square feet (4.25 acres) of Land Under the Ocean, and will fill 11,000 square feet (0.25 acres) of this resource that will be behind the proposed bulkhead.

Projects which affect Land Under the Ocean must be designed and constructed using best available measures, so as to minimize adverse effects, and if non-water dependent, have no adverse effects on marine fisheries or wildlife habitat caused by:

- Alterations in water circulation;
- Destruction of eelgrass (Zostera marina) or widgeon grass (Ruppia maritima) beds;
- Alterations in the distribution of sediment grain size;[10]
- Changes in water quality, including, but not limited to, other than natural fluctuations of dissolved oxygen, temperature or turbidity, or addition of pollutants; or
- Alterations of shallow submerged lands with high densities of polychaetes, mollusks or macrophytic algae.

The Proposed Project has been designed to not affect water circulation in the Reserved Channel, and will not affect water quality. The Project Site does not contain eelgrass or areas with high densities of polychaetes, mollusks or macrophytic algae. The proposed pilings will provide attachment substrate for benthic organisms, which is likely to improve habitat for benthic mollusks and algae.

3.5.4 Land Subject to Coastal Storm Flowage

The wetlands regulations at 310 CMR 10.00 do not contain performance standards for work in Land Subject to Coastal Storm Flowage. The Project will require construction within the entire 119,400 square feet (2.74 acres) of this resource area. Land Subject to Coastal Storm Flowage on the Project Site consists of previously-developed land that was previously part of the Coastal Oil terminal facilities. The Project will improve the site relative to existing Land Subject to Coastal Storm Flowage conditions by improving stormwater treatment, removing contaminates, and attenuating potential flooding.

3.5.5 Fisheries

The Reserved Channel is a high traffic industrial waterway bordered by industrial and commercial facilities which offers limited fishery habitat value. The overall depth of the channel, along with the limited suitable shoreline habitat limits the potential of the channel to provide suitable habitat for spawning and/or critical life stages of the species identified as present within Boston Harbor.

Notwithstanding the lack of suitable habitat, potential impacts to fisheries will further be minimized, avoided, and mitigated for through the implementation of best management practices (BMPs) and monitoring programs to ensure that the Proposed Project does not adversely impact fisheries. These efforts include using an environmental bucket to remove soft sediments, turbidity monitoring with construction management triggers to control the migration of sediment plumes, and the use of a vibratory hammer, where practicable, to limit noise and turbidity impacts for pile driving. Due to the amount of construction, particularly pile-driving, work may be necessary during the TOY restrictions for winter flounder (February 15 to June 30th) and horseshoe crabs (May 1 to June 30 for in-water work). The TOY for horseshoe crabs for beaches is not anticipated to be needed as the existing shoreline offers no habitat value to spawning horseshoe crabs, and based on trawl survey data presented in the BHDDNIP, the occurrence of horseshoe crabs in this area is limited.

10 The Project may result in temporary alterations in sediment grain size distribution due to exposure of parent material during construction

In addition to these measures, the Proposed Project will follow dredging protocols established for the BHDDNIP as practicable. Noise and shock impacts associated with blasting are anticipated to be minimal as they involve a relatively small area along the shoreline, and may use reduced size charge loads due to the proximity of the work to the existing Berth 11. As a result, the proposed construction activities for the Project will not have an adverse permanent impact on fisheries.

3.5.6 Underwater Sound

Underwater sound from construction may be a concern with respect to habitat use, behavior, or even injury to marine mammals, sea turtles, and fish. Although the Proposed Project is within a portion of Boston Harbor unlikely to be used as habitat by Atlantic Sturgeon, the NMFS considers Boston Harbor to be within the mapped geographic area occupied by this species and therefore takes a conservative approach that transient sturgeon could be foraging in any part of this geographic area. NMFS considers that underwater sound from pile-driving may cause injury to fish in proximity to pile-driving activities. As part of its Section 404/Section 10 permit application, Massport will prepare a supplemental package for submittal to NOAA, containing calculations of cumulative sound levels (cSEL) from pile driving, dredging and blasting, assumptions, proposed mitigation measures, and a description of their effectiveness.

3.6 Required Permits and Permit Compliance

The Project has been designed to comply with all applicable local state and federal permits and regulations by avoiding and minimizing potential impacts to coastal resources and mitigating impacts that are unavoidable. The following sections describe how the Proposed Project complies with each applicable regulatory program.

3.6.1 Massachusetts Wetlands Protection Act

The project would require an Order of Conditions under the WPA because construction of Berth 10 requires work which would remove, fill, dredge or alter areas subject to protection under the regulations at 310 CMR 10.00. The previous sections describe the potential work in state-regulated resource areas.

3.6.2 Water Quality Certification

The Massachusetts 401 Water Quality Certificate Program was established to meet the Commonwealth's obligations to enforce Section 401 of the Federal Clean Water Act and is implemented by MassDEP under the regulations at 314 CMR 9.00. These regulations require the state to certify that proposed discharges of dredged or fill material, dredging and dredged material disposal in waters of the United States comply with the applicable Surface Water Quality Standards and other applicable state law.

Major Dredge Project Certification will be required for the Proposed Project because constructing Berth 10 will require an individual Corps of Engineers Section 404 permit, and will dredge more than 5,000 cubic yards of material. Massport will prepare and submit a detailed application for Water Quality Certification that demonstrates that the Project will meet all applicable regulatory criteria and performance standards. Although this ENF deals specifically with the proposed new Berth 10, Massport intends to file a single Water Quality Certificate permit application for the improvement dredging associated with both Berth 10 and Berth 11.

Section 4.5.2, *Clean Water Act*, provides additional information about compliance with these regulations.

3.6.3 USACE Section 404, Section 10

The Project would require a Section 404 permit from the USACE because it would include the placement of structures, fill and dredging within navigable waters of the United States. The Project includes structures within the Exelon Inlet and the Reserved Channel and therefore requires a USACE permit under Section 10. The Project also includes removing and placing fill along the shoreline to form the bulkhead along the berth, as well as dredging, which would be regulated as fill under Section 404 of the Clean Water Act. The regulations at 33 CFR 323.3(c)(2) state that the placement of pilings in waters of the United States that do not have the effect of a discharge of fill materials and would not by themselves require a Section 404 permit.

The Project would be subject to an Individual Permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act because it involves new dredging and disposal of greater than one-half acre and greater than 10,000 cubic yards would construct a new pile-supported structure; and would include bank stabilization greater than 500 feet in length.

Massport will prepare and file an application for an Individual Permit that includes an analysis of alternatives that demonstrates that the Proposed Project is the least environmentally damaging alternative (there are no other practicable alternatives that satisfy the project purpose with less adverse impact to the marine environment); impacts have been minimized to the extent practicable; and unavoidable impacts have been mitigated through construction BMPs and the overall increase in the area of subtidal lands.

3.6.4 CZM Consistency

The Proposed Project is subject to the Massachusetts Coastal Zone Management Plan's Federal Consistency Review established under the regulations at 301 CMR 21.07 because it is geographically located in the Massachusetts Coastal Zone and requires a federal permit issued by the USACE. The regulations require the proponent to demonstrate and the Massachusetts Office of Coastal Zone Management Program to certify that projects subject to such review are consistent with the regulatory policies and management principles listed in 301 CMR 21.98.

The regulations allow CZM some discretion in the procedures for completing this review. Consistency certification can be completed upon receipt of a formal request for project review or, in the case of coverage under a USACE General Permit, during interagency consultation.

Massport anticipates that CZM would initially review and comment on the project's consistency during the MEPA process, followed by a formal Federal Consistency Certification. Table 3-2 lists each regulatory policy and management principle established by the regulations at 301 CMR 21.98, and provides a description of Project compliance with each applicable policy.

Table 3-2 Consistency with Massachusetts Coastal Zone Management Policies

MCZM Policy	Compliance
Water Quality Policy #1 – Ensure that point source discharges in or affecting the coastal zone are consistent with federally-approved state effluent limitations and water quality controls	The Project would not include any new untreated point source discharges. The stormwater management system would be designed and constructed in accordance with all applicable state and federal effluent limitations and water quality controls and be a significant improvement over current conditions. The project would be subject to review by the Boston Conservation Commission for compliance with the Massachusetts Stormwater Regulations established by 310 CMR 10.05(6)(k) and would require coverage under the U.S. EPA National Pollutant Discharge Elimination System (NPDES) for construction and operation of the facility. See *Chapter 4, Water Quality*, for a complete description of the proposed water quality controls.
Water Quality Policy # 2 – Ensure that nonpoint pollution controls promote the attainment of state surface water quality standards in the coastal zone.	The Project includes recommended stormwater Best Management Practices to ensure that non-point source pollution is minimized, which would improve run-off. As stated above the project meets all applicable standards through its compliance with the Massachusetts DEP Stormwater Management Policy and U.S. EPA NPDES Program. See *Chapter 4, Water Quality*, for a complete description of the measures designed to comply with the Massachusetts Surface Water Quality Standards.
Water Quality Policy # 3 – Ensure that activities in or affecting the coastal zone conform to applicable state requirements governing sub-surface waste discharges and sources of air and water pollution and protection of wetlands.	NA. The Project does not include any subsurface discharge of storm or sanitary flows.
Habitat Policy # 1 – Protect wetland areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eel grass beds, and freshwater wetlands for their role as natural habitats.	NA. The Project Area does not contain any salt marsh, shellfish beds, dunes, barrier beaches or freshwater wetlands. The beach identified in the Project Area is not natural.
Habitat Policy # 2 – Promote the restoration of degraded or former wetland resources in coastal areas and ensure that activities in coastal areas do not further wetland degradation but instead take advantage of opportunities to engage in wetland restoration.	The project complies with this policy through improving stormwater runoff quality and by preventing seepage of oil from the former Coastal Oil site. The project would comply fully with the Massachusetts DEP Stormwater Management Policy and the U.S. EPA NPDES Program.
Protected Areas Policy # 1 – Assure preservation, restoration and enhancement of complexes of coastal resources or regional or statewide significance through the Areas of Critical Environmental Concern (ACEC) Program.	NA. The Project Area is not located within any state-designated Area of Critical Environmental Concern (ACEC) nor is it in close enough proximity to an ACEC to cause any secondary impacts.
Protected Areas Policy # 2 – Protect state and locally designated scenic rivers and state classified scenic rivers in the coastal zone.	NA. The Reserved Channel is not a state or locally designated scenic river.
Protected Areas Policy # 3 – Review proposed developments in or near designated or registered districts or sites to ensure that the preservation intent is respected by federal, state and private activities and those potential adverse effects are minimized.	NA. The Project as proposed would not result in any adverse impact to any state-listed historic property.
Coastal Hazards Policy # 1 – Preserve, protect, restore and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms.	NA. The Project shoreline is entirely filled area and does not contain any natural coastal landforms that could provide substantial storm damage prevention or flood control.
Coastal Hazards Policy # 2 – Ensure construction in water bodies and contiguous land areas would minimize interference with water circulation and sediment transport.	The deck would be constructed on piles to minimize the placement of fill within Boston Harbor. As described in Chapter 2, the Project represents the least impactful alternative which would provide a balance of cut and fill along the shoreline, and reduce encroachment into the watersheet.

Table 3-2 Consistency with Massachusetts Coastal Zone Management Policies (Continued)

MCZM Policy	Compliance
Coastal Hazards Policy # 3 – Ensure that state and federally funded public works projects proposed for location within the coastal zone would: Not exacerbate existing hazards or damage natural buffers or other natural resources; Be reasonably safe from flood and erosion related damage; Not promote growth and development in hazard-prone or buffer areas, especially in velocity zones and Areas of Critical Environmental Concern and Not be used on Coastal Barrier Resource Units.	1. The Project would not exacerbate any existing hazard or damage any natural buffer at the site. No natural buffers exist in this developed port area and no substantial hazards exist at the site other than the presence of oil and hazardous materials at the former Coastal Oil site. The Project would permanently stabilize this area as discussed in Chapter 8. 2. The Site contains land subject to flooding during the 100-year storm or storm of record. The Project would raise the elevation of the Site to avoid inundation during coastal storm events, and may elevate critical utilities higher to minimize the potential for saltwater intrusion. 3. NA. The Project would not promote development in hazard-prone or buffer areas, velocity zones or Areas of Critical Environmental Concern because none of these coastal resources are present at the site. 4. NA. The Project does not contain any Coastal Barrier units such as salt marsh, coastal dunes or barrier beaches.
Coastal Hazards Policy # 4 – Prioritization of the use of public funds for acquisition of hazardous coastal areas.	NA. The Project would be located within Massport controlled land and the adjacent watersheet.
Ports Policy # 1 – Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity and public health.	As presented in Chapter 4, adverse impacts associated with dredging have been minimized to the greatest extent practicable, and will not have a significant adverse effect on water quality, physical processes, marine productivity or public health.
Ports Policy # 2 – Obtain the widest possible public benefit from channel dredging and ensure that Designated Port Areas and developed harbors are given highest priority in the allocation of resources.	Conley Terminal is located within a DPA, and is New England's largest full-service container terminal and the only deepwater access in the Port of Boston. The Project will protect the viability of the terminal and maintain its competitiveness by accommodating larger vessels.
Ports Policy # 3 – Preserve and enhance the capacity of Designated Port Areas (DPA) to accommodate water-dependent industrial uses and prevent the exclusion of such uses from tidelands and any other DPA lands over which an EEA agency exerts control by virtue of ownership or other legal authority.	The Project consists entirely of the construction of water-dependent industrial facilities and related transportation improvements required for Berth 10 and meets all requirements for activities within the South Boston Designated Port Area.
Energy Policy # 1 – For coastally dependent energy facilities, assess siting in alternative coastal locations, and weigh the environmental and safety impacts of locating proposed energy facilities at alternative sites.	NA. The project does not include any coastally dependent energy facilities.
Ocean Resources Policy # 1 – Support the development of sustainable aquaculture, both for commercial and enhancement (public shellfish stocking) purposes. Ensure that the review process regulating aquaculture facility sites (and access routes to those areas) protects significant ecological resources (salt marshes, dunes, beaches, barrier beaches, and salt ponds) and minimizes adverse effects on the coastal and marine environment and other water-dependent uses.	NA. The project does not include any aquaculture.

Table 3-2 Consistency with Massachusetts Coastal Zone Management Policies (Continued)

MCZM Policy	Compliance
Ocean Resources Policy # 2 – Except where such activity is prohibited by the Ocean Sanctuaries Act, the Massachusetts Ocean Management Plan, or other applicable provision of law, the extraction of oil, natural gas, or marine minerals (other than sand and gravel) in or affecting the coastal zone must protect marine resources, marine water quality, fisheries, and navigational, recreational and other uses.	NA. The project does not include any marine mineral extraction.
Ocean Resources Policy # 3 – Accommodate offshore sand and gravel extraction needs in areas and in ways that will not adversely affect marine resources, navigation, or shoreline areas due to alteration of wave direction and dynamics. Extraction of sand and gravel, when and where permitted, will be primarily for the purpose of beach nourishment or shoreline stabilization.	NA. The project does not include any offshore sand and gravel mining,

NA = Not applicable.

4 Water Quality

4.1 Introduction

This chapter identifies the impacts and benefits to water resources that may result from implementing each element of the Proposed Project. Surface and ground water resources are protected under several federal and state regulatory programs, including the federal Clean Water Act (Section 404) and the Massachusetts Clean Waters Act (MGL Chapter 21, §26 53). Other applicable regulations include the Massachusetts Section 401 Discharge Regulations (314 CMR 9.00), Groundwater Quality Standards (314 CMR 6.00), Surface Water Quality Standards (314 CMR 4.00), and Wetland Protection Regulations (310 CMR 10.00).

Although there are no specific MEPA regulatory thresholds applicable to water quality, the MEPA regulations require "a detailed description and assessment of the negative and positive potential environmental impacts of the Project and its alternatives." [11] This section provides information to document compliance with this regulation, including avoidance measures to ensure that impacts to water quality are sufficient monitored and mitigated.

4.2 Key Findings

The key findings related to Water Quality include:

- The Proposed Project would improve water quality by adding new stormwater treatment BMPs.
- The Project would provide long-term protection to water quality in the Reserved Channel and Boston Harbor by constructing a permanent impermeable barrier between the Channel and oil-containing soils on the former Coastal Oil site.
- Massport's existing Stormwater Pollution Prevention Plan (SWPPP) for the Conley Terminal, as required by the EPA NPDES Multi-Sector General Permit (MSGP)[12], would be amended to incorporate additional stormwater best management practices (BMPs) and an updated operations and maintenance plan for Berth 10.

11 301 Code of Massachusetts Regulations, Title 11.00: MEPA Regulations. Section 11.07- EIR Preparation and Filing, (6) Form and Content of EIR, (h) Assessment of Impacts. (11 CMR 11.07(6)(h)).
12 Permit MA 0000787

- The Proposed Project would be designed in compliance with the Massachusetts Stormwater Standards, and would treat and improve all runoff discharging to Boston Harbor and the Reserved Channel compared to existing conditions.
- The Project would provide site improvements that would ultimately reduce the risk of oil-impacted soil degrading marine resources.

4.3 Affected Environment

The Project Site is a previously-developed brownfield site with a mixture of broken pavement, gravel, and disturbed grassed areas. The majority of stormwater runoff from this area flows overland untreated to the Reserved Channel. There is an existing catch basin on the easterly side of the Project Site, although it is not functional. The existing stormwater management system was constructed prior to the 2008 MassDEP Stormwater Management Standards, and provides no peak flow attenuation and no stormwater quality treatment.

The Reserved Channel is part of Boston Inner Harbor, which is listed as an Impaired Water in the Massachusetts 2012 Integrated List of Waters.[13] Boston Inner Harbor is classified as Category 5, Waters Requiring a Total Maximum Daily Limit (TMDL) for *Enterococcus*, fecal coliform, dissolved oxygen, and Polychlorinated Biphenyls (PCBs) in fish tissue. The City of Boston has recently completed the Reserved Channel Sewer Separation Project which has separated the formerly combined stormwater drainage system and septic sewer systems in the Project Area, and eliminated two Combined Sewer Overflows (CSOs) in the Project Area; CSO-079, immediately adjacent to the Summer Street Bridge, and CSO-080, which discharges at the boundary between the Conley Terminal and the former Coastal Oil site.[14]

Stormwater discharges from Conley Terminal are regulated by the EPA's National Pollutant Discharge Elimination Program (NPDES) through the 2015 MSGP for stormwater discharges associated with industrial sources. Conley Terminal is also considered as a Land Use with Higher Potential Pollutant Loads (LUHPPLs) under the Stormwater Management Standards (because it is regulated under the MSGP. As required by the MSGP, Massport has implemented a Storm Water Pollution Prevention Plan (SWPPP) for the Conley Terminal.[15]

Massport and its tenants have implemented a number of BMPs to protect water quality. Many of these ongoing practices are focused on the control of pollutants at their source through education and implementation of source reduction techniques, and include:

- Annual spill, stormwater, and hazardous waste management training for Massport employees;
- Spill prevention, control and countermeasure plan implementation by Massport and tenants;
- Inspection of stormwater discharges;
- Tank management program;
- Preventative maintenance on spill response equipment and stormwater control structures; and
- Inspection of oil/water separator discharging into the storm drain system.

13 Massachusetts 2012 Integrated List of Waters: Proposed Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act.
14 http://www.bwsc.org/PROJECTS/Construction/reservedchannel/reserved.asp, accessed September 25, 2012.
15 Storm Water Pollution Prevention Plan, Paul W. Conley Container Terminal, South Boston MA. November 2015.

4.4 Environmental Consequence and Mitigation

The section describes the proposed conditions for each element of the Proposed Project based on the conceptual design, and identifies the potential long-term and short-term impacts to water quality.

4.4.1 Operational

The Proposed Project will include the installation of a stormwater management system that, as a redevelopment project, is being designed to meet or exceed MassDEP Stormwater Management Standards to the maximum extent practicable. The Conley Terminal is considered a LUHPPL and the proposed stormwater management system will meet the more stringent standards for this land use. The proposed stormwater management system will include deep sump and hooded catch basins and proprietary structures (water quality units). Deep sump and hooded catch basins and area drains are proposed to provide pre-treatment in the impervious areas of the operational area. Six water quality structures are proposed for water quality pretreatment in areas of the site where space is limited. These BMPs have been designed to remove greater than 80 percent total suspended solids (TSS) in conjunction with their associated deep sump and hooded catch basins. Overflow from the proposed BMPs will be discharged to the Reserved Channel using new outfalls.

4.4.2 Construction

Construction will be designed and sequenced to minimize the potential for the discharge of silt to the waterway. The Proposed Project will commence with installation of environmental controls around the perimeter of the site on both the landside and waterside. Silt fence and wheel wash equipment will be provided, and debris booms will be installed in the water around the proposed construction area and relocated as the work progresses. Where required and practicable, a silt curtain will be installed around in-water silt producing activities as well as across the embayment waterside of the proposed bulkhead to contain this area during bulkhead construction.

Demolition of the remaining pier and berthing structures will be one of the first elements of the Proposed Project. Timber piers and berthing structures will be dismantled, and piles will be pulled if the structures are outshore of the proposed bulkhead line. Piles inshore of the bulkhead line may be cut if they obstruct construction activities. The concrete caps on the existing dolphins will also be cut, using mechanical breakers and saws; materials will be appropriately disposed, recycled, or reused on site when possible. Steel decking will be removed and sent for recycling. The existing steel cells will be dismantled in sequence to avoid interior fill spilling out. The interior fill will be removed until interior grade elevation matches exterior grades around the cell. After removal of the fill, the steel sheetpiles will be pulled and sent for recycling. Submerged sheetpile bulkheads present on site will not be removed until the higher elevation shoreline structures (granite, concrete seawalls, etc.) have been demolished to avoid destabilization. The submerged structures will also not be removed until immediately prior to dredging operations. The steel sheetpile bulkhead will be constructed early in the project to provide containment of oil-containing soils that are to remain in the upland inshore areas of the Project Site. Oil booms and other measures will be used during construction. All construction activities will comply with the Massachusetts Contingency Plan and a Soil Management Plan (SMP) will be prepared by a Licensed Site Professional (LSP) prior to construction activities with the potential to disturb soil.

All demolition will be performed within a debris boom to contain materials within the construction area. Turbidity impacts are minimized to the extent feasible through construction sequencing which prioritizes containment of fill. A silt curtain may also be employed during portions of shoreline demolition.

4.4.2.1 Dredging

The upper layers of material to be removed consist of historic fill placed in the early 1990s to create the current shoreline with organic marine sediments underlying the fill. Lower layers below the marine sediments comprise natural soils including stratified drift (interbedded sand and clay) and glacial till over argillite bedrock. The glacial till includes dense sand and gravel but also boulders which may be too large to remove as single pieces.

The oil-containing material within the intertidal and shallow subtidal zone will be excavated using dredging techniques. The material is mostly granular fill including some larger cobbles, boulders, and other obstructions and will likely be excavated from the land using a long reach excavator or conventional clam shell bucket. The excavation will progress along the length of the site to minimize the exposed length of cut face at any one time. The excavation area will be contained using soft controls (dual containment/absorbent boom) to contain oil/sheen during excavation outshore of the bulkhead wall.

Other intertidal and subtidal dredging will be performed by a conventional dredging operation. Final disposal of the dredged material has yet to be determined and approved by the USACE but it is assumed that this project will be generally consistent with the BHDDNIP requirements. Historic fill and maintenance dredging material will be excavated and placed into a split hull scow for transport and disposal in the new CAD cell to be constructed for the BHDDNIP by the USACE. The remaining improvement dredging material will be excavated and placed in a split hull scow for transport and disposal at the Massachusetts Bay Disposal Site (MBDS) as per the suitability determination for the BHDDNIP.

Dredging will first be performed using an environmental bucket to remove soft sediments to the extent possible. Soft sediments have greater potential for suspension/sedimentation, which may result in an increase in turbidity. Turbidity impacts are minimized by the use of an environmental bucket which more effectively contains sediments. This approach is anticipated to be suitable for the previously dredged areas but a heavier conventional clamshell bucket will be required for the historic fill areas and for the harder underlying natural soils and till. These areas typically contain more compacted and/or coarse sediments which are less likely to suspend in the water column. The depth of water makes it impracticable to use a silt curtain for this stage of the project but turbidity monitoring, with associated construction-response triggers, will be performed through the dredging process to avoid potential impacts of plume migration.

4.4.2.2 Pile-driving

The piling operations will likely be staged both from crane barge and from shore to reduce long reach requirements. Installation of pipe piles, using both vibro-hammers and impact hammers, will result in minor impacts to water quality as a result of an increase in turbidity. When possible, vibro-hammers will be used as they reduce impacts to both water quality and noise.

Where rock has been found to be shallow, a limited number of rock sockets may be used to provide additional temporary stability. Where required, rock sockets will be cored into the rock within an outer casing and the permanent pile will be inserted, driven to seat and then grouted in place. This operation is performed using a

crane barge. For the remaining outshore piles on shallow rock, the tip of the piles will be grouted in place within the toe trench to maintain pile location during subsequent construction. Any grouting will be performed through a tremie pipe within confined lengths of toe trench as construction proceeds. The grout will be fully confined within the toe trench, so as to avoid potential water quality impacts.

Following pile installation, the pipe piles will be filled with concrete. Concrete placement will use concrete pumps operating from the shoreline with the concrete placement fully contained within the piles.

Concrete pile cap beams will either be precast or cast in place depending on Contractor preference. Precast pile caps will be lifted into position using a crane barge and secured by anchoring and grouting to the piles. Cast in place pile caps would be formed using the pile installation template as temporary support and concrete would be pumped from concrete trucks positioned on the shoreline. Formwork for cast in place concrete will be made sufficiently tight to contain the concrete operation over water and will extend outside the width of the proposed beams to catch any spillage. Any spillage will be removed from formwork and disposed upland. The work area can also be confined within a silt curtain to provide secondary containment.

4.5 Required Permits and Regulatory Compliance

The Proposed Project requires work within coastal wetlands as defined and regulated under the WPA and the Wetlands Protection Regulations (310 CMR 10.00), and within aquatic resources protected under the Massachusetts Water Quality Standards (310 CMR 4.00, 314 CMR 9.00) and federal Clean Water Act Section 401.

4.5.1 Massachusetts Stormwater Standards

Projects that fall under the jurisdiction of the WPA must comply with the Massachusetts Stormwater Management Standards (310 CMR 10.05(6)). The Standards define the requirements for proper stormwater management for new and redeveloped sites in Massachusetts. The stormwater management designs for all components of the Proposed Project would be refined and analyzed in the final design and permitting process to demonstrate full compliance with the Standards. Table 4-1 illustrates the Proposed Project's compliance with the ten Standards.

The Proposed Project consists of both new and redevelopment areas. The areas of new development will be in full compliance with all Stormwater Management Standards to the maximum extent possible. The areas of redevelopment will comply with the following Stormwater Management Standards to the maximum extent practicable: the pretreatment and structural best management practice requirements of Standards 4-6; and existing stormwater discharge requirements of Standard 1.

The Proposed Project will obtain coverage under the National Pollution Discharge Elimination System (NPDES) Construction General Permit. Massport's existing Stormwater Pollution Prevention Plan (SWPPP) for the Conley Terminal, as required by the EPA NPDES MSGP, would be amended to incorporate additional stormwater best management practices (BMPs) and an updated operations and maintenance plan for this Proposed Project. The SWPPP would describe potential pollutant sources on a site and dictate what BMPs must be implemented to manage stormwater and protect water quality. The SWPPP would be revised and the NPDES Notice of Intent filed before construction would begin.

Table 4-1 Compliance with MA Stormwater Standards[1]

Standard		Compliance Level Achieved
Standard 1:	No New Untreated Discharges or Erosion to Wetlands	The Proposed Project will comply with this Standard. There will be no new untreated stormwater discharges in waters of the Commonwealth, or erosion of adjacent wetlands. Stormwater from the Site will be collected and treated in accordance with the MassDEP Stormwater Management Standards and stormwater outfalls will be stabilized to prevent erosion.
Standard 2:	Peak Rate Attenuation	Standard 2 does not apply to coastal waters.
Standard 3:	Groundwater Recharge	Infiltration within the Project Site is not practicable. There are contaminated soils on the Project Site, and it is located directly adjacent to the recharge point (Reserved Channel). The majority of soils at the Project Site are classified as Urban with a hydrologic soil group (HSG) rating of D, indicating that the soils have a low infiltration capacity.
Standard 4:	Water Quality Treatment	A minimum of 80% of the average annual post-construction load of Total Suspended Solids (TSS) removal is achieved by the proposed stormwater management system. Structural stormwater BMPs include deep sump and hooded catch basins, and proprietary structure (water quality units). Source control and pollution prevention measures, such as vacuum cleaning, street sweeping, proper snow management, and stabilization of eroded surfaces, are included in the Long-Term Pollution Prevention Plan and Operation and Maintenance Plan.
Standard 5:	Land Uses with Higher Potential Pollutant Loads	Some areas of the Project may contain Land Uses with Higher Potential Pollutant Loads (LUHPPLs) as defined by MassDEP. As a cargo container hold for ships, the site will be used to store containers and provide truck access for container pick up. These land uses are classified as a LUHPPL under Standard 5 because they are regulated by the NPDES Multi-Sector General Permit Program. To mitigate the potential stormwater pollution generated by the LUHPPL, the Project includes deep sump and hooded catch basins and proprietary water quality structures. These are acceptable for treatment of a LUHPPL under Standard 5 and the proprietary structure has been accepted under the MASTEP process. No infiltration is proposed on-site, therefore the pretreatment requirements for infiltration in a LUHPPL area are not applicable. In addition to the stormwater management system, Massport will also implement source control and pollution prevention practices outlined in the Long-Term Pollution Prevention and Stormwater Operation and Maintenance Plan.
Standard 6:	Critical Areas	Full compliance would be achieved. The Project Site does not contain designated critical areas and will not discharge untreated stormwater into a sensitive resource area.
Standard 7:	Redevelopment Standards	The project is redevelopment. The following Stormwater Management Standards will be met to the maximum extent practicable: the pretreatment and structural best management practice requirements of Standards 4, 5, and 6 (see compliance summary for Standards 4, 5, and 6). Existing stormwater discharges will comply with Standard 1 to the maximum extent practicable (see compliance summary Standard 1). This project will comply with all other requirements of the Stormwater Management Standards and improve existing conditions (see compliance narratives for Standards 8, 9, and 10).
Standard 8:	Construction Period Pollution Prevention and Erosion and Sedimentation Controls	Full compliance would be achieved. The Proposed Project will obtain coverage under the National Pollution Discharge Elimination System (NPDES) Construction General Permit. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and implemented, including erosion and sediment controls, temporary and permanent stormwater management measures, waste management and disposal, spill prevention and response, etc.
Standard 9:	Operation and Maintenance Plan	Full compliance would be achieved. A post-construction Operation and Maintenance Plan has been prepared and will be implemented to ensure that stormwater management systems function as designed.
Standard 10:	Prohibition of Illicit Discharges	Full compliance would be achieved. There will be no illicit discharges to the stormwater management system associated with the Project.

1 310 CMR 10.05(6)

4.5.2 Clean Water Act

The Massachusetts 401 Water Quality Certificate Program was established to meet the Commonwealth's obligations to enforce Section 401 of the Federal Clean Water Act and is implemented by the Massachusetts DEP under the regulations at 314 CMR 9.00. These regulations require the state to certify that proposed discharges of dredged or fill material, dredging and dredged material disposal in waters of the United States comply with the applicable Surface Water Quality Standards and other applicable state law.

Water Quality Certification will be required for the Proposed Project because constructing Berth 10 will require an individual permit under the USACE Section 404 program, and will dredge more than 100 cubic yards of material. Massport will prepare and submit a detailed application for Water Quality Certification that demonstrates that the Project will meet all applicable regulatory criteria and performance standards.

Key criteria for the evaluation of Water Quality Certification include:

- No practicable alternative that would have less adverse impact on the aquatic ecosystem. As demonstrated in Section 2.4, Massport has conducted a thorough alternatives analysis and demonstrated that there are no practicable alternative to constructing a new berth capable of handling 10,000 TEU container vessels that could be constructed with less impact to marine resources. This alternatives analysis considered alternative locations, alternative berth sizes, and alternative construction methods, and concluded that the Proposed Project is the least-damaging practicable alternative that satisfies the project purpose. By constructing a permanent barrier and using solidification methods, the Project would improve the aquatic ecosystem.
- Appropriate and practicable steps will be taken to avoid and minimize adverse impacts to land under the ocean and the intertidal zone. As demonstrated in Section 2.3 and Section 4.2.2, Massport's planned excavation, dredging, fill and pile-driving will be conducted using all appropriate measures to reduce siltation and consequent short-term increases in turbidity within the Reserved Channel. Stringent measures, including containment booms, will be used during removal of any oil-containing soils or sediments.

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5 Navigation

5.1 Introduction

This chapter provides a description of the Proposed Project's impact to navigation within the Reserved Channel both during and after construction.

5.2 Key Findings

The key findings related to navigation include:

- The proposed new Berth 10 will not prevent Cruise ship transit to and from the western-most berth at Black Falcon Cruise Terminal;
- The Project will not result in any substantial change in the ability of smaller recreational and commercial vessels to transit the Reserved Channel;
- Construction of the Proposed Project will be managed to minimize impacts to navigation for all users of the Reserved Channel; and
- The proposed Berth 10 is not expected to restrict safe access to the Boston Harbor Lobstermen's Cooperative.

5.3 Affected Environment

The Reserved Channel is approximately 430 foot wide and 4,500 foot long. Current active water-related uses within the DPA are the Massport's Black Falcon Cruise Terminal and Conley Terminal, the Cardinal Medeiros docks at the Boston Harbor Lobstermen's Cooperative, Boston Police, and Boston Harbor Cruises' ferry service to Thompson Island. There is also a recreational marina (Peninsula Yacht Club) West of the Summer Street Bridge, which requires access through the Reserved Channel to Boston Harbor.

Access to the Reserved Channel for incoming container ships is achieved through the west side of the Main Ship Channel, which is currently maintained at a depth of 40 feet. The Reserved Channel is also maintained at a depth of 40 feet in the lower two thirds along Conley Terminal. The Black Falcon Cruise Terminal opposite Conley Terminal is maintained at a depth of 35 feet. Following completion of the BHDDNIP, the main channel

will be deepened to a depth of 47 feet, and the berths alongside Conley Terminal will be dredged to a depth of 50 feet. With the exception of the smallest cruise ships calling on Black Falcon Terminal, all ships entering and exiting the Reserved Channel require tug assistance.

5.4 Environmental Consequences

To ensure that navigability within the Reserved Channel is not substantially restricted by the Proposed Project, Massport, in coordination with the Boston Harbor Pilots, has completed a detailed analysis of operational limitations within the Reserved Channel. As described below, the Proposed Project will not substantially restrict operations within the Reserved Channel.

5.4.1 Operational

Operational limitations on and resulting from the Proposed Project were determined through a series of desktop, real-time, navigation simulations to ensure safe transit is feasible to the proposed Berth 10 for container ships ranging from 8,000 to 10,000 TEU[16], and that operations at adjacent facilities are not affected. The simulations considered multiple types of cruise, container, and tugs in various orientations at Conley Terminal and Black Falcon Cruise Terminal to determine the accessibility of the berths under various current and wind conditions. Wave conditions were not factored in because the limited fetch from all directions in the Reserved Channel prevents waves from building to a considerable height.

The simulations were performed by a licensed Boston Harbor pilot utilizing Transas[17] software to assess the adequacy of the Berth 10 configuration. The analysis concluded that:

- Maneuvering the design range of container ships within the USACE turning basin, through the Reserved Channel, and into Berth 10 is feasible for all the combinations examined, including scenarios with ships moored on either side of the Reserved Channel;
- Large container vessel maneuvering within the turning basin is limited by environmental conditions (primarily wind), however further analysis is required to determine the limiting operating criteria; and
- The proposed Berth 10 will not prevent cruise ship transit to and from the western most berth at Black Falcon Cruise Terminal. A channel width of over 250 feet will be maintained with the anticipated maximum class size vessels berthed at Black Falcon Cruise Terminal and Berth 10.

5.4.2 Other Commercial/Recreational Uses

Access through the Channel by smaller commercial and recreational vessels will not be substantially altered by the Proposed Project. Under the existing condition, access through the Reserved Channel is restricted when large vessels are entering or leaving the Berth for safety. Access is not restricted for vessels passing through the Reserved Channel when ships are docked, but is closely monitored by local, state and federal security authorities. The existing navigation conditions will be maintained following construction.

16 The analysis also considered potential 12,000-14,000 TEU vessels to determine if there are navigation limitations for future vessels or future expansion opportunities. Similar to navigation of 8,000 – 10,000 TEU ships, access for these larger vessels is feasible but may be restricted during conditions of high wind/current.

17 Define Transas

5.4.3 Construction

Impacts to navigation during construction are anticipated to be minimal as in-water construction activity will be limited to the footprint of the berth and adjacent dredge area. It is anticipated that multiple barges and a dredge scow will be required along the face of the berth and within the dredge footprint during construction. The remainder of the Reserved Channel would remain open for normal vessel passage, including safe access to the Boston Harbor Lobstermen's Cooperative. As the design proceeds, Massport may determine that it would be prudent to relocate some of the existing slips at the Boston Harbor Lobstermen's Cooperative. Massport will evaluate that scenario and include any changes in the orientation of the floats or related bulkhead rehabilitation into the subsequent permit filings.

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6 Land Use

6.1 Introduction

This chapter describes the existing land uses in the vicinity of the Project Area (the area in which construction would occur), and assesses impacts to land uses by components of the Proposed Project, including the new construction and dredging of Berth 10 and deepening of the adjacent Berth 11. The Proposed Project's consistency with the Massachusetts Coastal Zone Management Plan and the South Boston Designated Port Area (DPA) is discussed in *Chapter 4, Wetlands and Coastal Resources*.

6.2 Key Findings

- The Proposed Project is consistent with the goals of the *Port of Boston Economic Development Plan* (1996), the *South Boston Seaport Public Realm Plan* (1999), and the *South Boston Waterfront District Municipal Harbor Plan* (2000);
- The Proposed Project would not change the current industrial land use, and does not result in direct or indirect effects on land uses in the vicinity of the Project Area; and
- As a state entity, Massport is exempt from local zoning regulations.

6.3 Affected Environment

For the purpose of this chapter, the Project Area consists of a portion of the former Coastal Oil site now owned by Massport, a portion of the adjacent Reserved Channel. These parcels are owned by Massport. Figure 1-1 shows the existing land uses in the vicinity of the Project Area.

6.3.1 Existing Land Use Plans

This section describes the City of Boston's primary land use plans in which the Project Area locates, and how the Proposed Project supports the goals of these land use plans.

6.3.1.1 Port of Boston Economic Development Plan

Massport and the City of Boston issued a *Port of Boston Economic Development Plan* in March 1996, a comprehensive planning effort with the goal of protecting the economic viability of the Port of Boston. According to the Plan, "[Conley Terminal] represents a major investment by Massport to establish, enhance and expand public container facilities within the Port of Boston." The Plan also indicates that: "Access to the Port facilities by sea, rail and highway is essential to the survival of the seaport. The backbone of the port, the commercial shipping trade, is entirely dependent on deep water ship channels, nearby rail service, and safe and efficient truck access for intermodal cargoes, fuel oil, cruise ships, seafood distribution, and bulk commodities."

The expansion of Conley Terminal, through the construction of a new berth (Berth 10) and associated dredging, supports the overall goals of the *Port of Boston Economic Development Plan*. Primary objectives of the Plan include: promoting and encouraging the development of the seaport economy; maintaining maritime industrial jobs and preserving essential port properties for active maritime uses; and providing the waterside and landside public infrastructure to support the future growth of the industrial seaport.

6.3.1.2 The Seaport Public Realm Plan

The Boston Redevelopment Authority (BRA) published the *South Boston Seaport Public Realm Plan* in 1999, as the primary framework for future waterfront development in the area. According to the BRA, "the Plan was developed to ensure that this emerging district would provide not only a place for business expansion and job opportunities, but also an accessible waterfront, an attractive open space network, active civic uses, new places to live, a strong urban design character and convenient system of public transit." This Plan is the primary comprehensive plan covering the Proposed Project Area.

The goals of the Seaport Plan are to:

- Promote Boston Harbor as a shared natural resource;
- Preserve and enhance the industrial port;
- Plan the Seaport as a vital, mixed use neighborhood; and
- Develop the Seaport as an integral part of Boston's economy.

The City of Boston is currently implementing the Plan through the Municipal Harbor Plan to the Commonwealth of Massachusetts under the Chapter 91 Waterways program; the development of new zoning regulations for the port areas; and the review of proposed development projects under the BRA's development review procedures (Article 80). In preserving and enhancing the industrial port, the Seaport Plan notes that the "Plan must protect the Port and its boundaries, including the provision of adequate buffers between new uses and existing industrial ones, and of convenient truck movement in and out of the Port."

6.3.1.3 South Boston Waterfront District Municipal Harbor Plan

In 2000, the BRA issued the *South Boston Waterfront District Municipal Harbor Plan*, which was built upon the S*eaport Public Realm Plan* to create a vision for the South Boston Waterfront and defines a framework for future development. One of the primary goals of the Plan is to "preserve and enhance the industrial port and balance the growth of mixed use and recreational activity along Boston Harbor with the needs of maritime commerce."

Since 2000, there have been subsequent amendments to the Municipal Harbor Plan, which affect the Fort Point Channel Area, but not specifically to the Project Area, which is the focus of this ENF.

6.3.2 Former Coastal Oil Site

This approximately 30-acre industrial property is currently owned by Massport. The site operated as a petroleum receiving and distribution terminal from 1899 to 2000[18]. Massport purchased the site in 2008 from El Paso Energy with the intention of expanding Conley Terminal container operations. It is a vacant brownfield site that was formerly owned by the Coastal Oil Company and in heavy industrial and port use since 1937. The site is now actively undergoing remediation. The site area is enclosed with a chain link fence and includes vacant land, concrete pavement, and wall structures. The proposed redevelopment of this site was included as part of the plans of Conley Terminal expansion, presented in the Environmental Notification Form (ENF) for the *Conley Terminal Improvements, Dedicated Freight Corridor, and Buffer Open Space*.

6.3.3 Boston Harbor Lobstermen's Cooperative

Formerly known as the "DCR Parcel," this industrial site's ownership was transferred from the Department of Conservation and Recreation to Massport and designated as the Designated Port Area Parcel in 2010, pursuant of Article 97 Land Disposition Policy. The parcel is largely vacant but a 2.2-acre area in the northeast portion of the site is leased to the Boston Harbor Lobstermen's Cooperative. Members of the cooperative use the Cardinal Medeiros boat dock on the Reserved Channel. A road to East First Street is used by lobster fishermen for access to the site. Upon completion of Massport's Dedicated Freight Corridor construction, access will be provided from the DFC.

6.4 Environmental Consequences

The proposed Berth 10 is located on the former Coastal Oil site. Although Massport is exempt from local zoning regulations as a state entity, the redevelopment of this site is consistent with the site's zoning within the South Boston Maritime Economic Reserve (MER) subdistrict. The Proposed Project does not have any direct or indirect effects on land uses. The redevelopment of this former industrial site and berth would also help revitalize the currently vacant industrial site for productive use as a port use, which is consistent with the goals and objectives laid out in the *Port of Boston Economic Development Plan* and the *Seaport Public Realm Plan*.

6.5 Summary

The Proposed Project at Conley Terminal would not change the current industrial land use within, and does not introduce new uses, to the Project Area. The redevelopment of the former Coastal Oil site for port uses, which is a brownfield and currently vacant, have already been reviewed and approved in the prior DFC ENF. This Proposed Project will support such redevelopment, as well as the long-term economic viability and competitiveness of Conley Terminal by allowing access for larger container vessels. It would enhance the usefulness of the land. The construction of a new container ship berth (Berth 10) has been determined as consistent with state regulations specifically intended to support maritime use in this area, consistent with CZM

18 http://www.geiconsultants.com/stuff/contentmgr/files/0/8799cedf1516ca0d104a5ff3b0f3ad7b/download/former_coastal_oil_of_ne_terminal.pdf

policies, and supportive of the industrial waterfront uses. The Proposed Project is also consistent in supporting the goals and objectives related to the preservation and enhancement of the industrial waterfront in the *Port of Boston Economic Development Plan,* the *South Boston Seaport Public Realm Plan, and* the *South Boston Waterfront District Municipal Harbor Plan*.

7 Hazardous Materials

7.1 Introduction

The Massachusetts Environmental Policy Act (MEPA) Regulations require certain information to be addressed in an Environmental Notification Form (ENF), including information on any portion of the Project Area that has been or is currently being regulated under the Massachusetts Contingency Plan (MCP). In addition, an ENF requires that the proponent identify any Activity and Use Limitations (AULs) and Reportable Conditions or ASTM Recognized Environmental Conditions (RECs) that have not been assigned a Release Tracking Number (RTN). Additional information required in an ENF includes whether a project will generate solid waste (for example, during demolition or construction), as well as a description of alternatives considered for re-use, recycling, and disposal.

7.2 Key Findings

- Part of the Project Area is within the boundary of the former Coastal Oil site, RTN 3 0257, now owned by Massport. This site is currently in compliance with the MCP;
- The Project Area is within the boundary of an AUL and all work will be conducted in accordance with the terms of the AUL;
- Excavation of the shoreline necessary to construct Berth 10 and stabilize the shoreline slope may result in exposing a "fresh face" of oily soil or residual Light Non-Aqueous Phase Liquid (LNAPL). This "fresh face" of oily soil or residual LNAPL will be contained by a two-part system consisting of the steel sheetpile bulkhead and solidification of the soil behind the bulkhead by In-Situ Solidification or similar method;
- Construction in the Project Area will entail excavation and dredging of oil impacted soils and sediment that will require using soft controls (dual containment/absorbent boom) to contain oil/sheen during excavation outshore of the bulkhead wall; and
- Construction in the Project Area will generate excess contaminated soil, which will either be re-used on-site or would require off-site disposal.

The likely benefits of the Project include:

- Reduction of the amount of contaminated soil at the former Coastal Oil site;
- Remediation strategies will eliminate the occurrence of oil sheens in the Reserved Channel; and
- Further stabilized LNAPL will contribute to a Permanent Solution for the Site.

7.3 Affected Environment

The Project Area is approximately eight acres and located on the northern water-side length of the former Coastal Oil property adjacent to the Reserved Channel. The former Coastal Oil site is a nearly square approximately 30-acre parcel owned by Massport. The property is filled land and was used as a petroleum receiving and distribution terminal. Operations ceased in 2000 and all tanks associated with the former facility were removed and all associated piping was either removed or cleaned and abandoned in place. It is a Massachusetts Contingency Plan (MCP) site (RTN 3-00257). Residual petroleum contamination and LNAPL remain in the ground. In 2015, a Partial Permanent Solution with Conditions was prepared for the site, bringing most of the property to regulatory closure. An AUL was placed on the site identifying the presence of residual petroleum contamination and soil management requirements.

The Project Area has an extensive history of industrial and commercial use and consequently has been the location of several releases of oil and hazardous materials (OHM). This section describes the nature of these releases and the actions taken to address them.

7.3.1 Methodology

The information presented is based on the following resources:

- "Phase IV Final Inspection Report and Completion Statement, Partial Permanent Solution with Conditions and Activity and Use Limitation, Portion of Former CONE Terminal, RTN #3-0257, 900 East First Street, South Boston, Massachusetts," Prepared by GEI Consultants, December 23, 2015;
- "Phase II Comprehensive Site Assessment, Addendum #3, Reserved Channel Assessment, Coastal Oil New England, Inc., South Boston, Massachusetts, (RTN#3 0257), Tier 1B Permit #83041," Prepared by Ambient Engineering, Inc., July 2001;
- "Phase I Initial Site Investigation and Tier Classification, former DCR parcel, 696 Rear East First Street, South Boston," prepared by GEI, dated May 29, 2015;
- "Site and Subsurface Exploration Location Plan and Subsurface Profiles," Prepared by Haley & Aldrich (H&A), November 2006; and
- Site knowledge of current environmental consultant for the former Coastal Oil Site, and the Dedicated Freight Corridor (DFC) by GEI Consultants of Woburn, Massachusetts.

7.3.2 Regulatory Context

In the Commonwealth of Massachusetts, the management of hazardous substances and petroleum products when released into the environment is generally governed by the MCP. Hazardous substances include oil, hazardous material, and hazardous waste and are defined as those substances that may constitute a present or potential threat to human health, safety, public welfare, or the environment.

Hazardous materials, as defined in section 310 CMR 40.0006 of the MCP, include "any material in whatever form which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed."

According to section 310 CMR 40.0006 of the MCP, hazardous wastes are waste materials which because of their "quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to an increase in serious irreversible, or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety, public welfare, or the environment when improperly treated, stored, transported, used or disposed of, or otherwise managed." Oil includes "insoluble or partially soluble oils of any kind or origin or in any form, including, without limitation, crude or fuel oils, lube oil or sludge, asphalt, insoluble or partially insoluble derivatives of mineral, animal or vegetable oils, and white oil."

When a hazardous substance impacts (or has the potential to impact) an environmental medium, then a release (or threat of release) of OHM is said to occur or be present. According to the MCP, a "release" is defined as "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment." A threat of release "means a substantial likelihood of a release of OHM which requires action to prevent or mitigate damage of health, safety, public welfare, or the environment which may result from the release."

Properties with confirmed OHM impacts are generally managed in accordance with the MCP and associated policies or guidance issued by MassDEP.

7.3.3 Former Coastal Oil Site

The former Coastal Oil was operated as a petroleum bulk storage and transfer facility between 1937 and 2000. The site mainly consists of filled tidal flats which was completed in the early 1900s.

The site predominantly stored No. 2 and No. 6 fuel oil; however, kerosene, jet fuel, gasoline, and molasses were also historically stored at the property. Petroleum receiving and distribution operations ceased in 2000 and all tanks associated with the site have been removed and all associated piping has been either cleaned and abandoned or removed.

7.3.3.1 RTNs

The former Coastal Oil site, a listed MCP site (RTN 3-0257), is divided into two portions. The 900 East First Street property, referred to as the "On-Terminal" area comprises the northern portion of the disposal site, including the Berth 10 Project Area. The remainder of the disposal site is referred to as the "Off-Terminal" area and is located to the south across the street at 935 East First Street. Massport acquired the On-Terminal property in 2008 and took responsibility for response action for the On-Terminal property at that time. Coastal Oil Company retains responsibility for the Off-Terminal portion of the property under the MCP. The site was originally reported to MassDEP in January 1987 due to a release of petroleum hydrocarbon compounds. Petroleum contaminated soil and LNAPL consisting of No. 2, No. 4, and No. 6 fuel oil were identified throughout the Site.

Contaminants at the On-Terminal Site include LNAPL, extractable petroleum hydrocarbons (EPH) including PAHs, volatile petroleum hydrocarbons (VPH), asbestos, and metals, particularly, arsenic, and lead. The

LNAPL, EPH including PAHs, and VPH can be attributed to the former bulk storage operations. Residual petroleum contamination and LNAPL remain in the ground. The PAHs (not associated with the petroleum release) and metals can be attributed to the historic fill. Shallower soil, up to 8 feet deep, is generally urban fill and is not petroleum-contaminated.

Since 1993, significant investigation and remedial activities have been conducted at the On-Terminal property. Phase I through IV and Remedy Operations Status (ROS). Remedial activities included:

- Installing a multi-phase extraction (MPE) system;
- Constructing biopiles to treat soil not remediated by the MPE system;
- Shutting down the MPE system when it became apparent that it was no longer effectively recovering LNAPL;
- Retrofitting the MPE system for use as a bioventing system;
- Automated and manual recovery of LNAPL from selected monitoring and recovery wells;
- Solidification of residual LNAPL-impacted soil;
- Excavation and offsite disposal of petroleum impacted soil including targeted excavation of soil at a hot spot;
- Capping or removing surface soil, identified as containing more than 1 percent asbestos;
- Capping portions of the On-Terminal property with 3 feet of soil suitable for park use or roadway pavement; and
- Placing an AUL on the entire On-Terminal property.

In 2015, a Partial Permanent Solution with Conditions was prepared for the On-Terminal Site bringing most of the property to regulatory closure. The Project Area is located on the northern portion of the On-Terminal Site and is within boundaries of the Partial Permanent Solution and the AUL. Residual petroleum contamination is present in the Project Area and residual LNAPL is present through the On-Terminal Site. On-going NAPL gauging and recovery is occurring on the portion of the Site that has not yet attained a Permanent Solution.

In March 1994, Immediate Response Action (IRA) activities were undertaken in the northwest corner of the On-Terminal property due to an intermittent sheen entering the Reserved Channel. The sheen was usually present on surface water at low to mid tides when water seeped out through cracks between the stone blocks of the retaining wall. Oil impacted soil was excavated from behind the retaining wall; however the seep persisted. To intercept the sheen material that seeped from the retaining wall, an inner absorbent boom and an outer containment boom were installed in the water next to the retaining wall. By 2011 sheen was no longer observed seeping into the Reserved Channel and the containment and absorbent boom materials were removed and stored on-site if it became necessary to redeploy. In June 2011, the IRA was closed after the IRA condition had been stabilized and the Phase IV RIP was modified to incorporate ongoing monitoring of the northwest corner as part of ROS activities.

Two former above ground storage tanks (AST) (Tanks 32 and 33) were located within the western portion of the footprint of the proposed Berth 10 and Tank 26 was located near the eastern portion of the footprint. In addition to wide spread residual oil contamination in the Project Area, excavation of the shoreline necessary to construct Berth 10 and stabilize the shoreline slope may result in exposing a “fresh face” of oily soil or residual LNAPL.

The potential exists to create oil sheens on surface water during construction or a permanent condition that could continue to release oil and sheen into the Reserved Channel.

7.3.3.2 Partial Permanent Solution and AUL

In 2015, an AUL was placed on the property identifying the presence of residual petroleum contamination and soil management requirements. The Project Area is within the AUL boundary. The following is a summary of the uses permitted under the AUL which are applicable to the Project Area:

- Commercial and industrial activities and uses including, port operations, manufacturing, assembling, container storage, storage, warehousing, and distribution uses and all activities customarily incidental thereto;
- Improvements, demolition, construction of buildings or other structures, such as, but not limited to, cranes and berths;
- Construction of new buildings, provided that an LSP evaluates the potential for vapor intrusion in the proposed building; and
- Emergency underground utility repair.

The following are conditions that need to be met to maintain a condition of No Significant Risk in the Project Area:

- A Health and Safety Plan (HASP) must be prepared and implemented prior to commencement of any subsurface activities except emergency repair of underground utilities or work performed in clean utility corridors;
- An SMP shall be prepared by an LSP and implemented prior to the commencement of any planned (non-emergency) utility installation, repair or maintenance activity, or any construction activity, which is likely to disturb or encounter soil. The SMP shall be prepared in accordance with the MCP (310 CMR 40.0030). The SMP should describe soil excavation, handling, storage, transport, and disposal procedures and include a description of engineering controls and air monitoring procedures necessary to ensure that on-site workers and receptors in the vicinity are not affected by volatile organic compounds or fugitive dust or particles. Procedures for managing water encountered in the excavation should also be addressed in the SMP. On-site workers need to be informed of the requirements in the SMP. Procedures for the characterization of waste and procedures for proper transportation and disposal are outlined in 310 CMR 40.0030;
- An evaluation by an LSP for the presence of LNAPL is required for activities that disturb or have the potential to disturb soil located beneath NGVD elevation 7.8; and
- Designs for new construction and building improvements shall be reviewed by an LSP for the potential for vapor intrusion from LNAPL, soil, and groundwater to indoor air.

Because of the AUL on the On-Terminal property, construction of Berth 10 will need to be conducted as a Release Abatement Measure (RAM) pursuant to the MCP and the AUL provisions discussed above will apply to the work. The RAM will need to include a SMP consistent with the requirements of the AUL.

7.3.4 Summary of Potential Sources of Contaminated Soil or Groundwater

Contaminated soil and groundwater is expected to be encountered throughout the Project Area. The primary contaminants that may be encountered in soil are LNAPL, EPH, PAHs, and metals. The primary contaminants that may be encountered in groundwater are LNAPL and EPH.

Excavation of the shorelines necessary to construct the berth and stabilize the shoreline slope may result in exposing a "fresh face" of oily soil or residual LNAPL. This oily soil or LNAPL has the potential to create oil sheens during construction and a permanent condition that could continue to release oil and sheen into the Reserved Channel.

Excess soil and sediments will be generated from shoreline excavation and dredging. Excess soil from the upper above approximately Mean Lower Low Water (MLLW) elevation +10 will likely be urban fill that is not oil impacted. Oil impacted soils are typically between + 10 MLLW and -5 MLLW. Soils below -5 MLLW are not expected to be oil contaminated but will be fill or natural materials.

7.4 Environmental Consequences

This section discusses the potential for encountering contaminated soils or groundwater that may affect construction costs or schedule in the Berth 10 Project Area.

The construction of Berth 10 on the former Coastal Oil site is part of an overall plan for improvements of Conley Terminal. The Proposed Project's benefits, as it pertains to hazardous materials, include:

- Redevelopment of a contaminated brownfield site into critical maritime infrastructure;
- Reduction of the amount of contaminated soil remaining at the former Coastal Oil site; and
- Solidification of oil impacted soils behind the bulkhead creating a cutoff wall and precluding future LNAPL migration and oil sheens in the Reserved Channel.

7.4.1 Bulkhead Construction and Soil Treatment

The steel sheetpile bulkhead will be constructed along the entire length of the berth, including the embayment area. The steel sheetpile bulkhead will be constructed early in the project to provide containment of oil-contaminated soils remaining in the upland inshore areas of the Project Area. This containment will be strengthened by either providing a slurry wall or performing ISS of the oil-contaminated soil immediately behind the sheetpile bulkhead. ISS reduces the mobility of hazardous substances and contaminants in the environment by immobilizing the contaminants within the soils through chemical or physical treatment. ISS uses heavy construction equipment (typically auger or paddle rigs or excavators) to inject and mix Portland cement additive into the soil matrix. The process is repeated in overlapping sections to encapsulate the contaminants in a solidified mass. Solidification of the soils in the ISS area to a depth of approximately 20 feet would effectively create a cutoff wall and preclude future NAPL migration to the Reserved Channel. A slurry wall would provide the same cutoff barrier by filling the area around the sheetpile with an impermeable cement/bentonite slurry.

7.4.2 Excavation

The Project Area is located on the northern portion of the former Coastal Oil parcel, and the primary potential contaminants of concern (COCs) are petroleum, PAHs, lead, and LNAPL. In addition to oil contaminated soil, historic fill containing PAHs and metals will be also excavated. The historic fill above the oil contaminated soil will be excavated "in the dry" by conventional land-based excavator and placed in stockpiles or directly into trucks for on-site reuse or off-site reuse/disposal. The existing soils on site below the historic fill have varying degrees and depths of oil contamination. The oil contaminated material within the intertidal and shallow subtidal zone will be excavated using dredging techniques. The material is mostly granular fill including some larger cobbles, boulders, and other obstructions and will likely be excavated using a long reach excavator or conventional clam shell bucket. The excavation will progress along the length of the site to minimize the exposed length of cut face at any one time. The excavation area will be contained using soft controls (dual containment/absorbent boom) to contain oil/sheen during excavation outshore of the bulkhead wall.

Oil contaminated soil, that meets requirements for reuse at the site, may be placed in the embayment to be stabilized or placed into a contained upland area, or into a scow barge for offsite disposal. Dewatering effluent from the excavated material in the contained area or barge will be captured and treated to remove oil prior to discharge to the Reserved Channel under a NPDES Remediation General Permit (RGP) or recharged on-site.

7.4.3 Dredging

Following completion of the new bulkhead and removal of the oil contaminated soil outshore of the new bulkhead, the remaining material to the proposed cut profile will be dredged. Dredging will be performed with an environmental bucket to the extent feasible. The dredging will be consistent with the BHDDNIP.

Final disposal of the dredged material has yet to be determined and approved by the USACE but it is assumed that this project will be generally consistent with the BHDDNIP. Historic fill and maintenance dredging material will be excavated and placed into a split hull scow for transport and disposal in the new CAD cell to be constructed for the BHDDNIP by USACE. The remaining improvement dredging material will be excavated and placed in a split hull scow for transport and disposal at the Massachusetts Bay Disposal Site as per the suitability determination for the BHDDNIP.

7.5 Mitigation Measures

OHM will be encountered during the construction of Berth 10. Engineering controls will be put in place for the protection of human health and the surrounding environment, including the Reserved Channel. These controls will include dredging with an environmental bucket (to the extent feasible), turbidity controls, booms to contain oil sheen, upland impoundments for oil contaminated soils, air monitoring, dust control, stormwater runoff management, and erosion controls. Equipment leaving the Project Area will be decontaminated.

Prior to excavation and handling of fill materials, environmental and erosion control measures would be established. These measures would be in place for the duration of the work to protect nearby human and/or ecological receptors from exposure to Site contaminants.

Dredging will first be performed using an environmental bucket to remove soft sediments to the extent possible. This approach should work for the previously dredged areas but a heavier conventional clamshell bucket will be required for the historic fill and for the harder underlying natural soils and till. The depth of water makes it

impracticable to use a silt curtain for this stage of the project but turbidity monitoring, with appropriate construction management triggers, will be performed through the dredging process.

Soft controls will be used to control and contain turbidity and sheen during the initial near-shore excavation and dredging operations. The soft controls will consist of dual lines of turbidity curtains and absorbent booms. Excavation and dredging will be performed within the inner line of silt curtains and absorbent booms. Oil or sheen on surface water in the work area will either be corralled with drag lines then padded up or water with oil or sheen may be collected, treated, and discharged to the Reserved Channel under a NPDES RGP or recharged on-site.

If oil contaminated soil is stockpiled upland, prior to off-site disposal, it will be placed in an upland dewatering impoundment. The impoundment will be bermed and lined, and constructed so that no entrained water that drains from the soil or sediment can leave the bermed area(s). The impoundments will be covered with secured polyethylene sheeting when not in use.

Collected dewatering effluent from the impoundments will be treated for oil and solids. This will include, at a minimum, equipment to allow for oil separation and settling of suspended solids (fractionation tank or the like) and the use of filtration (bag filters or the like) to remove suspended solids and activated carbon canisters (or similar). Particulates and dust generated by construction activities would require mitigation. Dust suppression/control measures, including, but not limited to, misting excavated and stockpiled materials with water, will be used as necessary to control airborne particulates. Stockpiling of soil to be disposed of off-site will be minimized, with preference given to excavate, load, and haul methods. Soil that is stockpiled to be re-used at the former Coastal Oil site will be covered and located in designated soil management areas. Erosion control, such as hay bales, will be used in the soil management area for storm water and runoff management.

If soil that is classified as characteristically hazardous waste is encountered and excavated, it would be placed directly into drums or lined containers for off-site disposal. This soil would not be stockpiled.

Ambient air inside and outside the work area will be continuously monitored in real time for volatile organic compounds and particulates/dust during the course of the construction.

Equipment and vehicles will be decontaminated prior to exiting the Site. Wash water would be collected and discharged through a 5-micron filter prior to discharge. If evidence of impacts are observed (such as sheen, or contaminant odor), decon fluids would be drummed for off-site disposal or treated onsite for discharge under the RGP.

7.6 Health and Safety Protection

Consultants and contractors retained to perform the construction activities will be required to comply with all applicable federal, state, and local laws, and provide and implement their own HASPs. It is the consultant's and contractor's responsibility to ensure that the health, safety, and security of its employees are protected during the Project. The following health and safety measures should be considered during construction activities:

- The former Coastal Oil site is an MCP site and the contractor will be required to have HAZWOPER trained workers;
- Work Zone air monitoring with equipment that can provide 15-minute time weighted averages (TWA) and maximum concentrations of particulates, VOCs, carbon dioxide, oxygen, lower explosive limit (LEL), and hydrogen sulfide; and

- Maintain materials on-site to manage spills, material releases, or conditions that exceed site-specific action levels.

7.7 Summary

The Project Area extends across a former bulk oil terminal, the former Coastal Oil site (RTN 3-0257). The site is significantly contaminated with oil and work in the Project Area will need to use specific techniques to manage and reduce the contamination. There is an AUL on the Project Area and the work will need to be conducted in accordance with the terms of the AUL including preparing a RAM Plan, Soil Management Plan and Health and Safety Plan.

Construction in the Project Area will entail excavating and dredging of oil contaminated soils and sediment that will require using soft controls (dual containment/absorbent boom) to contain oil/sheen during excavation outshore of the bulkhead wall. Excess contaminated soil will be generated which will be reused on-site or disposed off-site. Excavating the shoreline necessary to construct Berth 10 and stabilize the shoreline slope may result in exposing a "fresh face" of oily soil or residual LNAPL. A steel sheet pile bulkhead with soil stabilization would be installed to provide containment for on-site soils.

The likely benefits of the Project include reduction of the amount of contaminated soil within the Project Area and further stabilization of oil contaminated soil and LNAPL at the former Coastal Oil site.

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8 Other Short-Term Construction Impacts

8.1 Air Quality

This section outlines the air quality conditions expected during general construction activities as well as possible construction mitigation measures.

8.1.1 Construction Activities

Construction activities associated with the Proposed Project are expect to include:

- Site preparation, which includes installing environmental controls around the Project Site;
- Demolishing existing timber pier and berth structures;
- Constructing a bulkhead, which will include pre-excavation and pre-filling;
- Excavating contaminated soil, which will include transport of contaminated soil off site for disposal;
- Dredging, which may require rock removal; and
- Installing piles and construction of the wharf deck.

Temporary air quality impacts can result from these construction activities. Federal Conformity Rules require a quantitative analysis of both operational and construction emissions except for short-term construction activities lasting less than five years. The construction schedule for the Proposed Project is approximately two years. This project is deemed a "short-term construction activity" and, therefore, an air quality analysis of construction impacts is not required by the Environmental Protection Agency.

8.1.2 Construction-Period Mitigation

In an effort to reduce criteria pollutants and greenhouse gas (GHG) emissions from temporary construction activities, construction contractors would be contractually required to adhere to all applicable regulations regarding control of construction vehicles emissions. These could include, but not be limited to, maintenance of all motor vehicles, machinery, and equipment associated with construction activities, and proper fitting of

equipment with mufflers or other regulatory-required emissions control devices. Excessive idling of construction equipment engines would also be prohibited, as required by MassDEP regulations in 310 CMR 7.11.

Construction specifications would stipulate that all diesel construction equipment used on-site would be fitted with after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). Construction contractors would be required to utilize ultra-low sulfur diesel fuel for all off-road construction vehicles as an additional measure to reduce air emissions from construction activities. Idling restriction signs would be placed on the premises to remind drivers and construction personnel of the State's idling regulation.

Particulates and dust generated by construction activities would require mitigation. Ambient air inside and outside the work area will be continuously monitored in real time for volatile organic compounds and particulates/dust during the course of the work.

The contractors would be required to implement protective measures around the construction and demolition work area to protect pedestrians and prevent dust and debris from leaving the site and entering the surrounding community. Dust generated from earthwork, stockpiled soils and other construction activities would be controlled by spraying with water to mitigate wind erosion on open soil areas. Other dust suppression methods, such as wheel washing, would be implemented to ensure minimization of the off-site transport of dust. Regular sweeping of the pavement of adjacent roadway surfaces would be required to minimize the potential for vehicular traffic to create airborne dust and particulate matter. To reduce dust, stockpiling of soil to be disposed of off-site will be minimized, with preference given to excavate, load, and haul methods. Soil that is stockpiled to be re-used at the former Coastal Oil site will be covered and located in designated soil management areas.

8.2 Construction Noise

The Project is expected to generate noise associated with short-term construction activities. Blasting and pile-driving are expected to occur only during daytime hours (7 AM to 7 PM), although dredging is likely to be continuous. If weekend work is necessary, dredging will likely not occur before 8 AM and end by 5 PM. The following sections describe the potential effects of construction-phase noise. Underwater noise is addressed in Section 3.5.1.5.

8.2.1 Municipal Construction Noise Criteria

The City of Boston has established regulations for evaluating sound generated by construction activities. The Air Pollution Control Commission of the City of Boston, acting under the authority granted in Chapter 40 Section 21 of the General Laws of the Commonwealth of Massachusetts, and the City of Boston Code Ordinances Title 7 Section 50, have noise control regulations. Regulation 3: "Restrictions on Noise Emitted from Construction Sites" establishes maximum allowable sound levels based upon the land use impacted by the construction of a proposed project.

Although Massport is not subject to the City noise criteria, Massport has used these criteria to evaluate the potential for adverse noise impacts associated with construction of the Proposed Project.

The City of Boston noise control regulation limits construction noise according to the sound levels shown in Table 8-1. Sound levels are measured as L_{10}, defined as the level which is exceeded only 10 percent of the time and is therefore representative of the higher sound levels that exist over a certain period of time. If the existing

background L_{10} sound level already exceeds these limits, the L_{10} sound level during construction must not exceed the background L_{10} sound level by more than 5 decibels (A-Weighted) (dB(A)). Unless exempt, such as impact devices, no individual piece of construction equipment can generate a noise level exceeding 86 dB(A) at a distance of 50 feet from the device in a residential district.

Table 8-1 City of Boston Zoning District Noise Standards, dB(A)

Land Use Zone District	L_{10} Noise Level	Maximum Noise Level
Residential or Institutional	75	86
Business or Recreational	80	-
Industrial	85	-

Source: Regulations for the Control of Noise in the *City of Boston, Air Pollution Control Commission*.

8.2.2 Methodology

Construction sound levels are a function of the types of equipment being used, the number of each type of equipment, the amount of time each piece of equipment is used, and the distances between the construction equipment and receptors. Overall construction sound levels are governed primarily by the noisiest pieces of equipment operating at a given time.

Table 8-2 provides typical maximum sound levels associated with the various types of construction equipment expected to be used at the Project Site during the construction phases. During any particular activity phase, multiple pieces of equipment may operate simultaneously and for various durations throughout the construction period. Table 8-2 presents the potential construction equipment and the reference sound levels associated with each type of construction equipment. The sound levels associated with each type of equipment should not exceed the Lmax levels presented in Table 8-2.

8.2.3 Construction-Period Sound Levels

Construction activities associated with the Project are expected to include use of heavy equipment operations for excavation, material transport, pile-driving, and installation of concrete deck. Heavy machinery would be used intermittently throughout construction and these activities would occur during normal weekday daytime hours.

Sound levels generated by construction equipment (or by any "point source") decrease at a rate of approximately 6 decibels (dB) per doubling of distance away from the source. The greatest construction sound levels would result from pile-driving during the construction of the bulkhead and wharf deck. The closest residential receptors to the construction activities are located along East First Street, which are approximately 1,200 feet south of the work area. The resultant maximum sound level associated with pile-driving at the nearest residential receptor would be approximately 73 dB(A). The highest L_{10} sound level is also expected to be associated with the pile driving and construction of the wharf deck, which results in sound levels of approximately 69 dB(A). An existing noise wall along East First Street, constructed by Massport as part of the DFC project, may provide additional noise reduction. Due to the distance and the noise wall, these receptors would not experience sound levels above both the L_{10} and maximum construction noise limits. This is a conservative assessment since impact devices, such as a pile driver, is exempt from the noise regulation.

Table 8-2 Construction Equipment Reference Sound Levels, dB(A)

Activity	Equipment	Lmax Sound Level[1]	Utilization Factor (%)
Demolition	Crane & Barge	85	16
	Concrete Saw	90	20
	Dump Truck	84	40
Bulkhead Construction	Excavator	85	40
	Bulldozer	85	40
	Dump Truck	84	40
	Grader	85	40
	Roller	85	20
	Crane & Barge	85	16
	Vibratory Pile Driver	101	20
Excavation of Contaminated Soil	Excavator & Barge	85	16
	Bulldozer	85	40
	Dump Truck	84	40
	Clam Shovel	93	20
Dredging	Excavator & Barge	85	16
	Dump Truck	84	40
	Clam Shovel	93	16
Pile Installation and Wharf Deck Construction	Vibratory Pile Driver	101	20
	Impact Pile Driver	101	20
	Crane & Barge	85	16
	Concrete Pump Truck	82	20
	Concrete Mixer Truck	85	40

Source: Roadway Construction Noise Model User's Guide, Federal Highway Administration, January 2006.
1 Represents highest sound levels.

8.2.4 Mitigation

Sound levels from activities associated with the construction of the Project are anticipated to comply with the City of Boston's noise criteria, therefore no noise mitigation is required. However, standard noise reduction measures would be required for construction equipment including:

- Maintain mufflers on construction equipment;
- Keep truck idling to a minimum in accordance with Massachusetts anti-idling regulations (5-minute limit);
- Fit any air-powered equipment with pneumatic exhaust silencers;
- Limit pile-driving and on-shore construction activities to daytime.

With pile driving occurring on the waterside of the site, potential impacts on fish species may occur. Pile driving is one of the louder construction activities, which consists of short impulse noise over a short duration as each pile is being driven. Measures will be applied to minimize hydro-acoustic impacts on fish in the area, as needed. These reduction measures may include, but not limited to, the following:

- Provide bubble curtains around the work area;
- Soft-start/ramp-up;
- Pile pads or bumpers;
- Wheel wash;
- Roto control program;
- Erosion controls; and
- Site will be secured after hours when work is complete.

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9 ENF Distribution List

Distributing this Environmental Notification Form (ENF) to the public provides the information needed to formulate an opinion. The ENF will be circulated and distributed in accordance with 301 CMR 11.16 (2). This distribution list includes representatives of governmental agencies and community groups and/or local residents concerned with activities at Conley Terminal.

The following is a list of recipients of this ENF, which include representatives of governmental agencies, community groups, and local residents interested in activities at Conley Terminal. The 'C' indicates that Massport sent a compact disc (CD) and the 'P' indicates that Massport sent a printed copy.

This ENF is available on Massport's website at www.massport.com and electronically on CD. Limited CD or printed copies of the ENF may be requested from Michael Gove, telephone (617) 568-3546, email: mgove@massport.com. Printed and electronic copies of this report are available for review at the following public libraries.

	Library	Address
P,C	Boston Public Library Main Branch	700 Boylston Street Boston, MA 02116
P,C	Boston Public Library South Boston Branch	646 East Broadway South Boston, MA 02127

C CD sent
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- Metropolitan Area Planning Council

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Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, MA 02111

[P] Eric Bourassa, Transportation Director
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- Central Transportation Planning Staff

[P] Robin Mannion, Deputy Executive Director
Central Transportation Planning Staff
10 Park Plaza, Room 2150
Boston, MA 02116

- Coastal Zone Management

[C] Bruce K. Carlisle, Director
Massachusetts Office of Coastal Zone Management
251 Causeway Street, Suite 800
Boston, MA 02114-2138

[C] Massachusetts Office of Coastal Zone Management
Attn: Bob Boeri
251 Causeway Street, Suite 800
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[C] Massachusetts Office of Coastal Zone Management
Attn: Lisa Engler
251 Causeway Street, Suite 800
Boston, MA 02114-2138

- Massachusetts Department of Transportation

[P] Stephanie Pollack, Secretary of Transportation, CEO
MassDOT
10 Park Plaza, Suite 3170
Boston, MA 02116

[C] MassDOT – District 6
Attn: MEPA Coordinator
185 Kneeland Street
Boston, MA 02111

[C] Thomas Tinlin, Administrator
MassDOT Highway
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Boston, MA 02116

[C] Manager of Corridor of Planning
MassDOT
10 Park Plaza, Suite 4150
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[C] MassDOT, Public/Private Development Unit
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- Board of Underwater Archaeological Resources

[C] Victor Mastone, Director
Board of Underwater Archaelogical Resources
251 Causeway Street, Suite 800
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C CD sent
P Printed volume sent

- Massachusetts Secretary of the Commonwealth

P William Francis Galvin, Secretary of the
Commonwealth
220 Morrissey Boulevard
Boston, Massachusetts 02125

- Massachusetts Port Authority Board of Directors

P Stephanie Pollack
Massport Board of Directors
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128-2909

P Michael P. Angelini, Chair
Massport Board of Directors
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128-2909

P L. Duane Jackson, Vice Chair
Massport Board of Directors
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128-2909

P John Nucci
Massport Board of Directors
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128-2909

P Sean M. O'Brien
Massport Board of Directors
Massachusetts Port Authority
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P Lewis G. Evangelidis
Massport Board of Directors
Massachusetts Port Authority
One Harborside Drive
East Boston, MA 02128-2909

- Natural Heritage and Endangered Species Program

C Lauren Glorioso
Natural Heritage and Endangered Species
Program
1 Rabbit Hill Road
Westboro, MA 01581

- Massachusetts Historical Commission

P The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

- Massachusetts Bay Transportation Authority

P Brian Shortsleeve
MBTA
Ten Park Plaza
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C Massachusetts Bay Transportation
Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Floor
Boston, MA 02216

C CD sent
P Printed volume sent

- Division of Marine Fisheries

[P] Division of Marine Fisheries (North Shore)
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

[C] Division of Marine Fisheries (South Shore)
Attn: Environmental Reviewer
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694

- Massachusetts Water Resource Authority

[P] Massachusetts Water Resource Authority
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100 First Avenue
Charlestown Navy Yard
Boston, MA 02129

- Department of Conservation and Recreation

[P] Leo Roy, Commissioner
Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston, MA 02114

[P] Department of Conservation and Recreation
Attn: MEPA Coordinator
251 Causeway Street, Suite 600
Boston, MA 02114

- Massachusetts Convention Center Authority

[C] David Gibbons, Executive Director
415 Summer Street
Boston, MA 02210

[C] Fred Peterson, Deputy Director
415 Summer Street
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Municipalities

- City of Boston

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[P] Martin J. Walsh, Mayor
City of Boston
One City Hall Square
Boston, MA 02201

Boston Transportation Department

[P] Gina Fiandaca, Commissioner
Boston Transportation Department
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Boston Redevelopment Authority

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Boston Redevelopment Authority
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City Clerk's Office

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Boston Public Health Commission

[P, C] Dr. Barbara Ferrer
Executive Director
Boston Public Health Commission
1010 Massachusetts Avenue
Boston, MA 02118

Boston Environment Department

[C] Carl Spector, Commissioner
Boston Environment Department
One City Hall Plaza, Room 709
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[P, C] Maura Zlody
Boston Environment Department
One City Hall Plaza, Room 709
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- City of Boston (Continued)

Environmental, Energy and Open Space

[P] Austin Blackmon, Chief of Environment,
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Boston Water and Sewer Commission

[C] Henry Vitale, Executive Director
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Boston City Council

[P] Bill Linehan
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[P] Annissa Essaibi George
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Boston, MA 02201

[P] Janet Knott
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Boston Parks and Recreation Department

[C] Christopher Cook, Commissioner
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Boston Conservation Commission

[C] Charlotte Moffat, Executive Secretary
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Boston Public Health Commission

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1010 Massachusetts Avenue, 2nd Floor
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Community Groups and Interested Parties

- Organizations and Other Interested Parties

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[C] Vidya Tikku, Interim Director
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[C] Noreen Rosher, President
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■ Organizations and Other Interested Parties (Continued)

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[C] Mike Foley, CEO
South Boston Chamber of Commerce
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[C] Brian Mahoney
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[C] Tom McGrath
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[C] Rick Winterson
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South Boston, MA 02127

[C] Captain Conti Columtino
Foss Maritime Company
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Manchester, MA 01944

[C] Julie Wormser, Executive Director
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[C] Gerry Andreottola, President
Boston Hides & Furs
150 Marginal Street
Chelsea, MA 02150

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■ Organizations and Other Interested Parties (Continued)

[C] Read Coughlin
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803 Summer Street
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[C] Neil Fitzpatrick
Boston Freight Terminals
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[C] Marc Manna, Global Sales/Natl Accts
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[C] Rob Shepard, Director, Transportation & Logistics
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[C] Arthur C. Zikos, Director of Purchasing
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[C] David Matteo
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South Boston, MA 02127

[C] Mike Foley
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[C] Shaun Keefe, President
G&U Logistix
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[C] Brian Kilduff, VP Sales (Owner)
BOC International
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Boston, MA 02201

[C] Pat Roche, Logistics Coordinator
Schnitzer Steel Industries
69 Rover Street
Everett, MA 02149

[C] Carol Turner, Executive Director
CONECT
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Southborough, MA 01772

[C] Stephen Carroll, Manager
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Northeast Utilities
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Westwood, MA 02090

[C] Timothy Smyth
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[C] Russell Castagna
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[C] Bill Eldridge, Vice President
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[C] Kalila Barnett, Executive Director
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Roxbury, MA 02119

[C] Christin Armour
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South Boston, MA 02127

[C] Sharon Asiaf
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South Boston, MA 02127

[C] James O'Brien
881 East 1st Street, #204
South Boston, MA 02127

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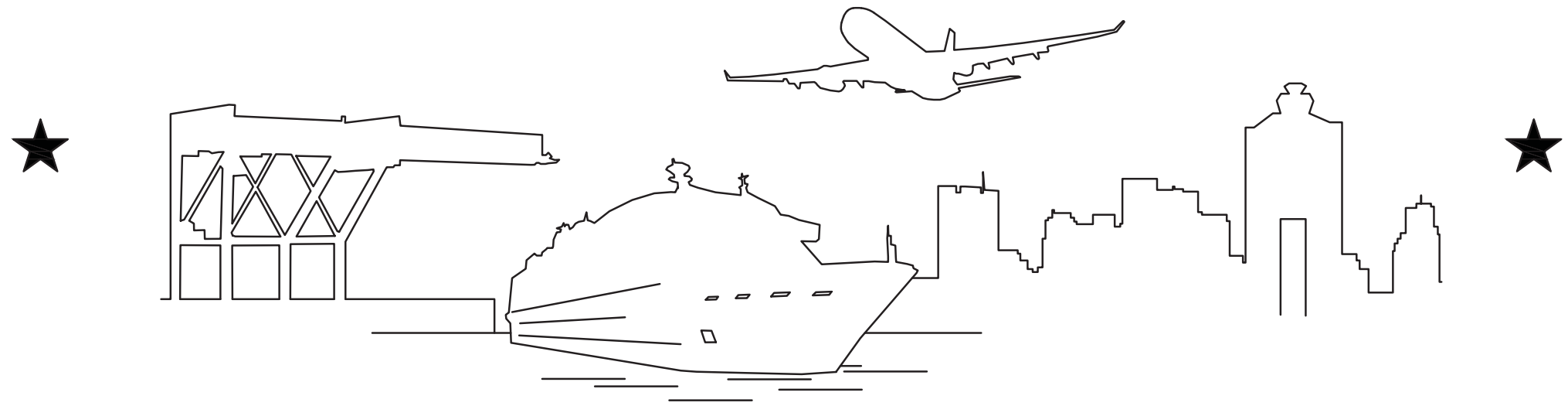
Attachment 2

Project Plans

MASSACHUSETTS PORT AUTHORITY



MASSACHUSETTS PORT AUTHORITY
APPROVAL

CAPITAL PROGRAMS DEPARTMENT
ONE HARBORSIDE DRIVE, SUITE 209S
EAST BOSTON, MASSACHUSETTS 02128

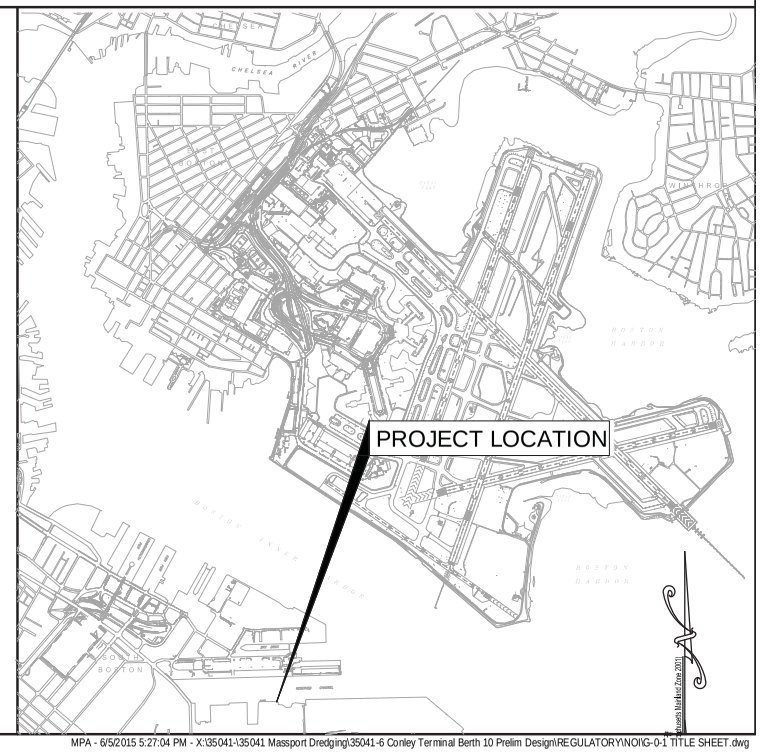
Bourne Consulting Engineering
A Division of GEI Consultants, Inc.
3 Boat Street, Franklin, MA 02038
TEL (508) 533-6666

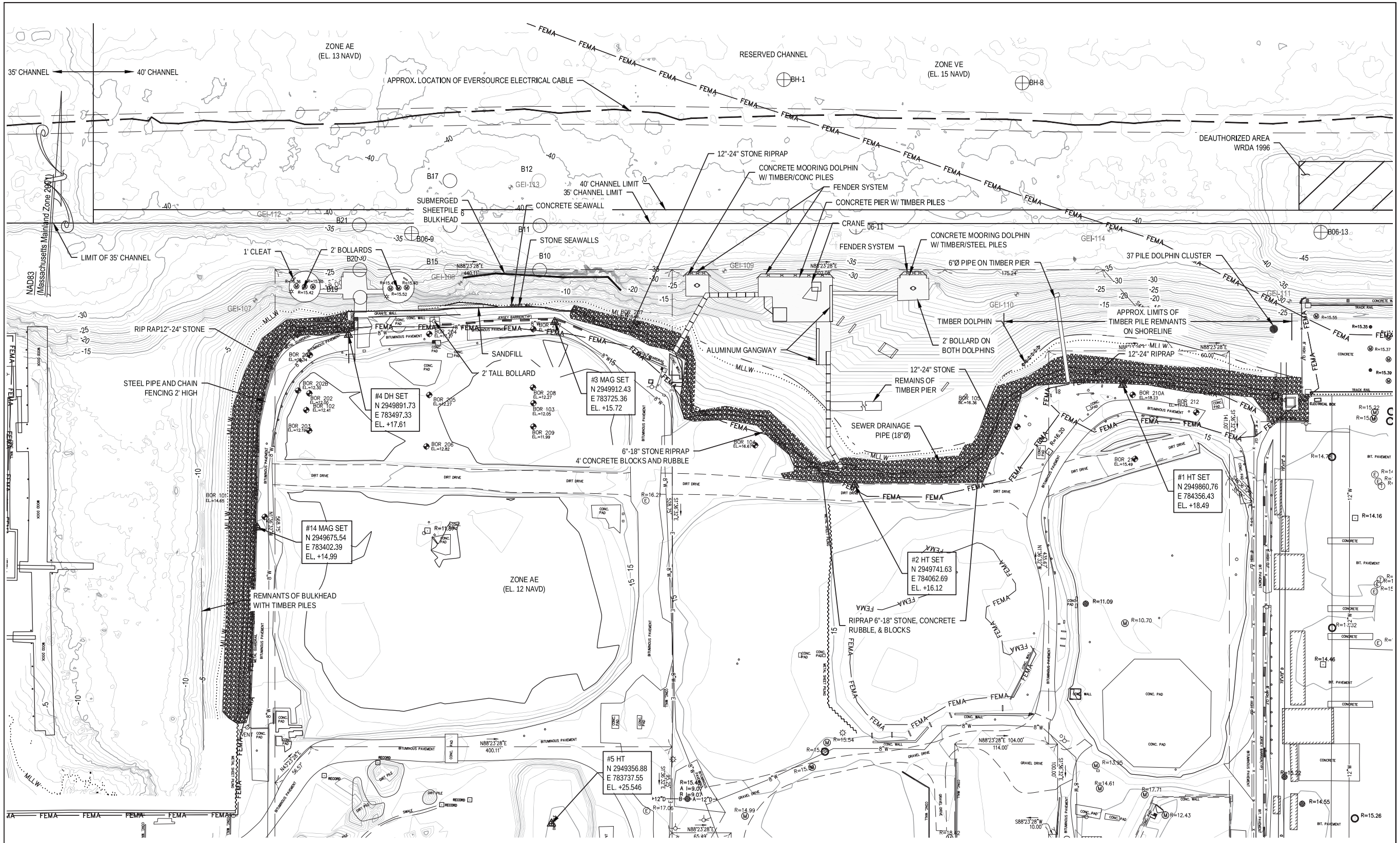
NEW BERTH 10
CONLEY TERMINAL
SOUTH BOSTON, MASSACHUSETTS
MPA PROJECT No. M223-C01
JULY 2016

DIRECTOR OF CAPITAL PROGRAMS
AND ENVIRONMENTAL AFFAIRS

DATE

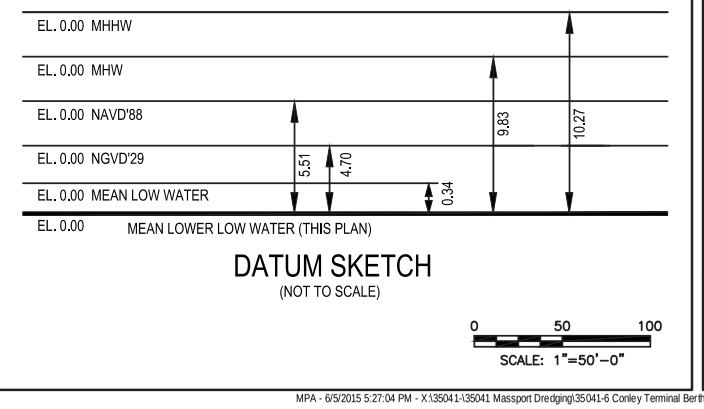
STAMPS





NOTES:

1. TOPOGRAPHIC DATA SHOWN HEREON WAS COLLECTED BETWEEN DECEMBER 16, 2015 AND FEBRUARY 12, 2016 BY NITCH ENGINEERING AND CAN ONLY REFLECT CONDITIONS AS THEY EXISTED DURING THE TIME OF THE SURVEY.
2. HYDROGRAPHIC DATA SHOWN HEREON WAS COLLECTED ON NOVEMBER 10, 2015 AND CAN ONLY REFLECT CONDITIONS AS THEY EXISTED DURING THE TIME OF THE SURVEY. CONTOURS SHOWN ARE BASED ON 3X3 MINIMUM DATA.
3. COORDINATES ARE BASED ON MASSACHUSETTS MAINLAND 2001 STATE PLANE COORDINATE SYSTEM NAD88 AND ARE EXPRESSED IN FEET.
4. SOUNDINGS AND ELEVATIONS ARE SHOWN IN FEET AND TENTHS BASED ON A MEAN LOWER LOW WATER (MLLW) DATUM. POSITIVE VALUES REPRESENT HEIGHT ABOVE THAT SAME PLANE.
5. SEE SHEET G-0-02 FOR LEGEND.
6. EVERSOURCE CABLE LOCATION IS APPROXIMATE AND WAS OBTAINED FROM HALEY & ALDRICH PLAN TITLED " SITE AND SUBSURFACE EXPLORATION LOCATION PLAN AND SUBSURFACE PROFILES A-A AND B-B" DATED NOVEMBER 2006.



DATUM SKETCH
(NOT TO SCALE)

0 50 100
SCALE: 1"=50'-0"

massport
MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:
NEW BERTH 10
CONLEY TERMINAL
SOUTH BOSTON, MASSACHUSETTS

MPA CONTRACT NO.: M223-D1
LOCATION CODE: XXXXXXXX
PROJECT SUBMISSION PHASE:

REGISTRATION STAMP:

KEY PLAN:

REVISIONS:

REV NO.:	DATE:	DESCRIPTION:	BY:

PRIMARY:
Bourne Consulting Engineering
1 Bridge Street, Plymouth, MA 02360
bce@bournece.com
www.bournece.com

CONSULTANT:

PROJECT NUMBER AND TITLE:
M223-C01
BERTH 10
30% DESIGN

SHEET TITLE:
EXISTING CONDITIONS PLAN

DRAWING PHASE (EXISTING)

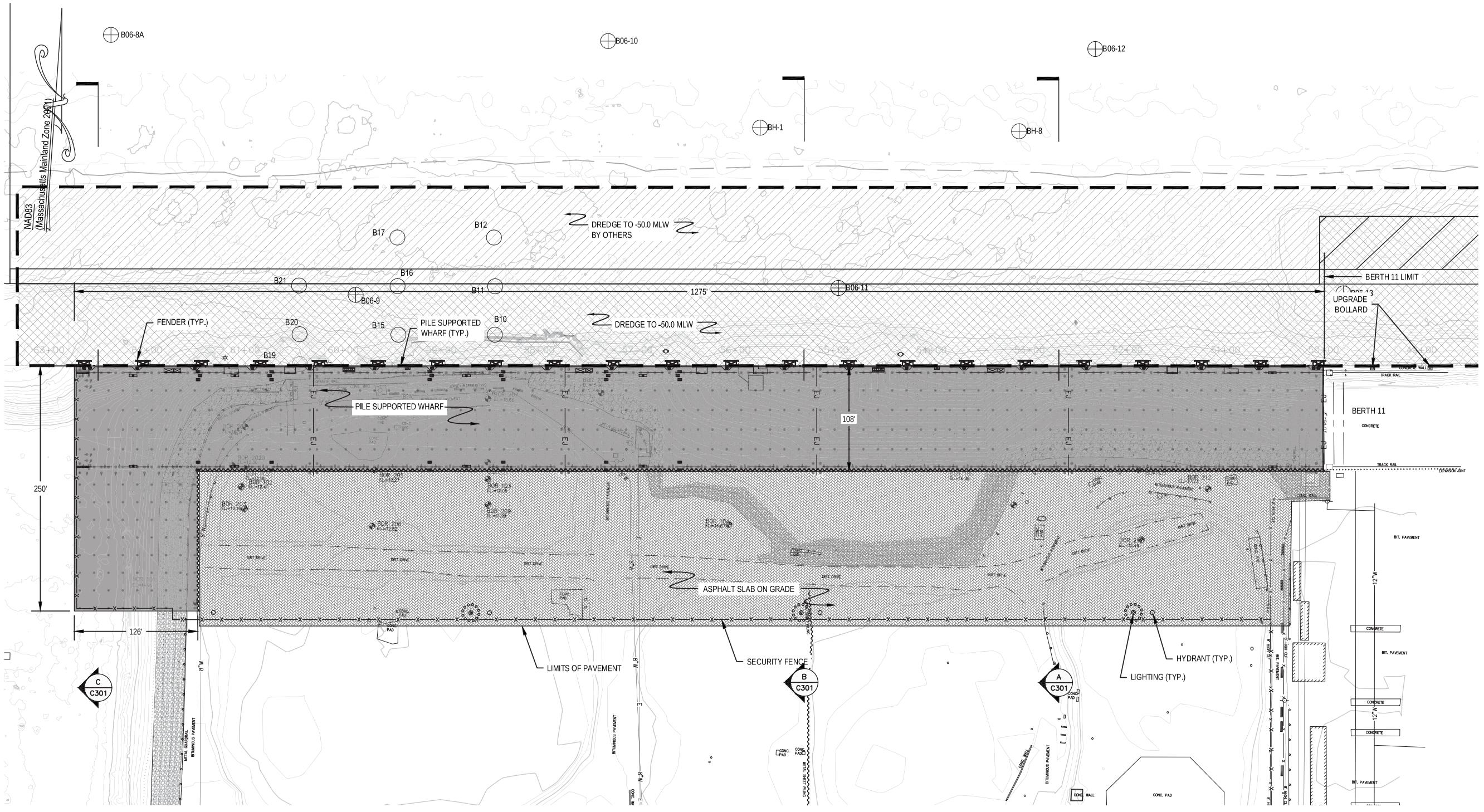
DISCIPLINE:
CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
JSF/ASC	XXX	XXX

SCALE:	DATE:
AS NOTED	JULY, 2016

SHEET NUMBER:
V-1-01

MPA - 6/5/2015 5:27:04 PM - X:\35041-\35041 Massport Dredging\35041-6 Conley Terminal Berth 10 Prelim Design\REGULATORY\NOI\V-1-01 EXIST CONDITIONS.dwg



NOTE: SEE SHEET S-1-04 FOR WHARF DECK LAYOUT

DATUM	
HTL	+12.50
MHHW	+10.27
MHW	+9.83
NAVD 88	+5.51
NGVD 29	+4.70
MLW	+0.34
MLLW	0.0

0 50 100
SCALE: 1"=50'-0"

massport
MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:
NEW BERTH 10
CONLEY TERMINAL
SOUTH BOSTON, MASSACHUSETTS

MPA CONTRACT NO.: M223-D1
LOCATION CODE: XXXXXXXX

PROJECT SUBMISSION PHASE:

REGISTRATION STAMP:

KEY PLAN:

REVISIONS:

REV NO.	DATE:	DESCRIPTION:	BY:

PRIMARY:
BCE Bourne Consulting Engineering
A Division of GZA GeoEnvironmental, Inc.
3 Mill Street, Franklin, MA 02038
TEL (508) 553-0666
bce@bournece.com
www.bournece.com

CONSULTANT:

PROJECT NUMBER AND TITLE:
M223-C01
BERTH 10
30% DESIGN

SHEET TITLE:
PROPOSED LAYOUT

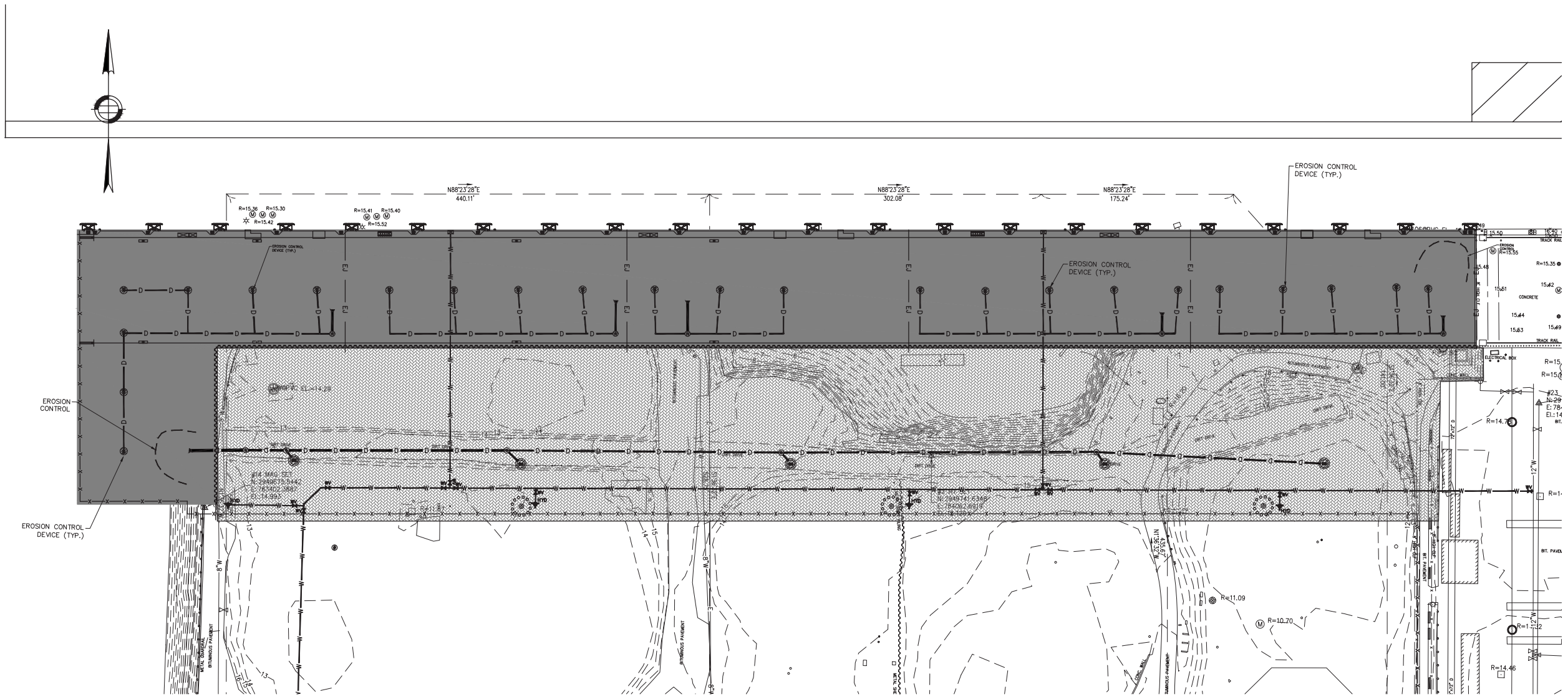
DRAWING PHASE (NEW)

DISCIPLINE:
CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
JSF/ASC	XXX	XXX

SCALE:	DATE:
AS NOTED	JULY, 2016

SHEET NUMBER:
C-1-06



LEGEND

AD	AREA DRAIN
CB	CATCH BASIN
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
WQS	WATER QUALITY STRUCTURE
FES	FLARED END PIPE
HYD	HYDRANT
WV	WATER VALVE
	ABANDON UTILITY LINE
D D	DRAIN LINE
W W	WATER LINE
	EROSION CONTROL DEVICE

SCALE:
1" = 50'
50 25 0 50 100

NITSCH PROJECT NO. 10567

MPA - 6/5/2015 5:27:04 PM - X:\35041-\35041 Massport Dredging\35041-6 Conley Terminal Berth 10 Prelim Design\REGULATORY\NOIC-1-10 CIVIL UTILITY PLAN.dwg

massport

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:
BERTH 10
CONLEY TERMINAL
SOUTH BOSTON, MASSACHUSETTS

MPA CONTRACT NO.: M223-D1
LOCATION CODE: XXXXXXXX

PROJECT SUBMISSION PHASE: 30%

REGISTRATION STAMP:

KEY PLAN:

N

REVISIONS:

REV NO.:	DATE:	DESCRIPTION:	BY:

PRIMARY:
Bourne Consulting Engineering PC
bce@bournece.com
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CONSULTANT:
Nitsch Engineering
www.nitscheng.com
2 Center Plaza, Suite 430
Boston, MA 02108
T: (617) 338-0063
F: (617) 338-6472
- Civil Engineering
- Land Surveying
- Transportation Engineering
- Structural Engineering
- Green Infrastructure
- Planning
- GIS

PROJECT NUMBER AND TITLE:
M223-CO1
BERTH 10
30% DESIGN

SHEET TITLE:
CIVIL UTILITY KEY PLAN

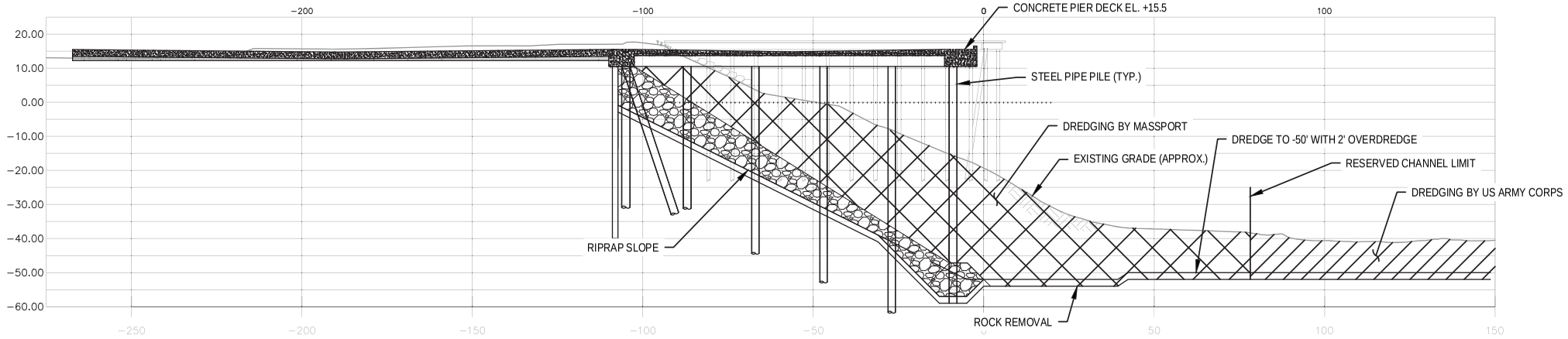
PROGRESS PRINT

DISCIPLINE: CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
NGG	WRM	WRM

SCALE:	DATE:
AS NOTED	July 8, 2016

SHEET NUMBER:
C-1 10



A C-3-01 **SECTION 52+70**

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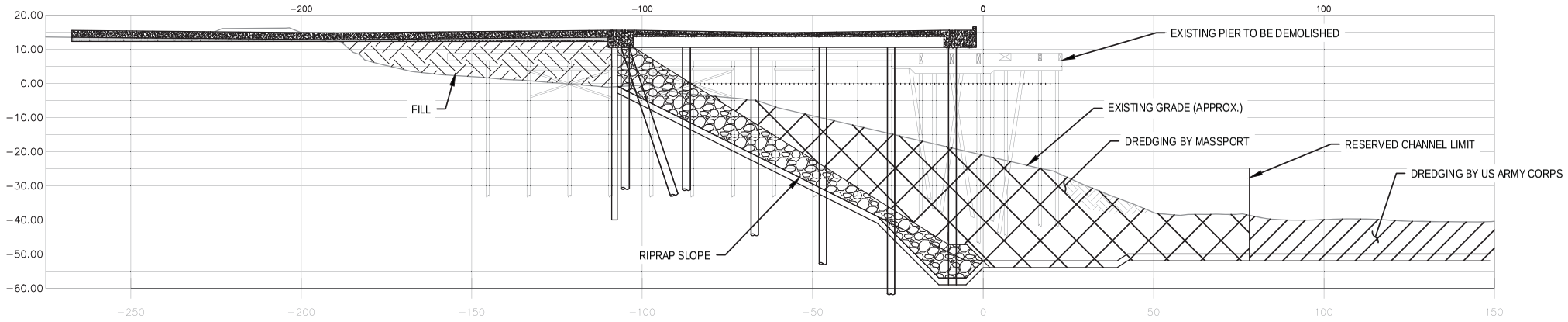
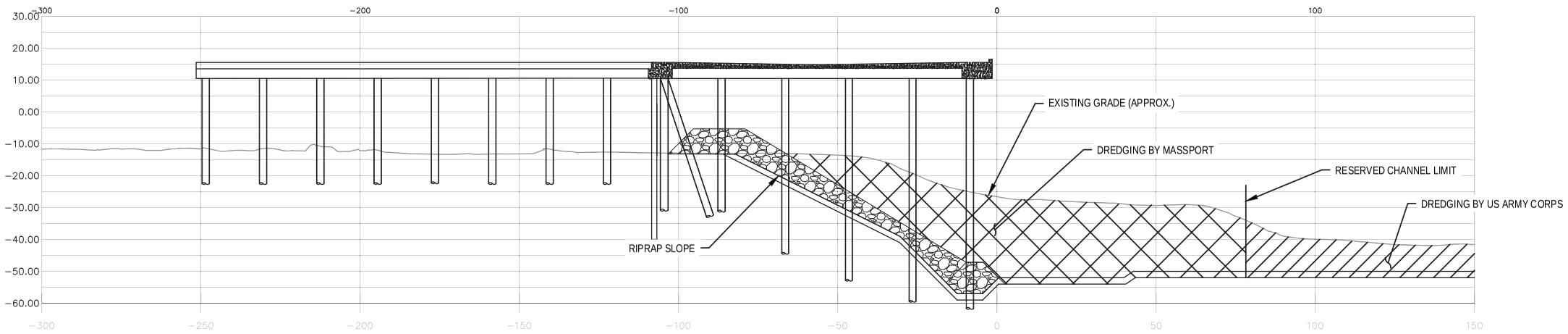


B C-3-01 **SECTION 55+30**

SCALE: 1"=20'-0"



C C-3-01 **SECTION 62+50**

SCALE: 1"=30'-0"

DATUM	
HTL	+12.50
MHHW	+10.27
MHW	+9.83
NAVD 88	+5.51
NGVD 29	+4.70
MLW	+0.34
MLLW	0.0

massport

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:
NEW BERTH 10
CONLEY TERMINAL
SOUTH BOSTON, MASSACHUSETTS

MPA CONTRACT NO.: M223-D1
LOCATION CODE: XXXXXXXX

PROJECT SUBMISSION PHASE:

REGISTRATION STAMP:

KEY PLAN:

N

REVISIONS:

REV NO.:	DATE:	DESCRIPTION:	BY:

PRIMARY:

BCE Bourne Consulting Engineering
A Division of GZA GeoEnvironmental, Inc.
bce@bournece.com
www.bournece.com

CONSULTANT:

PROJECT NUMBER AND TITLE:

M223-C01
BERTH 10
30% DESIGN

SHEET TITLE:

PROPOSED SECTIONS

DRAWING PHASE (NEW)

DISCIPLINE: CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
JSF/ASC	XXX	XXX

SCALE: AS NOTED
DATE: JULY, 2016

SHEET NUMBER:

C-3-01