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New Bedford Harbor Superfund Site

U.S. Army Corps of Engineers New England District

Draft Final Intertidal Work Plan for East Zone 2

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New Bedford Harbor Superfund Site

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Project Manager: Beth Anderson
Author: Mike Morris

Jacobs
103 Sawyer Street
New Bedford, MA 02746
508-996-5462
508-996-6742
www.jacobs.com

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Acronyms and Abbreviations

cy	cubic yards
EPA	U.S. Environmental Protection Agency
ft	foot/feet
Generic Work Plan	<i>Draft Final Generic Upper Harbor Intertidal Work Plan Revision 1</i>
GPS	global positioning system
mg/kg	milligrams per kilogram
NAE	U.S. Army Corps of Engineers, New England District
NBHSS	New Bedford Harbor Superfund Site
PCB	polychlorinated biphenyl
PECC	pre-excavation confirmatory congener
ROD	Record of Decision
ROW	right-of-way
RTK	real time kinematic
sf	square feet
TCL	target cleanup level
TSCA	Toxic Substances Control Act

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1.0 Introduction

This work plan for East Zone 2 provides information concerning shoreline remediation and restoration pursuant to the New Bedford Harbor Superfund Site (NBHSS), including maps and figures of the excavation areas, equipment access plans, sample locations, and existing and proposed wetland cover and topography. The *Draft Final Generic Upper Harbor Intertidal Work Plan Revision 1* (Generic Work Plan; Jacobs 2019a) describes the means and methods for intertidal excavation, material stabilization, drainage water management, transport and disposal of polychlorinated biphenyl (PCB)-contaminated intertidal sediments, restoration of excavated areas and post-remediation monitoring and maintenance. This parcel-specific work plan provides additional detail and describes any deviations from the procedures in the Generic Work Plan.

As described herein, certain areas of the sediment and soil on the parcels contain PCB contamination that exceeds the established target cleanup levels (TCLs) for intertidal sediment. The PCB TCLs are provided in the 1998 U.S. Environmental Protection Agency (EPA) Record of Decision (ROD) for the NBHSS (EPA 1998). The TCL for sediment and soil in saltmarshes and shoreline areas with little or no public access is 50 milligrams per kilogram (mg/kg), which is a not-to-exceed value. The TCL for Upper Harbor mudflats and subtidal areas is 10 mg/kg, which must be attained as an average on an Upper Harbor-wide basis. Sediment and soil with PCB concentrations exceeding the TCLs will be removed and disposed in an off-site Toxic Substances Control Act (TSCA) permitted landfill. Following contaminated sediment removal, areas that originally supported vegetative cover will be backfilled with clean topsoil and restored with a similar vegetation type and, to the extent practicable, restored to the original elevation. Unvegetated areas (i.e., mudflats) will be backfilled as needed to stabilize the shoreline.

2.0 Parcel Description

The intertidal management area referred to as East Zone 2 is located on the eastern shore of the Upper New Bedford Harbor in Acushnet, MA. East Zone 2 consists of two parcels (25-43 and 25-319) separated by a right-of-way (ROW); portions of each parcel and the ROW will be remediated. A site location map showing the East Zone 2 parcels and the limits of the planned excavations is provided in [Figure 2-1](#).

Parcel 25-43 is predominately comprised of undeveloped land, with an electrical substation in the southeastern portion. The undeveloped portion consists of vegetative cover; primarily clusters of trees and shrubs, saltmarsh, and the invasive grass, *Phragmites australis*. Three tidal channels with fringing saltmarsh are located in the northwest, west, and southwest portions of the parcel. The parcel is bounded to the north by Parcel 25-34, to the east by Parcel 25-36, to the south by a ROW and Parcel 25-319, and to the west by Upper New Bedford Harbor.

Parcel 25-319 is predominately comprised of undeveloped land consisting of vegetative cover; primarily saltmarsh with clusters of trees and shrubs, and a small area of *Phragmites australis*. One major tidal channel with fringing saltmarsh is located in the central portion of the parcel and drains to the northwest into New Bedford Harbor. The parcel is bounded to the north by a ROW and Parcel 25-43, to the east by Parcel 25-291, to the south by a ROW and Parcel 25-49, and to the west by Upper New Bedford Harbor.

The existing wetland vegetation was surveyed by Jacobs in 2017. The mapped survey results and the outlines of the excavation areas are shown in [Figures 2-2a](#) and [2-2b](#). The excavation areas include mudflats, beach, stream channels, low marsh, high marsh, scrub-shrub marsh, uplands, and *Phragmites*. Sediment and soil samples collected during the site investigation/characterization phase were analyzed for total PCBs. The analytical results

summarized in [Tables 2-1a](#) and [2-1b](#) were used to support remediation planning. The sample locations used to delineate the extent of PCB contamination within East Zone 2 are shown in [Figures 2-3a](#) and [2-3b](#).

3.0 Excavation

3.1 Site Preparation

Access to the portions of the parcels requiring remediation will be through private property that is currently under an access agreement obtained by EPA. Temporary roads will be built to create equipment access to the remediation areas. A construction site plan showing the excavation areas, staging/containment cell areas, and temporary access roads is provided as [Figure 3-1](#). The dimensions and final locations of the staging areas may be altered based on field conditions. The temporary access road in the northeastern portion of Parcel 25-319 will traverse a patch of *Phragmites*. As described in the Generic Work Plan, the access road will be constructed using a layer of geotextile fabric covered by either 12 inches of dense-grade aggregate or construction mats, which will prevent contact between the construction vehicles using the road and the *Phragmites*. The road will be wider than the trucks to be used on the road; the amphibious excavator will not use the access road.

On Parcel 25-43, remnants of buried power distribution cables traverse the planned excavations in the area shown on [Figure 3-1](#). These cables will be removed from the excavation areas prior to remediation. Cable removal will be addressed in a separate work plan.

Prior to any site clearing or grubbing necessary to build the access road to the excavation areas, mature, non-invasive tree and shrub species will be marked in the field and preserved when possible during construction. A native tree and shrub inventory for each parcel is included as [Appendix A](#). Other vegetation will be cleared from the site as necessary to permit access road construction and remedial excavation. Disturbance of the property will be minimized and all impacted areas will be restored upon completion of remedial activities.

3.2 Excavation Plan

Using PCB data collected through multiple rounds of sampling, a 3-dimensional excavation model was developed as depicted in the excavation plans shown in [Figures 3-2a](#) through [3-2e](#). The cut depth, areal extent of contamination and pre-excavation surface elevations for contaminant removal areas are shown in [Figure 3-2a](#) through [3-2c](#) for Parcel 25-43, and in [Figure 3-2d](#) and [3-2e](#) for Parcel 25-319 and the ROW. The total area to be excavated is approximately 276,192 square feet (sf) and has a corresponding volume of 12,854 cubic yards (cy).

In 2019, a barge-mounted dredge was used to remove a portion of the mudflat sediments adjacent to Parcel 25-43. The landward extent of dredging is shown in [Figures 3-2a](#) and [3-2b](#). Mudflat sediment that was not removed with the dredge will be removed with an amphibious excavator.

The amphibious excavator will remove contaminated sediment in the mudflat, saltmarsh and upland areas. If *Phragmites* roots come up as a single mass that is thicker than the cut depth, the entire mass will be removed. Following excavation, the area will be smoothed with the excavator as needed to create an even surface prior to placement of backfill.

Sections 4.3.2 and 4.3.3 of the Generic Work Plan describe on-site materials management procedures for the east side of the Upper Harbor, including collection, treatment and discharge of wastewater from the containment

cell in the staging area to the Upper Harbor. Alternatively, wastewater may be containerized and transported to Area C for treatment and disposal as described in the Generic Work Plan for the west side of the Upper Harbor.

3.3 Post Excavation Compliance

Confirmation of compliance with the TCLs will be based on pre-excavation confirmatory congener (PECC) sampling and collection of post-excavation survey data to demonstrate that the excavation achieved the horizontal and vertical design limits. The PECC sample locations shown in [Figures 2-3a](#) and [2-3b](#) include excavation sidewall and floor locations where PCB congener concentrations were previously determined to be below the TCL. PECC sample results are highlighted in [Tables 2-1a](#) and [2-1b](#). Post-excavation confirmatory samples for mudflats that are subtidal after excavation will be collected as part of the subtidal confirmatory sampling program.

Compliance survey locations are spaced at approximate 100-foot (ft) intervals along the excavation sidewalls and in an approximate 100-ft grid pattern on the excavation floors as shown in [Figures 3-3a](#) and [3-3b](#). Design elevation compliance measurements at the compliance survey locations will be made using a real-time kinematic (RTK) global positioning system (GPS) with vertical and horizontal accuracies of less than 0.1 ft. Compaction by heavy equipment after excavation will be avoided until target elevations are confirmed by RTK survey. [Tables 3-1a](#) and [3-1b](#) provide survey control tables to document the pre- and post-excavation compliance measurements. Additional removal will be performed if a post-excavation elevation survey indicates that a compliance survey location was not excavated to the target elevation or horizontal extent. Any additional removal will be performed as described in Section 4.5 of the Generic Work Plan.

If the PECC approach is proven to be ineffective in the pre-confirmatory pilot test, then post-excavation confirmatory samples will be collected at the PECC locations, and the excavations will not be backfilled until they are confirmed to be clean. Confirmatory samples will be analyzed for PCB congeners with a 5-day turnaround time for the analysis.

4.0 Backfill

Upon verification that compliance with the TCL has been met, the excavation in previously vegetated areas will be backfilled with clean manufactured topsoil. The topsoil will meet the quality requirements identified in the *Draft Final Topsoil Acceptance Plan* (Jacobs 2019b). Topsoil backfill will consist of 12 inches of topsoil to support vegetation regrowth and achieve the restoration design provided in Section 7.0. Where excavation depth exceeds 1 ft, a 3-inch minus clean gravel substrate will be placed to within 1 ft of the target grade and topsoil will be placed on top of the substrate to bring the surface to the target elevation. A specification for the gravel backfill is provided in the Generic Work Plan. The gravel substrate and topsoil will be delivered to the restoration areas by over-the-road dump trucks and offloaded into stockpiles near the excavation area. A clean, decontaminated all-terrain dump truck or tracked excavator will transport the topsoil for spreading. Post-backfill saltmarsh topography will match the restoration surface described in Section 7.0 with a tolerance of +/- 0.3 ft. The surface may be restored to an elevation of 0.1 to 0.2 ft above the planned grade to allow for natural soil compaction. During the restoration process, the elevation of the placed topsoil will be checked periodically with the GPS Rover and with the excavator bucket. Elevation measurements will be taken after each area is backfilled, prior to relocating the excavator. Excavated mudflats will not be backfilled except where needed to provide drainage or slope stability.

5.0 Schedule

The durations of the remedial activities included in this Work Plan are listed below. A more detailed construction planning schedule will be developed prior to field activities and will be attached to this Work Plan as [Appendix C](#).

Activity	Anticipated Duration
Excavation	7.5 months
Restoration	7 months
After Action Report	3 months

6.0 Air Monitoring

The evaluation of existing PCB congener data ([Tables 2-1a](#) and [2-1b](#)) indicates that the maximum concentration at East Zone 2 is 10,000 mg/kg. Particulate and airborne PCB monitoring will be conducted in accordance with the guidelines provided in the *NBHSS Draft Final Ambient Air Monitoring Plan for Remediation Activities Revision 2* (Ambient Air Monitoring Plan; Jacobs 2018a).

7.0 Restoration

All excavated areas except mudflats will be backfilled, regraded, and revegetated to best replicate the pre-remediation conditions and discourage the re-establishment of invasive species. Pre-construction tree and shrub inventories of plants within the excavation area and access road area are included in [Appendix A](#). The pre-construction wetland cover conditions shown on [Figures 2-2a](#) and [2-2b](#) include several stands of the non-native invasive grass *Phragmites*. Engineered swales were added to the restoration design to increase tidal inundation and discourage *Phragmites* recolonization. *Phragmites* that occurs within the excavation area will be removed and disposed of with the excavated sediment and replaced with the appropriate wetland species. Restored vegetation types within the remediation area are shown in plan view in [Figures 7-1a](#) and [7-1b](#). A conceptual as-built cross section is provided in [Figure 7-2](#) and construction cross sections are provided in [Appendix B](#). The existing and proposed post-restoration acreage of each cover type is included in [Tables 7-1a](#) and [7-1b](#). Tree and shrub species identified for restoration are included in [Tables 7-2a](#) and [7-2b](#) and in the Shrub Area Plantings notes included in [Figures 7-1a](#) and [7-1b](#).

Coir fiber rolls will be installed to dissipate wave energy at the base of the low marsh slope as shown on [Figures 7-1a](#) and [7-1b](#) and [7-2](#) such that the top of the log is approximately at final grade. Connecting edges of the rolls will be secured together with twine or another suitable tie. All coir rolls will be staked in place with 2-inch hardwood stakes with approximate 2 ft spacing. Planting of trees, shrubs, and 2-inch bare-root salt grass plugs will be conducted after excavation and backfill in accordance with favorable weather conditions and within the planting season from approximately April 15 to June 30 or in the early fall. Salt grass plants will be obtained from a nursery that can provide plugs grown from a Northeastern U.S. genotype seed stock.

Herbivory deterrents will be used to protect the seedlings during the establishment period. A combination fence and rope grid system similar to the one installed at the Pierce Mill Cove intertidal restoration area will be constructed (Jacobs 2018b). If unforeseen conditions are identified that could affect the ability of the restoration

to achieve the success standards adopted for the program, appropriate adaptive management measures will be developed and implemented in coordination with the U.S. Army Corps of Engineers, New England District (NAE) and EPA.

No mechanical removal of *Phragmites* is proposed outside of excavation boundaries. All remaining areas of *Phragmites* within 30 ft of the restored marsh will be treated with herbicide in accordance with the guidelines in the Generic Work Plan to promote a *Phragmites* free buffer. At the conclusion of all restoration activities, final vegetation and topographic surveys will be conducted to document the as-built elevation and vegetative cover conditions. The After Action Report for this parcel will include these surveys, including the cross-section drawings in [Appendix B](#) with updated elevations.

8.0 References

- U.S. Environmental Protection Agency (EPA). 1998 (September). *Record of Decision for the Upper and Lower Harbor Operable Unit, New Bedford Harbor Superfund Site*. USEPA Region 1 – New England.
- Jacobs. 2019a (May). *Draft Final Generic Upper Harbor Intertidal Work Plan Revision 1*. ACE J23 35BG2000 M1-0109.
- 2019b (January). *Draft Final Topsoil Acceptance Plan*. ACE J23 35BG2000 M1-0076.
- 2018a (April). *Draft Final Ambient Air Monitoring Plan for Remediation Activities Revision 2*. ACE-J23-35BG2000-M17-0016.
- 2018b (November). *NBHSS Draft Final Pierce Mill Cove Herbivory Control Plan*. ACE-J23-35BG2000-M17-0040.

Figures



Legend

- Proposed Limits of Excavation
- East Zone 2 Management Area
- Parcel Boundary

Basemap Data Source:
MassGIS, ESRI

0 250 500
Feet



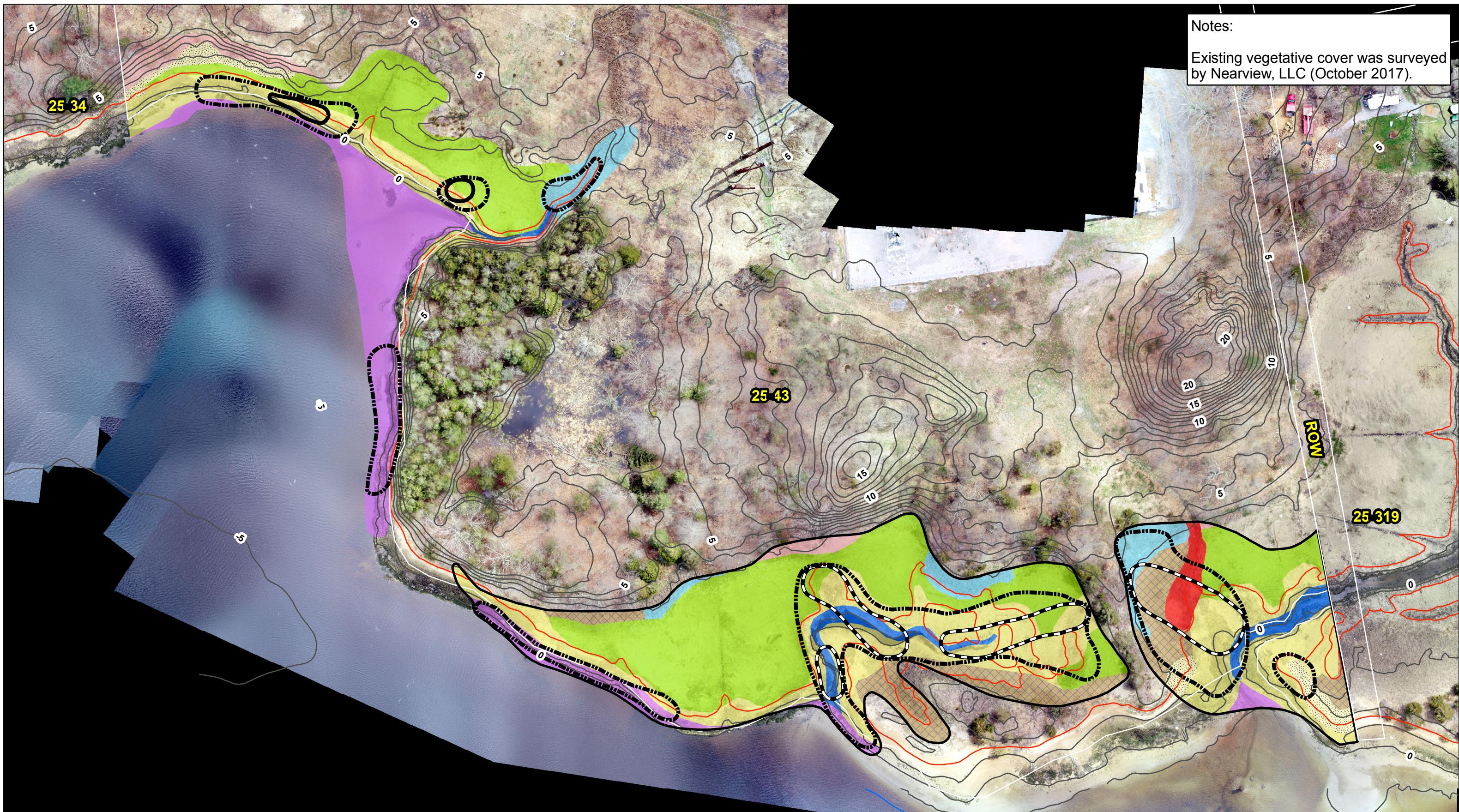
June 2019

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**Intertidal East Zone 2
Site Location and Features**
New Bedford Harbor Superfund Site

Figure 2-1

Notes:
Existing vegetative cover was surveyed by Nearview, LLC (October 2017).



Legend

0-1' Excavation Depth	Mean Lower Low Water	High Marsh	Phragmites
1-2' Excavation Depth	Mean Higher High Water	Low Marsh	Scrub-Shrub Marsh
2-3' Excavation Depth	Parcel Boundary	Mudflat	Stream
1-foot Contour		Pannes	Upland

Basemap Data Source:
Nearview, LLC

0 50 100
Feet
June 2019



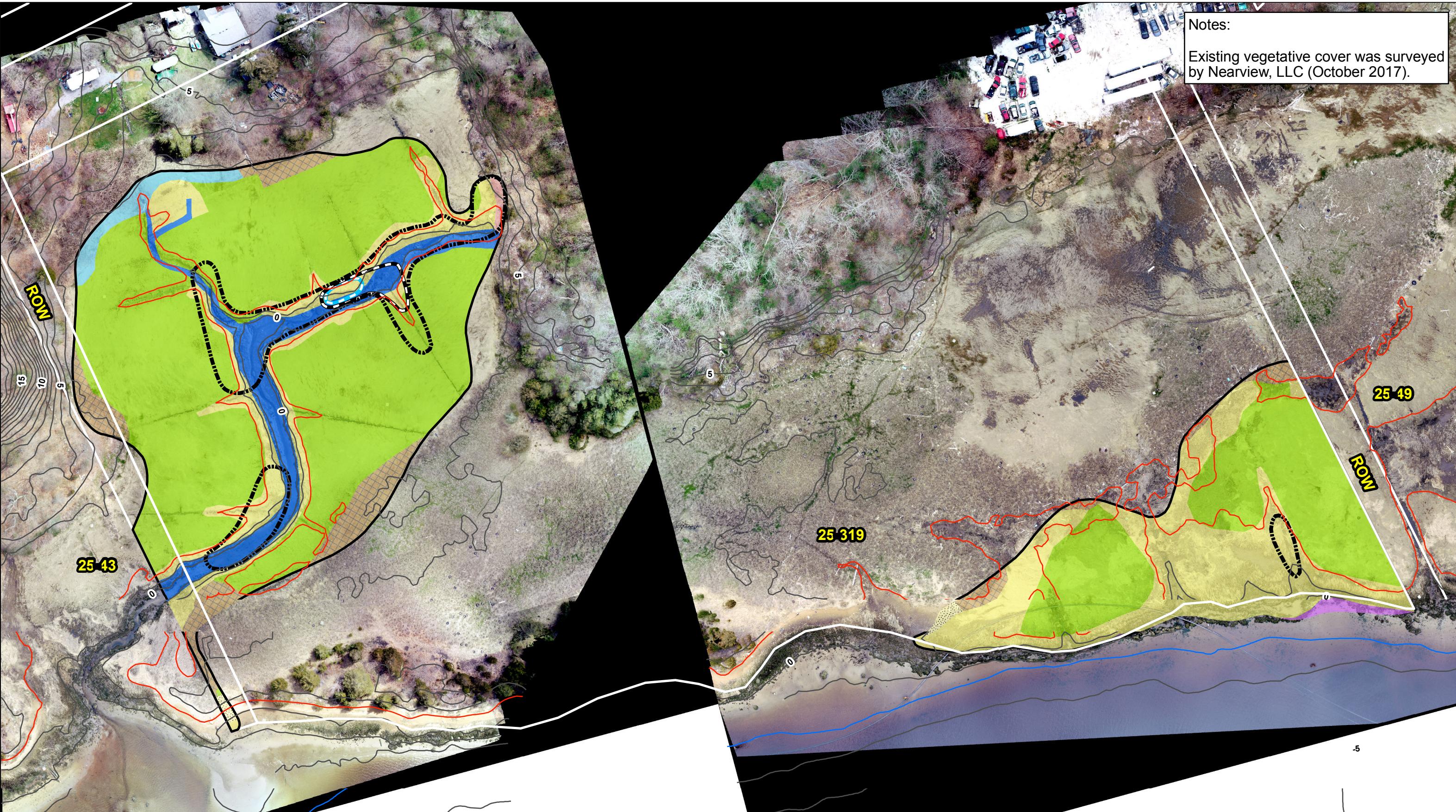
Intertidal East Zone 2 Parcel 25-43
Existing Vegetation, Topography, and Excavation Areas
New Bedford Harbor Superfund Site

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Figure 2-2a

Notes:

Existing vegetative cover was surveyed by Nearview, LLC (October 2017).



Legend

0-1' Excavation Depth	1-foot Contour
1-2' Excavation Depth	Mean Lower Low Water
2-3' Excavation Depth	Mean Higher High Water
3-4' Excavation Depth	Parcel Boundary

High Marsh	Scrub-Shrub Marsh
Low Marsh	Stream
Mudflat	Upland
Phragmites	Beach

Basemap Data Source:
Nearview, LLC

0 50 100
Feet
June 2019



Vertical Datum:
NAVD88

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Intertidal East Zone 2 Parcel 25-319 and ROW
Existing Vegetation, Topography, and Excavation Areas
New Bedford Harbor Superfund Site

Figure 2-2b



Legend

- PCB Characterization and PECC Sample Location
 - PCB Characterization Sample Location
 - Proposed Limits of Excavation
 - MHHW (1.99 ft NAVD88)
 - MLW (-1.97 ft NAVD88)
 - Property Boundary

Basemap Photography: Nearview 2018 and MassGIS 2014



A horizontal scale bar labeled "Feet" at the bottom right. The scale is marked from 0 to 120 in increments of 40.

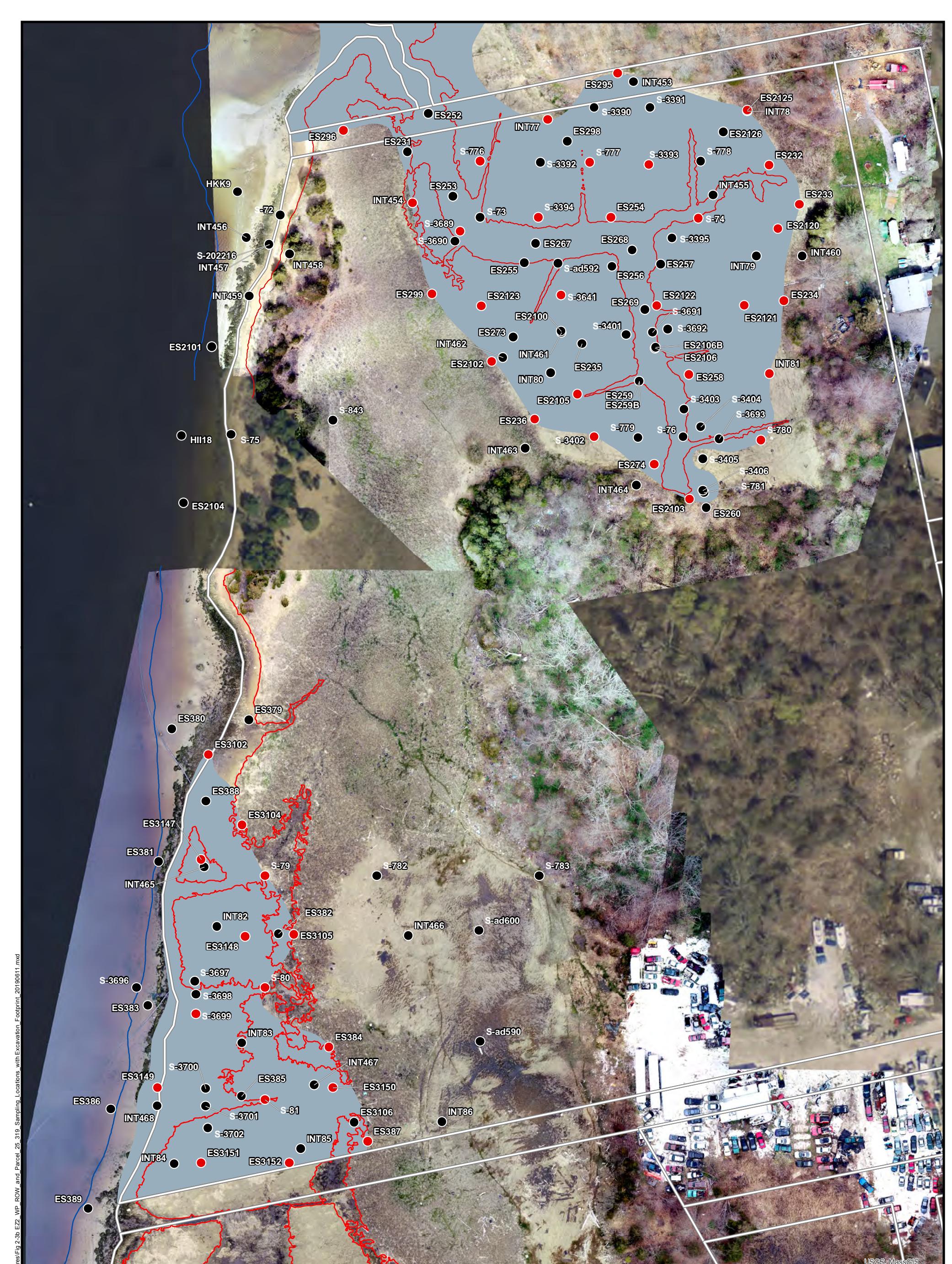
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**Intertidal East Zone 2
Parcel 25-43
Sampling Locations with
Excavation Footprint
(0-1 ft Depth Interval)**

New Bedford Harbor Superfund Site

June 2019

Figure 2-3a



Legend

- PCB Characterization and PECC Sample Location
- PCB Characterization Sample Location
- Proposed Limits of Excavation
- MHHW (1.99 ft)
- MLLW (-1.97 ft)
- Parcel Boundary

Basemap Photography: Nearview 2018 and MassGIS 2014



0 80 160
Feet

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**Intertidal East Zone 2
ROW and Parcel 25-319
Sampling Locations with
Excavation Footprint
(0-1 ft Depth Interval)**

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Figure 2-3b



Legend

- Proposed Limits of Excavation
- Proposed Staging Area / Containment Cell
- Approximate Treated Wastewater Discharge Point
- 15 ft Temporary Gravel Access Road
- MHHW (1.99 ft NAVD88)
- MLLW (-1.97 ft NAVD88)
- Parcel Boundary

Basemap Photography Nearview 2018 and MassGIS 2014

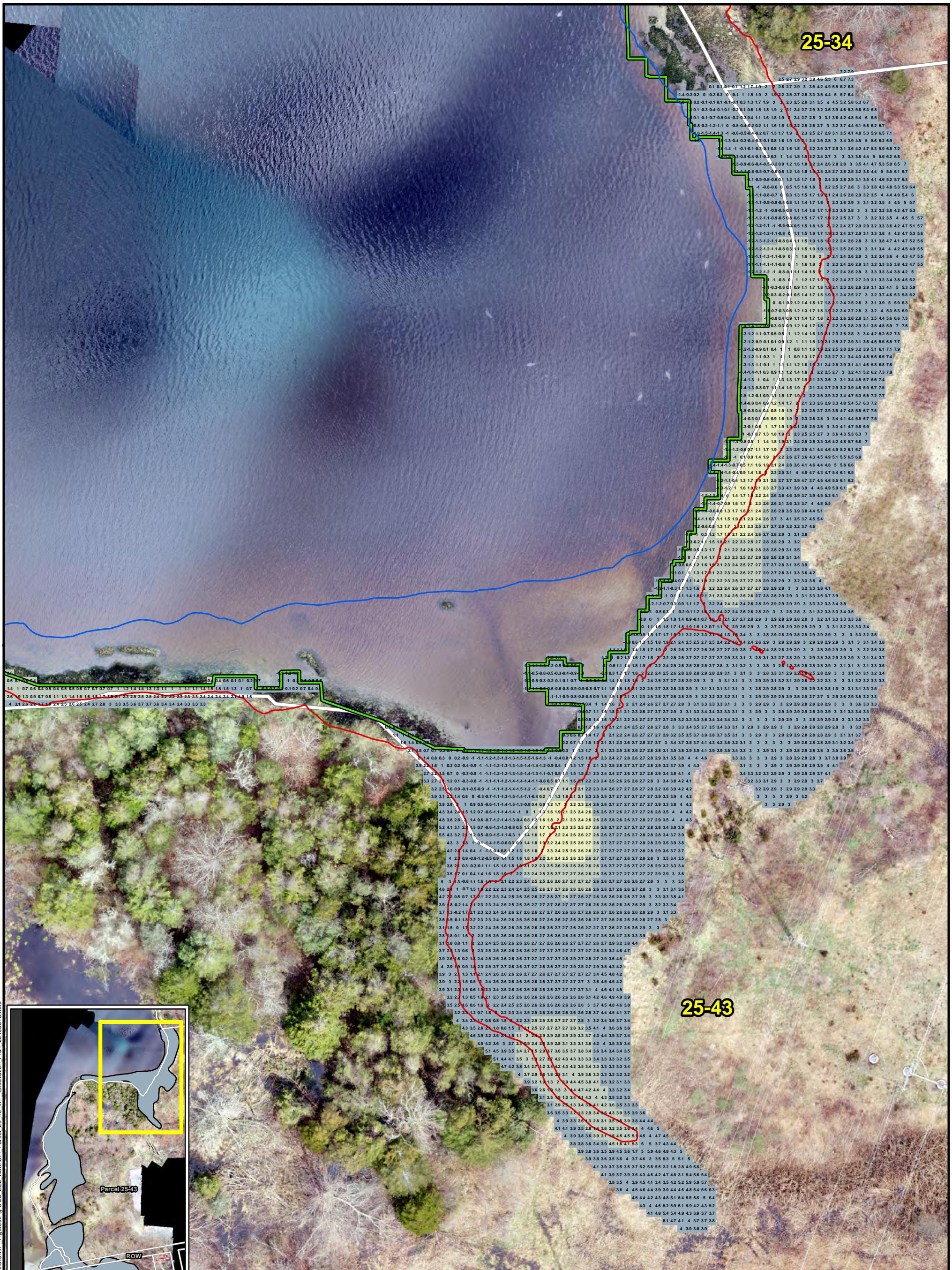


0 80 160
Feet

1:1,920

JACOBS®	
Intertidal East Zone 2 Construction Site Plan	
New Bedford Harbor Superfund Site	
June 2019	Figure 3-1

25-34

**Legend**

Inland Reach of Dredge

MHHW (1.99 ft)

MLLW (-1.97 ft)

Parcel Boundary

Feet of Sediment To Remove

3

2

1

2.1 Pre-Excavation Elevation NAVD88 ft.
(Nearview 2018)

Pre-Excavation MHHW and MLLW Elevations NAVD88 ft.
and Basemap Photography Source: Nearview 2018



0 5 10 20 30 40

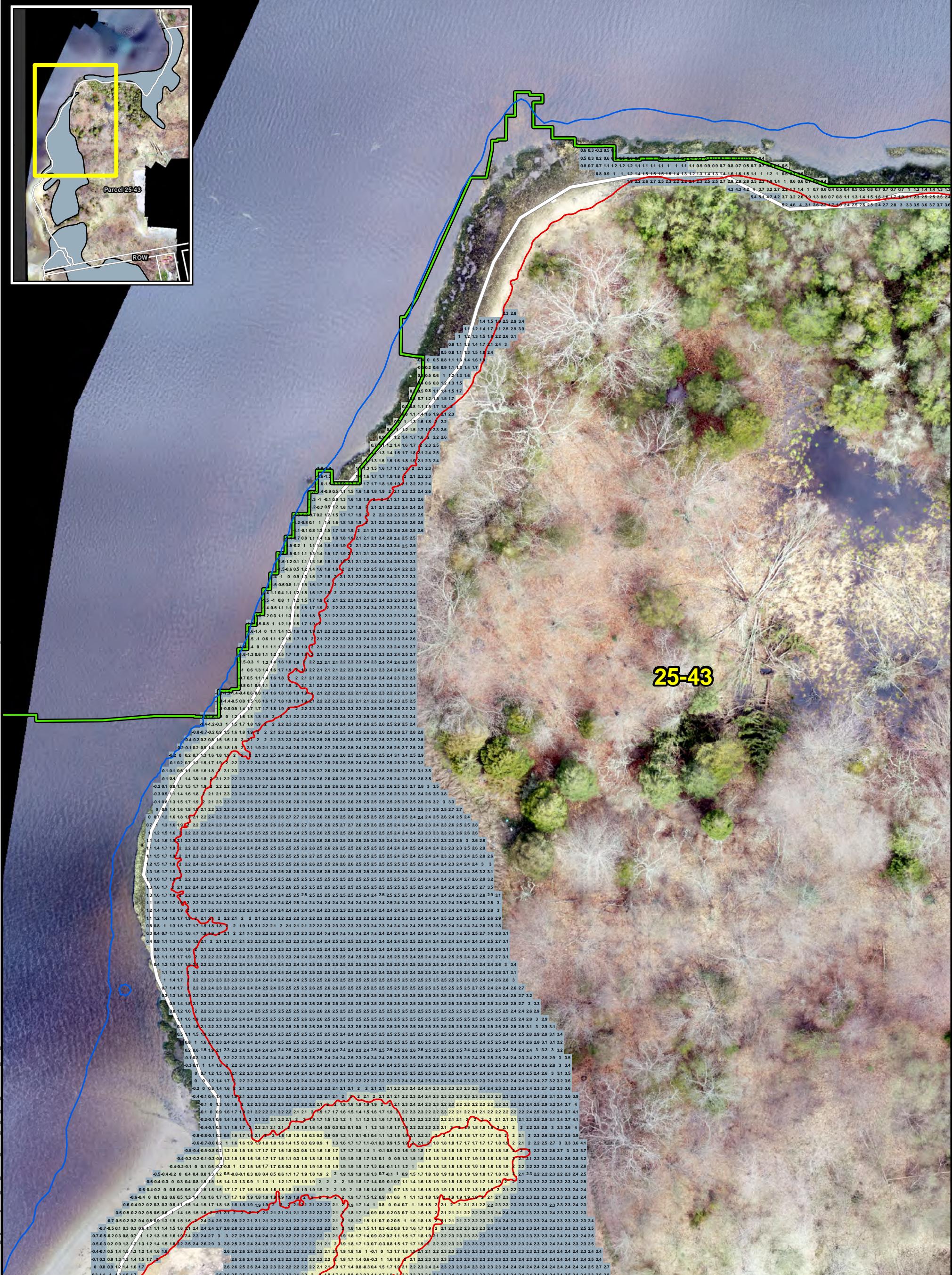
Feet

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Intertidal East Zone 2
Northern Portion of Parcel 25-43
Excavation Plan
Showing Cut Depths and
Pre-Excavation Elevations
New Bedford Harbor Superfund Site

June 2019

Figure 3-2a



Legend

 Inland Reach of Dredge

— MHHW (1.99 ft)

— MLLW (-1.97 ft)

 Parcel Boundary

Feet of Sediment To Remove

3
2
1

2.1 Pre-Excavation Elevations NAVD88 ft.
(Nearview 2018)

Pre-Excavation MHHW and MLLW Elevations NAVD88 ft.
and Basemap Photography Source: Nearview 2018



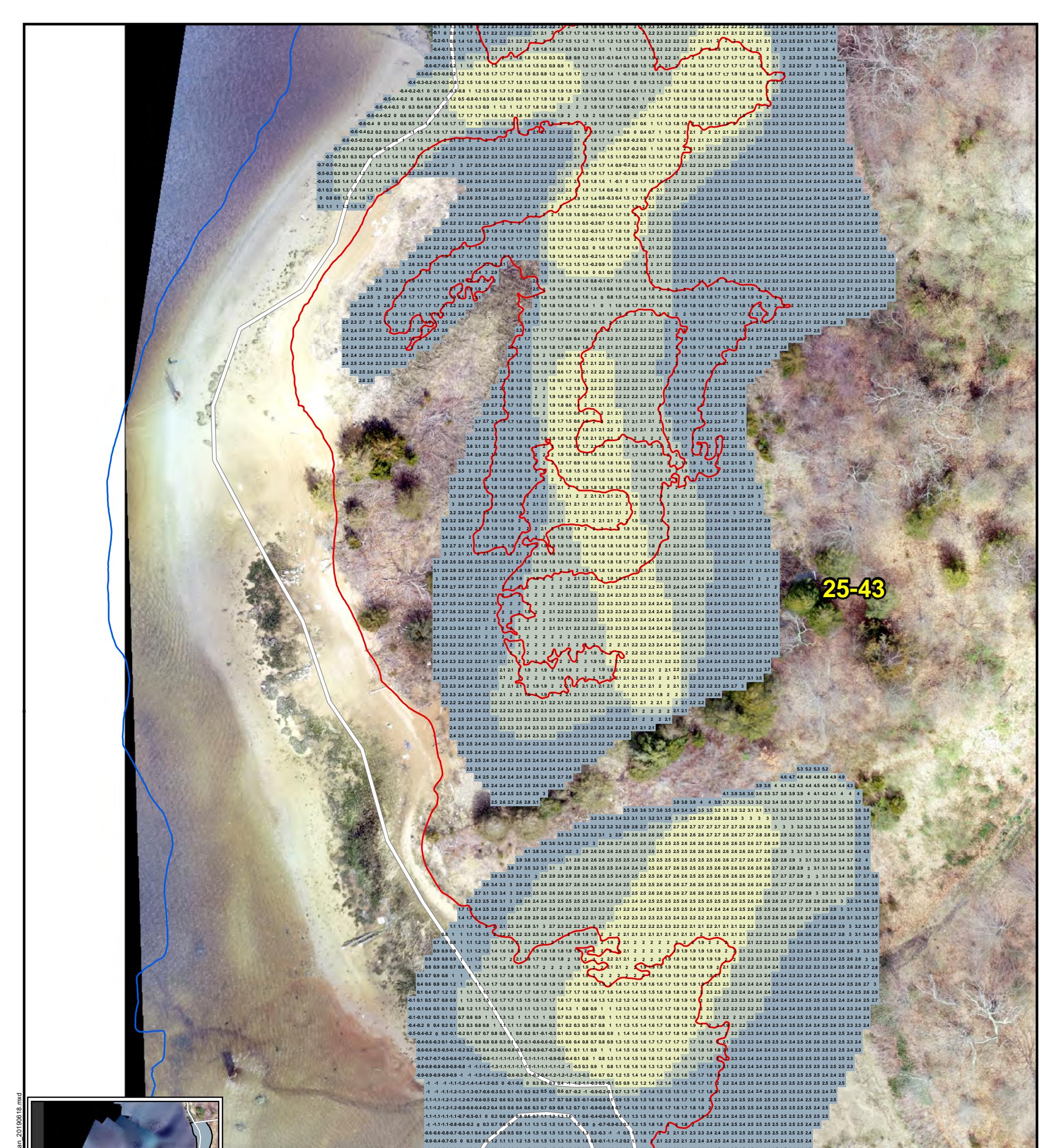
0 5 10 20 30 40
Feet

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Intertidal East Zone 2
Central Portion of Parcel 25-43
Excavation Plan
Showing Cut Depths and
Pre-Excavation Elevations
New Bedford Harbor Superfund Site

June 2019

Figure 3-2b



Legend

- MHHW (1.99 ft)
- MLLW (-1.97 ft)



Feet of Sediment To Remove

3
2
1

2.1 Pre-Excavation Elevations NAVD88 ft.
(Nearview 2018)

Pre-Excavation MHHW and MLLW Elevations NAVD88 ft.
and Basemap Photography Source: Nearview 2018



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Intertidal East Zone 2
Southern Portion of Parcel 25-43
Excavation Plan
Showing Cut Depths and
Pre-Excavation Elevations
New Bedford Harbor Superfund Site
June 2019
Figure 3-2c

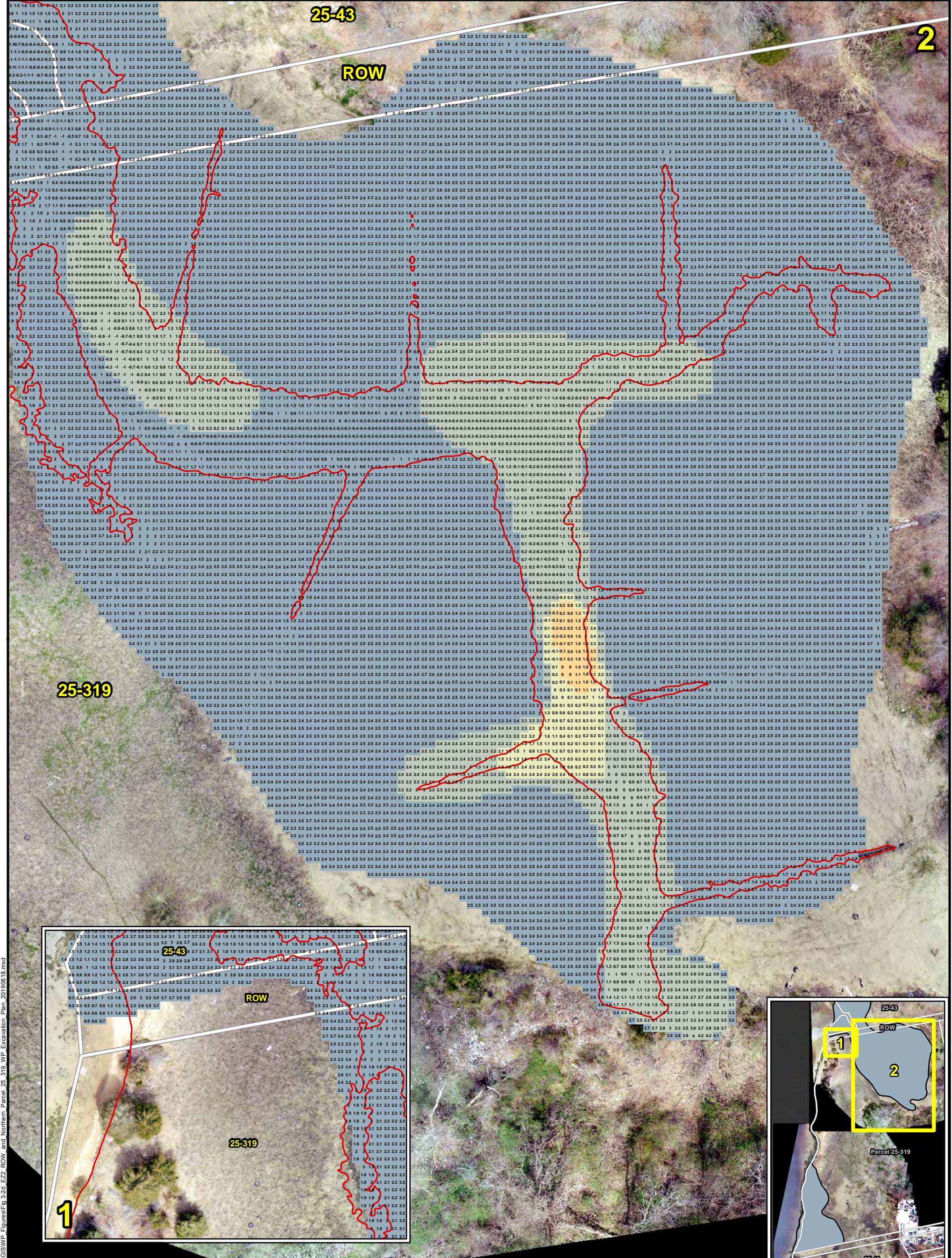
ROW

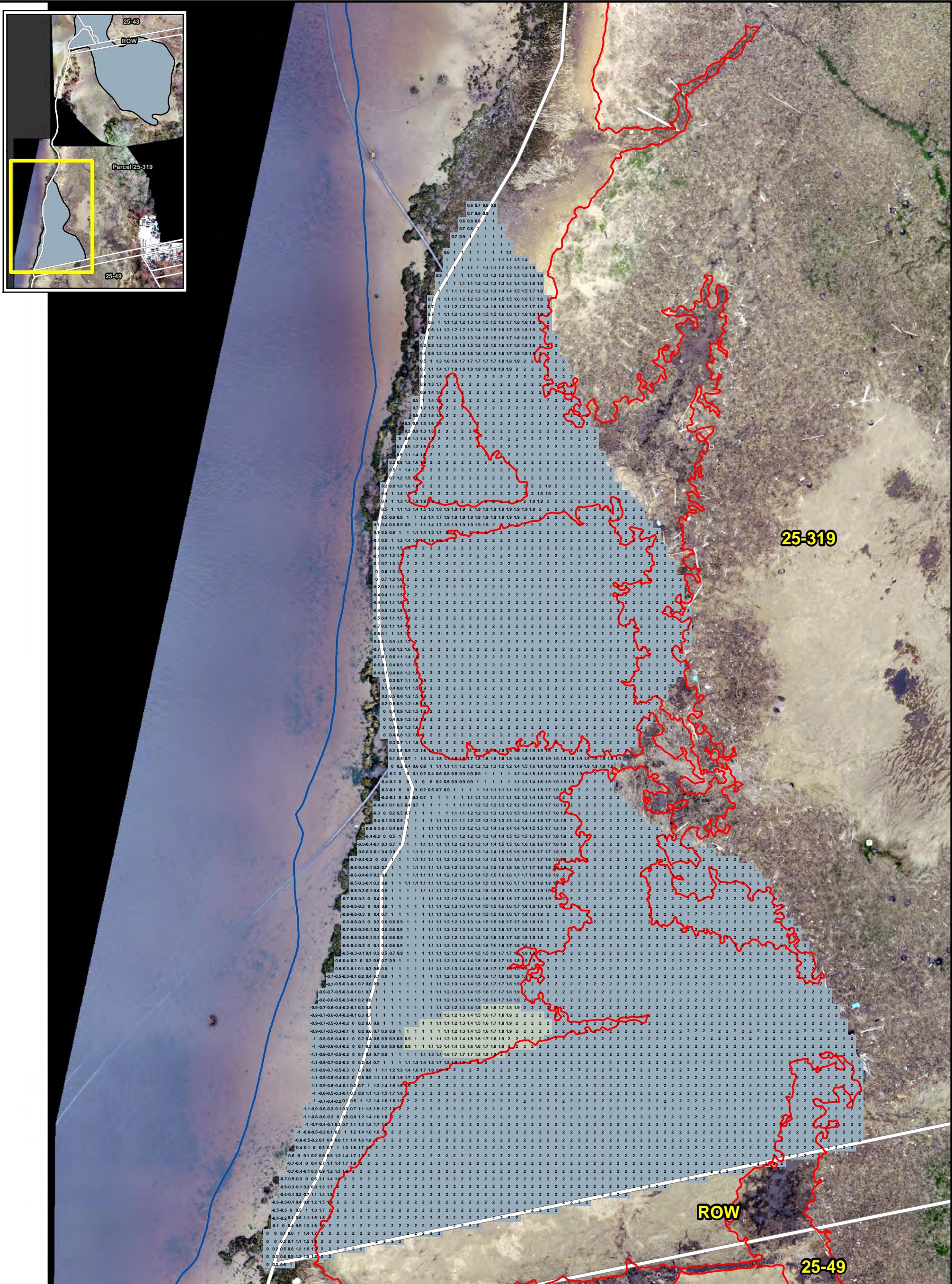
25-319

25-43

ROW

2





Legend

- MHHW (1.99 ft)
- MLLW (-1.97 ft)

■ Parcel Boundary

Feet of Sediment To Remove

2
1

Pre-Excavation MHHW and MLLW Elevations NAVD88 ft.
and Basemap Photography Source: Nearview 2018

0 5 10 20 30 40
Feet

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Intertidal East Zone 2
Southern Portion of Parcel 25-319
Excavation Plan
Showing Cut Depths and
Pre-Excavation Elevations

New Bedford Harbor Superfund Site

June 2019

Figure 3-2e



Legend

- Compliance Survey Locations
- Property Boundary
- Inland Reach of Dredge
- MHHW (1.99 ft NAVD88)
- MLW (-1.97 ft NAVD88)
- Proposed Limits of Excavation

Basemap Photography: Nearview 2018 and MassGIS 2014



0 40 80 120
Feet

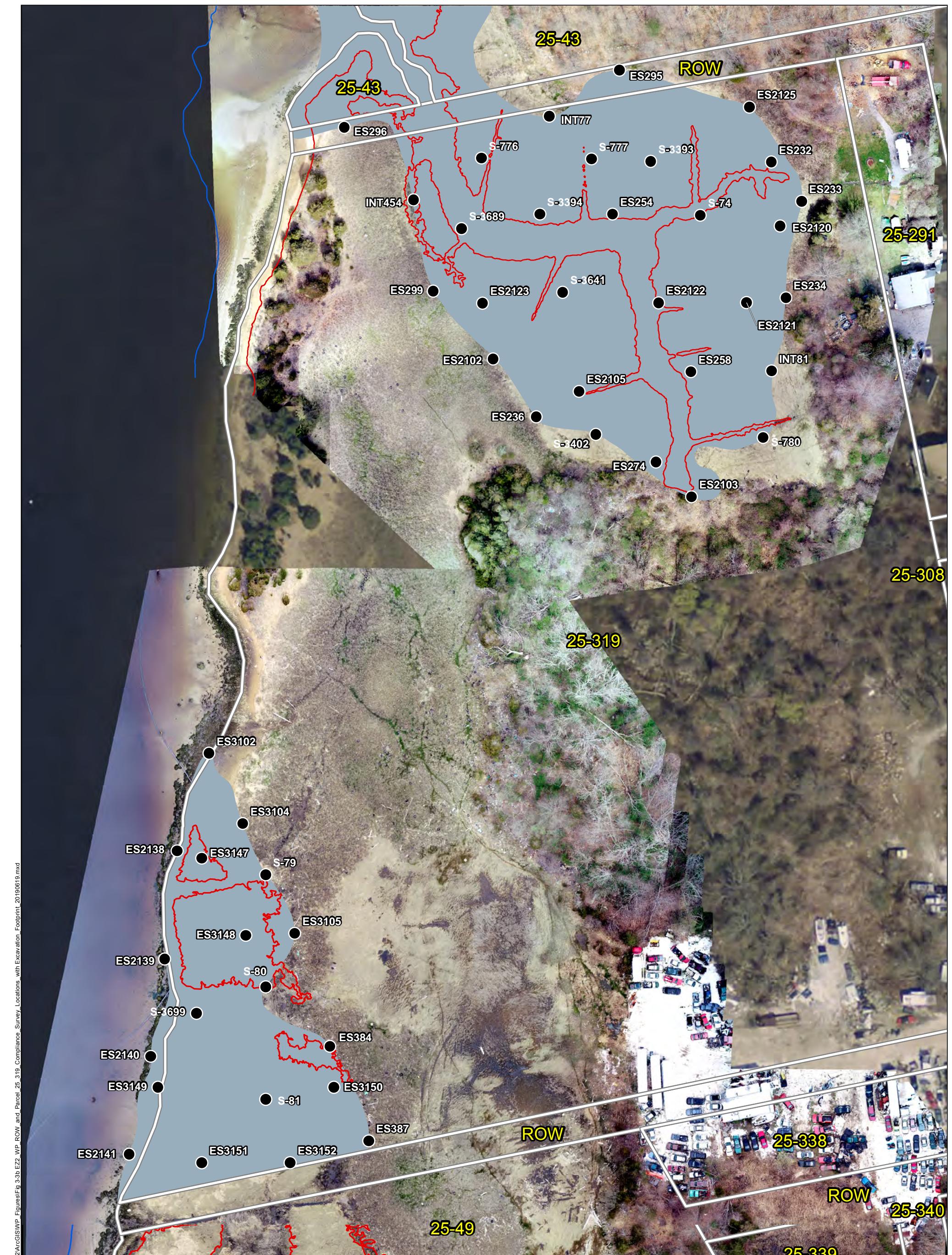
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Intertidal East Zone 2
Parcel 25-43
Compliance Survey Locations with
Excavation Footprint
(0-1 ft Depth Interval)

New Bedford Harbor Superfund Site

June 2019

Figure 3-3a



Legend

- Compliance Survey Location
- Proposed Limits of Excavation
- MHHW (1.99 ft NAVD88)
- MLLW (-1.97 ft NAVD88)
- Parcel Boundary

Basemap Photography: Nearview 2018 and MassGIS 2014



0 80 160
Feet

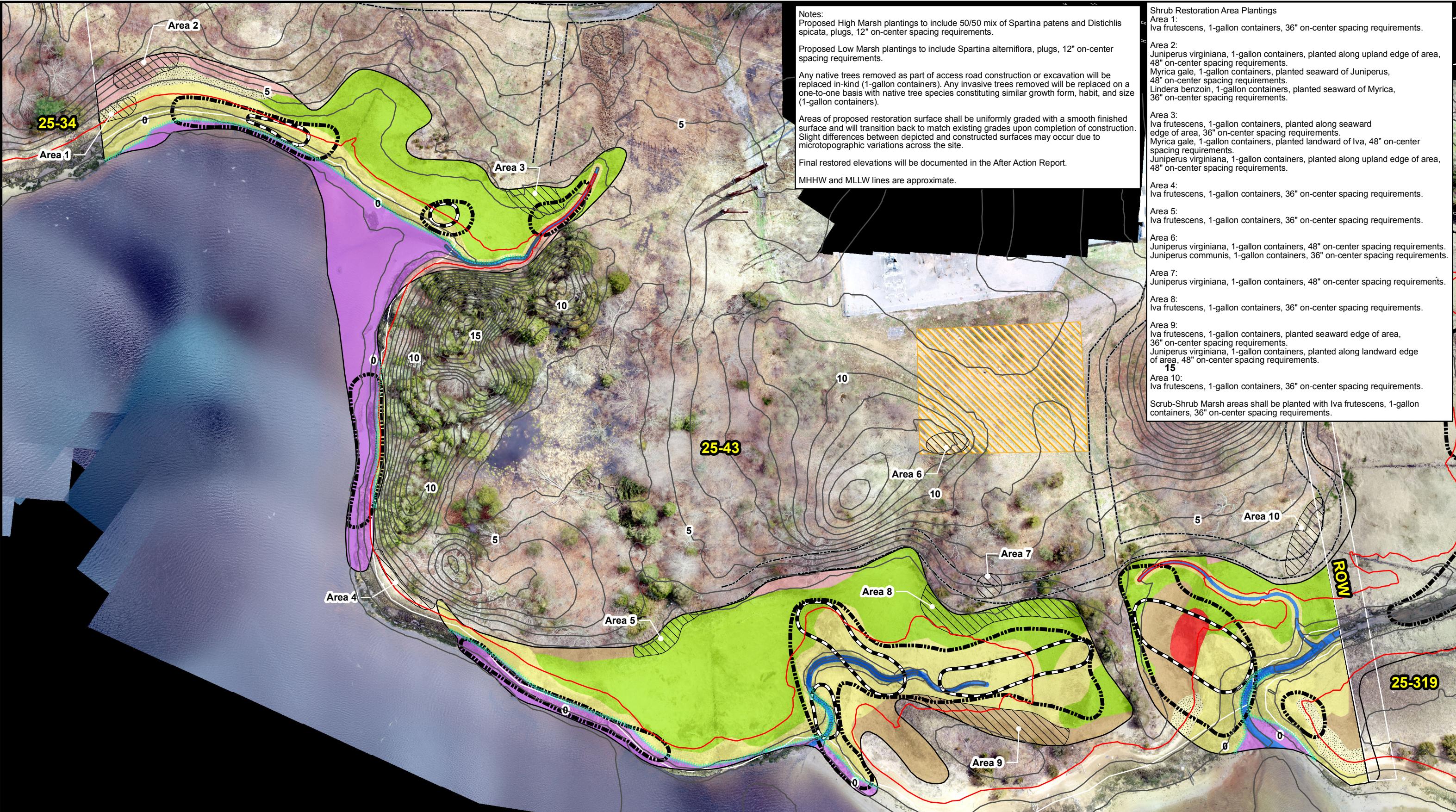
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Intertidal East Zone 2
ROW and Parcel 25-319
Compliance Survey Locations with
Excavation Footprint
(0-1 ft Depth Interval)

New Bedford Harbor Superfund Site

June 2019

Figure 3-3b



Legend

Proposed Coir Log	Proposed Access Road	Proposed Pannes
1-foot Contour	1-2' Excavation Depth	Proposed High Marsh
Mean Higher High Water	2-3' Excavation Depth	Proposed Scrub-Shrub Marsh
Mean Lower Low Water	Proposed Shrub Restoration Areas	Proposed Low Marsh
0-1' Excavation Depth	Proposed Laydown	Proposed Stream
Parcel Boundary	Proposed Beach	Proposed Upland

Proposed Coir Log	Proposed Access Road	Proposed Pannes
1-foot Contour	1-2' Excavation Depth	Proposed High Marsh
Mean Higher High Water	2-3' Excavation Depth	Proposed Scrub-Shrub Marsh
Mean Lower Low Water	Proposed Shrub Restoration Areas	Proposed Low Marsh
0-1' Excavation Depth	Proposed Laydown	Proposed Stream
Parcel Boundary	Proposed Beach	Proposed Upland

Basemap Data Source:
Nearview, LLC

0 50 100
Feet

June 2019



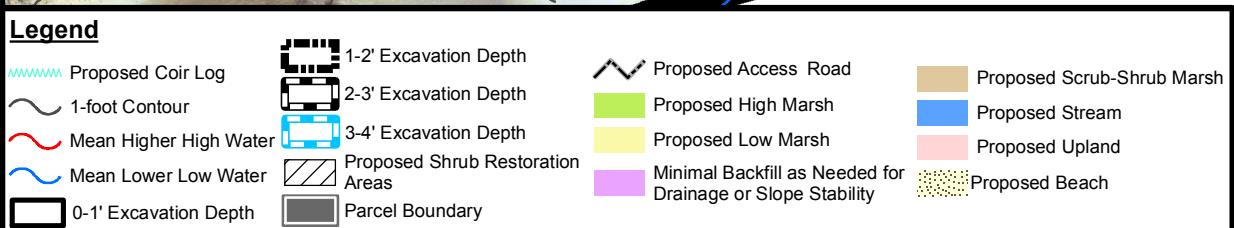
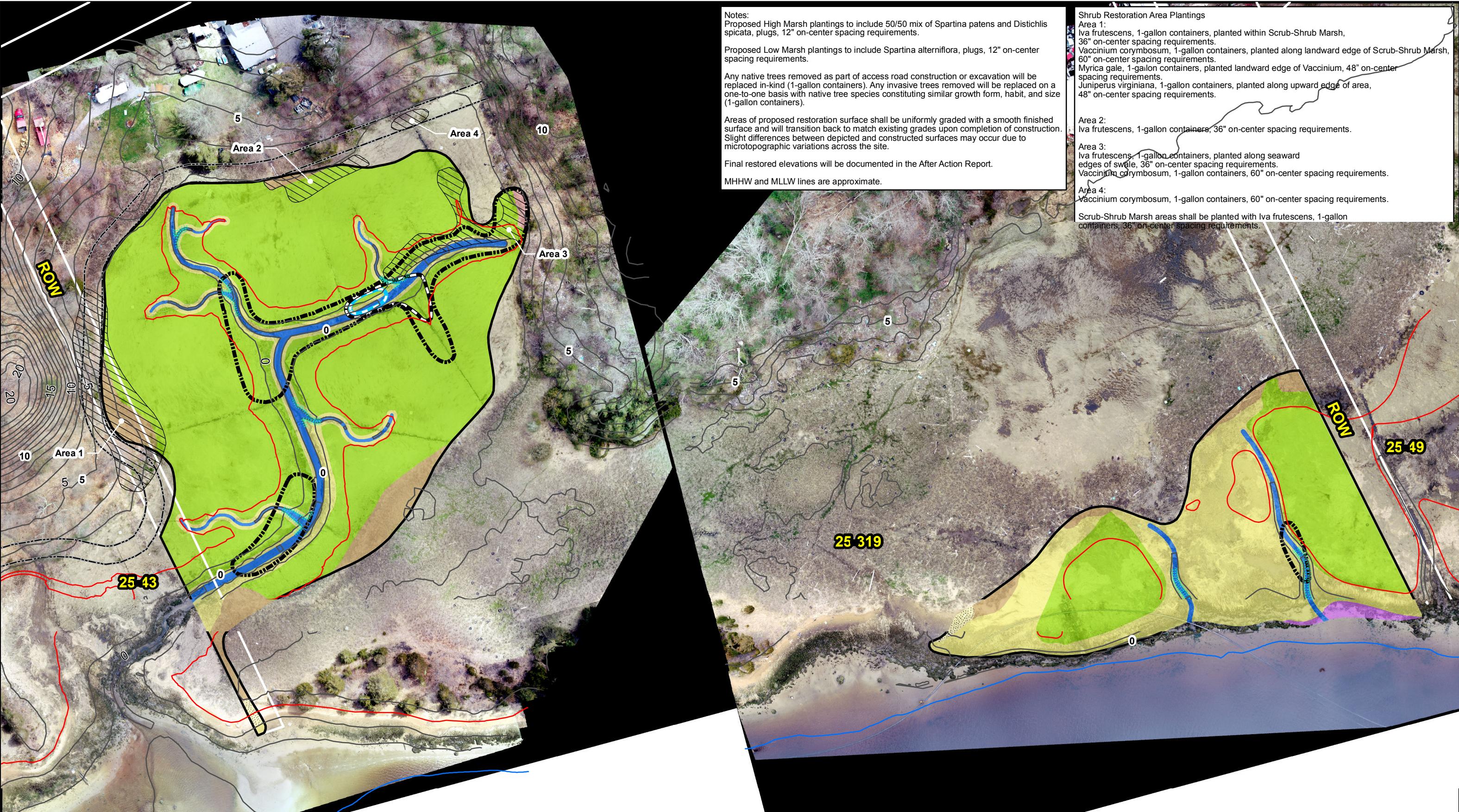
Vertical Datum:
NAVD88

Intertidal East Zone 2 Parcel 25-43 Proposed Wetland Cover Types and Topography

New Bedford Harbor Superfund Site

JACOBS

Figure 7-1a



Basemap Data Source:
Nearview, LLC

0 50 100
Feet
June 2019

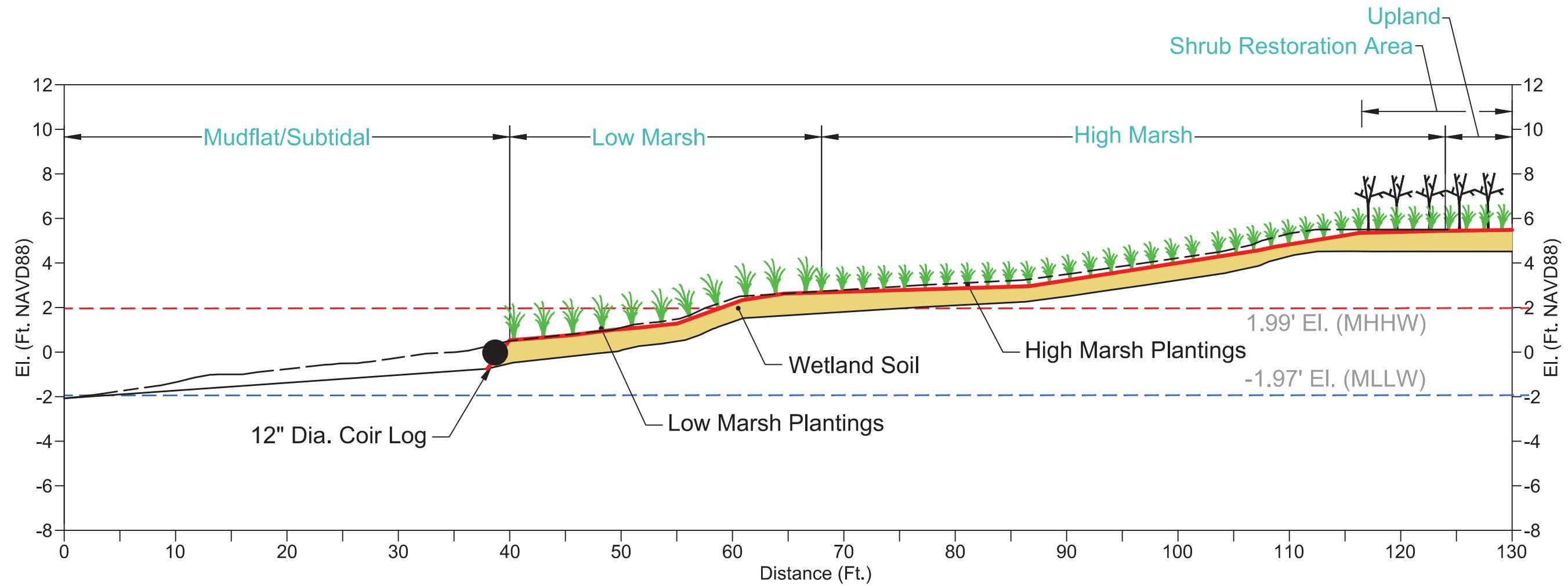


Vertical Datum:
NAVD88

Intertidal East Zone 2 Parcel 25-319 and ROW
Proposed Wetland Cover Types and Topography
New Bedford Harbor Superfund Site

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Figure 7-1b



Legend

- Pre-Construction Surface (dashed line)
- Bottom of Excavation (solid line)
- Post-Construction Surface (red line)
- (MHHW) Mean Higher High Water (red dashed line)
- (MLLW) Mean Lower Low Water (blue dashed line)

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Upper Harbor East Zone 2
Conceptual Cross Section
New Bedford Harbor Superfund Site

Tables

Table 2-1a
Pre-Excavation PCB Characterization Sample Results for Parcel 25-43

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-43	Mudflat	S-ES202-18FSP11-00-10	ES202	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	2680	
25-43	Mudflat	S-ES202-18FSP11-10-20	ES202	1.0	2.0	6/8/2018	Aroclor 1254 - Immunoassay	0.5	U
25-43	Saltmarsh	S-ES203-18FSP11-00-10	ES203	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	472	
25-43	Saltmarsh	S-ES203-18FSP11-10-20	ES203	1.0	2.0	6/4/2018	Total 209 PCB cong (excl non-detects)	42.9	
25-43	Mudflat	S-ES204-18FSP11-00-10	ES204	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	14	
25-43	Mudflat	S-ES204-18FSP11-10-20	ES204	1.0	2.0	6/8/2018	Aroclor 1254 - Immunoassay	0.5	U
25-43	Saltmarsh	S-ES205-18FSP11-00-10	ES205	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	1.41	
25-43	Saltmarsh	S-ES205R-18FSP11-00-10-REP	ES205	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	1.77	
25-43	Saltmarsh	S-ES206-18FSP11-00-10	ES206	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	8.51	
25-43	Saltmarsh	S-ES206-18FSP11-10-20	ES206	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	3.7	J
25-43	Saltmarsh	S-ES207-18FSP11-00-10	ES207	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	440	
25-43	Saltmarsh	S-ES207-18FSP11-10-20	ES207	1.0	2.0	6/8/2018	Aroclor 1254 - Immunoassay	640	JD
25-43	Saltmarsh	S-ES208-18FSP11-00-10	ES208	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	48.1	
25-43	Saltmarsh	S-ES208R-18FSP11-00-10-REP	ES208	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	78.9	
25-43	Saltmarsh	S-ES208-18FSP11-10-20	ES208	1.0	2.0	6/8/2018	Aroclor 1254 - Immunoassay	9.1	J
25-43	Saltmarsh	S-ES208R-18FSP11-10-20-REP	ES208	1.0	2.0	6/8/2018	Aroclor 1254 - Immunoassay	10	J
25-43	Saltmarsh	S-ES209-18FSP11-00-10	ES209	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	1.07	
25-43	Saltmarsh	S-ES210-18FSP11-00-10	ES210	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	6.82	
25-43	Saltmarsh	S-ES2107-18FSP11-10-20	ES2107	1.0	2.0	9/11/2018	Total 209 PCB cong (excl non-detects)	50.2	
25-43	Saltmarsh	S-ES2107-18FSP11-20-30	ES2107	2.0	3.0	9/11/2018	Total 209 PCB cong (excl non-detects)	28.5	
25-43	Saltmarsh	S-ES2108-18FSP11-10-20	ES2108	1.0	2.0	9/12/2018	Total 209 PCB cong (excl non-detects)	0.015	
25-43	Saltmarsh	S-ES2109-18FSP11-10-20	ES2109	1.0	2.0	9/12/2018	Total 209 PCB cong (excl non-detects)	2.27	
25-43	Saltmarsh	S-ES211-18FSP11-00-10	ES211	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	2.35	
25-43	Saltmarsh	S-ES211-18FSP11-10-20	ES211	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	4.4	J
25-43	Saltmarsh	S-ES2110-18FSP11-20-30	ES2110	2.0	3.0	9/12/2018	Total 209 PCB cong (excl non-detects)	0.0124	
25-43	Saltmarsh	S-ES2111-18FSP11-10-20	ES2111	1.0	2.0	9/11/2018	Total 209 PCB cong (excl non-detects)	529	
25-43	Saltmarsh	S-ES2111-18FSP11-20-30	ES2111	2.0	3.0	9/11/2018	Total 209 PCB cong (excl non-detects)	324	
25-43	Saltmarsh	S-ES2111B-18FSP11-30-40	ES2111B	3.0	4.0	12/17/2018	Total 209 PCB cong (excl non-detects)	0.104	
25-43	Saltmarsh	S-ES2112-18FSP11-10-20	ES2112	1.0	2.0	9/11/2018	Total 209 PCB cong (excl non-detects)	321	
25-43	Saltmarsh	S-ES2112-18FSP11-20-30	ES2112	2.0	3.0	9/11/2018	Total 209 PCB cong (excl non-detects)	178	
25-43	Saltmarsh	S-ES2112B-18FSP11-30-40	ES2112B	3.0	4.0	12/17/2018	Total 209 PCB cong (excl non-detects)	0.00124	
25-43	Saltmarsh	S-ES2113-18FSP11-10-20	ES2113	1.0	2.0	9/17/2018	Total 209 PCB cong (excl non-detects)	0.229	
25-43	Saltmarsh	S-ES2114-18FSP11-10-20	ES2114	1.0	2.0	9/6/2018	Total 209 PCB cong (excl non-detects)	3.33	
25-43	Saltmarsh	S-ES2115-18FSP11-10-20	ES2115	1.0	2.0	9/6/2018	Total 209 PCB cong (excl non-detects)	54.4	
25-43	Saltmarsh	S-ES2115-18FSP11-20-30	ES2115	2.0	3.0	9/6/2018	Total 209 PCB cong (excl non-detects)	2.99	
25-43	Saltmarsh	S-ES2116-18FSP11-10-20	ES2116	1.0	2.0	9/6/2018	Total 209 PCB cong (excl non-detects)	12	
25-43	Saltmarsh	S-ES2117-18FSP11-20-30	ES2117	2.0	3.0	8/28/2018	Total 209 PCB cong (excl non-detects)	4420	
25-43	Saltmarsh	S-ES2117-18FSP11-30-40	ES2117	3.0	4.0	8/28/2018	Total 209 PCB cong (excl non-detects)	9.06	
25-43	Saltmarsh	S-ES2118-18FSP11-20-30	ES2118	2.0	3.0	10/12/2018	Total 209 PCB cong (excl non-detects)	60.9	
25-43	Saltmarsh	S-ES2118-18FSP11-30-40	ES2118	3.0	4.0	10/12/2018	Total 209 PCB cong (excl non-detects)	49.8	
25-43	Saltmarsh	S-ES2119-18FSP11-10-20	ES2119	1.0	2.0	9/5/2018	Total 209 PCB cong (excl non-detects)	127	
25-43	Saltmarsh	S-ES2119-18FSP11-20-30	ES2119	2.0	3.0	9/5/2018	Total 209 PCB cong (excl non-detects)	27	
25-43	Saltmarsh	S-ES212-18FSP11-00-10	ES212	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	0.667	
25-43	Saltmarsh	S-ES2124-18FSP11-00-10	ES2124	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	72.6	
25-43	Saltmarsh	S-ES2127-18FSP11-00-10	ES2127	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	1.12	
25-43	Saltmarsh	S-ES213-18FSP11-00-10	ES213	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	221	
25-43	Saltmarsh	S-ES213-18FSP11-10-20	ES213	1.0	2.0	6/6/2018	Aroclor 1254 - Immunoassay	81.81	
25-43	Saltmarsh	S-ES213B-18FSP11-20-30	ES213B	2.0	3.0	10/12/2018	Total 209 PCB cong (excl non-detects)	1.91	
25-43	Saltmarsh	S-ES214-18FSP11-00-10	ES214	0.0	1.0	6/6/2018	Aroclor 1254 - Immunoassay	190	JD
25-43	Saltmarsh	S-ES214-18FSP11-10-20	ES214	1.0	2.0	6/6/2018	Total 209 PCB cong (excl non-detects)	98.70	
25-43	Saltmarsh	S-ES215-18FSP11-00-10	ES215	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	40.3	
25-43	Saltmarsh	S-ES216-18FSP11-00-10	ES216	0.0	1.0	6/8/2018	Total 209 PCB cong (excl non-detects)	7.84	
25-43	Saltmarsh	S-ES217-18FSP11-00-10	ES217	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	13.1	
25-43	Saltmarsh	S-ES218-18FSP11-00-10	ES218	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	116	
25-43	Saltmarsh	S-ES218-18FSP11-10-20	ES218	1.0	2.0	6/6/2018	Total 209 PCB cong (excl non-detects)	7.28	
25-43	Saltmarsh	S-ES219-18FSP11-00-10	ES219	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	90	
25-43	Saltmarsh	S-ES219-18FSP11-10-20	ES219	1.0	2.0	6/6/2018	Total 209 PCB cong (excl non-detects)	54.50	
25-43	Saltmarsh	S-ES220-18FSP11-00-10	ES220	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	170	
25-43	Saltmarsh	S-ES220-18FSP11-10-20	ES220	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	8.9	J
25-43	Saltmarsh	S-ES220-18FSP11-20-30	ES220	2.0	3.0	6/4/2018	Aroclor 1254 - Immunoassay	2.8	J
25-43	Saltmarsh	S-ES221-18FSP11-00-10	ES221	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	1.41	
25-43	Saltmarsh	S-ES222-18FSP11-00-10	ES222	0.0	1.0	6/6/2018	Total 209 PCB cong (excl non-detects)	3.08	
25-43	Saltmarsh	S-ES223-18FSP11-00-10	ES223	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	58.2	
25-43	Saltmarsh	S-ES223-18FSP11-10-20	ES223	1.0	2.0	6/4/2018	Total 209 PCB cong (excl		

Table 2-1a
Pre-Excavation PCB Characterization Sample Results for Parcel 25-43

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-43	Saltmarsh	S-ES261-18FSP11-20-30	ES261	2.0	3.0	6/8/2018	Aroclor 1254 - Immunoassay	23	JD
25-43	Mudflat	S-ES262-18FSP11-20-30	ES262	2.0	3.0	6/6/2018	Aroclor 1254 - Immunoassay	4.6	J
25-43	Mudflat	S-ES262-18FSP11-30-40	ES262	3.0	4.0	6/6/2018	Aroclor 1254 - Immunoassay	15	JD
25-43	Mudflat	S-ES263-18FSP11-20-30	ES263	2.0	3.0	6/6/2018	Aroclor 1254 - Immunoassay	7.3	JD
25-43	Mudflat	S-ES263-18FSP11-30-39	ES263	3.0	3.9	6/6/2018	Aroclor 1254 - Immunoassay	4.6	J
25-43	Saltmarsh	S-ES264-18FSP11-10-20	ES264	1.0	2.0	6/7/2018	Aroclor 1254 - Immunoassay	100	JD
25-43	Saltmarsh	S-ES264-18FSP11-20-30	ES264	2.0	3.0	6/7/2018	Aroclor 1254 - Immunoassay	10	J
25-43	Saltmarsh	S-ES265-18FSP11-10-20	ES265	1.0	2.0	6/6/2018	Aroclor 1254 - Immunoassay	300	JD
25-43	Saltmarsh	S-ES265-18FSP11-20-30	ES265	2.0	3.0	6/6/2018	Total 209 PCB cong (excl non-detects)	17	
25-43	Saltmarsh	S-ES266-18FSP11-20-30	ES266	2.0	3.0	6/7/2018	Aroclor 1254 - Immunoassay	23	JD
25-43	Saltmarsh	S-ES266-18FSP11-30-40	ES266	3.0	4.0	6/7/2018	Aroclor 1254 - Immunoassay	10	J
25-43	Mudflat	S-ES270-18FSP11-00-10	ES270	0.0	1.0	6/7/2018	Aroclor 1254 - Immunoassay	540	JD
25-43	Mudflat	S-ES270-18FSP11-10-20	ES270	1.0	2.0	6/7/2018	Total 209 PCB cong (excl non-detects)	0.104	
25-43	Mudflat	S-ES270-18FSP11-20-30	ES270	2.0	3.0	6/7/2018	Total 209 PCB cong (excl non-detects)	0.0458	
25-43	Saltmarsh	S-ES271-18FSP11-00-10	ES271	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	0.168	
25-43	Mudflat	S-ES272-18FSP11-00-10	ES272	0.0	1.0	6/7/2018	Total 209 PCB cong (excl non-detects)	28.3	
25-43	Saltmarsh	S-ES275-18FSP11-00-10	ES275	0.0	1.0	6/5/2018	Aroclor 1254 - Immunoassay	230	JD
25-43	Saltmarsh	S-ES275-18FSP11-10-20	ES275	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	6.67	
25-43	Mudflat	S-ES276-17ADD5-00-10	ES276	0.0	1.0	7/17/18	Aroclor 1254 - Immunoassay	5.28	
25-43	Mudflat	S-ES276-17ADD5-10-20	ES276	1.0	2.0	7/17/18	Aroclor 1254 - Immunoassay	0.80	
25-43	Mudflat	S-ES277-17ADD5-00-10	ES277	0.0	1.0	7/17/18	Aroclor 1254 - Immunoassay	6.54	
25-43	Mudflat	S-ES277-17ADD5-10-20	ES277	1.0	2.0	7/17/18	Aroclor 1254 - Immunoassay	1.19	
25-43	Saltmarsh	S-ES278-18FSP11-00-10	ES278	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	2.4	
25-43	Saltmarsh	S-ES279-18FSP11-00-10	ES279	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	1.74	
25-43	Mudflat	S-ES280-18FSP11-00-10	ES280	0.0	1.0	9/27/2018	PCB from Immunoassay (Aroclor 1254)	8.3	J
25-43	Mudflat	S-ES280-18FSP11-10-20	ES280	1.0	2.0	9/27/2018	PCB from Immunoassay (Aroclor 1254)	1.2	JB
25-43	Saltmarsh	S-ES281-18FSP11-00-10	ES281	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	0.129	
25-43	Saltmarsh	S-ES282-18FSP11-00-10	ES282	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	11.4	
25-43	Saltmarsh	S-ES283-18FSP11-00-10	ES283	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	40.1	
25-43	Mudflat	S-ES284-18FSP11-00-10	ES284	0.0	1.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	4.1	J
25-43	Mudflat	S-ES284-18FSP11-10-20	ES284	1.0	2.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	1	J
25-43	Saltmarsh	S-ES285-18FSP11-00-10	ES285	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	10	
25-43	Saltmarsh	S-ES285-18FSP11-10-20	ES285	1.0	2.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	6.6	J
25-43	Saltmarsh	S-ES286-18FSP11-00-10	ES286	0.0	1.0	9/6/2018	Total 209 PCB cong (excl non-detects)	4.01	
25-43	Mudflat	S-ES287-18FSP11-00-10	ES287	0.0	1.0	10/5/2018	PCB from Immunoassay (Aroclor 1254)	3.4	J
25-43	Mudflat	S-ES287-18FSP11-10-19	ES287	1.0	1.9	10/5/2018	PCB from Immunoassay (Aroclor 1254)	4	J
25-43	Saltmarsh	S-ES288-18FSP11-00-10	ES288	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	14.1	
25-43	Saltmarsh	S-ES288R-18FSP11-00-10-REP	ES288	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	8.93	
25-43	Saltmarsh	S-ES289-18FSP11-00-10	ES289	0.0	1.0	10/5/2018	Total 209 PCB cong (excl non-detects)	2.87	
25-43	Mudflat	S-ES290-18FSP11-00-10	ES290	0.0	1.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	0.92	J
25-43	Mudflat	S-ES290-18FSP11-10-21	ES290	1.0	2.1	10/12/2018	PCB from Immunoassay (Aroclor 1254)	0.56	J
25-43	Saltmarsh	S-ES291-18FSP11-00-10	ES291	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	21.7	
25-43	Saltmarsh	S-ES291-18FSP11-10-20	ES291	1.0	2.0	9/11/2018	PCB from Immunoassay (Aroclor 1254)	2.5	J
25-43	Saltmarsh	S-ES292-18FSP11-00-10	ES292	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	1.34	
25-43	Saltmarsh	S-ES292-18FSP11-10-15	ES292	1.0	1.5	9/11/2018	PCB from Immunoassay (Aroclor 1254)	1.8	J
25-43	Mudflat	S-ES293-18FSP11-00-10	ES293	0.0	1.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	1.6	J
25-43	Mudflat	S-ES293-18FSP11-10-20	ES293	1.0	2.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	0.82	J
25-43	Saltmarsh	S-ES294-18FSP11-00-10	ES294	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	9.52	
25-43	Mudflat	2018 Intertidal Data Gaps	ES297	0.0	1.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	7.8	J
25-43	Mudflat	2018 Intertidal Data Gaps	ES297	1.0	2.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	0.44	J
25-43	Mudflat	S-15L-HJJ6-00-05	HJJ6	0.0	0.5	7/24/2015	Total 139 PCB cong (excl non-detects)	1.90	
25-43	Mudflat	S-15L-HNN2-00-04	HNN2	0.0	0.4	7/24/2015	Aroclor 1254 - Immunoassay	47.0	D
25-43	Mudflat	S-15L-HNN2-04-09	HNN2	0.4	0.9	7/24/2015	Aroclor 1254 - Immunoassay	2.10	
25-43	Saltmarsh	S-15N-INT323-00-10	INT323	0.0	1.0	11/20/2015	Aroclor 1254 - Immunoassay	274	D
25-43	Saltmarsh	S-15N-INT323-10-20	INT323	1.0	2.0	11/20/2015	Aroclor 1254 - Immunoassay	1.80	
25-43	Saltmarsh	S-15N-INT324-00-10	INT324	0.0	1.0	11/20/2015	Total 139 PCB cong (excl non-detects)	170	
25-43	Saltmarsh	S-15N-INT324-10-20	INT324	1.0	2.0	11/20/2015	Aroclor 1254 - Immunoassay	0.80	
25-43	Saltmarsh	S-15N-INT325-00-10	INT325	0.0	1.0	11/20/2015	Total 139 PCB cong (excl non-detects)	160	
25-43	Saltmarsh	S-15N-INT325-10-20	INT325	1.0	2.0	11/20/2015	Aroclor 1254 - Immunoassay	1.80	
25-43	Saltmarsh	S-15N-INT326-00-10	INT326	0.0	1.0	11/20/2015	Aroclor 1254 - Immunoassay	5.80	D
25-43	Saltmarsh	S-15N-INT326-10-20	INT326	1.0	2.0	11/20/2015	Aroclor 1254 - Immunoassay	2.60	
25-43	Saltmarsh	S-15N-INT327-00-10	INT327	0.0	1.0	11/20/2015	Aroclor 1254 - Immunoassay	1596	D
25-43	Saltmarsh	S-15N-INT327-10-20	INT327	1.0	2.0	11/20/2015	Aroclor 1254 - Immunoassay	115	D
25-43	Saltmarsh	S-15N-INT327-20-29	INT327	2.0	2.9	11/20/2015	Aroclor 1254 - Immunoassay	57.9	D
25-43</td									

Table 2-1a
Pre-Excavation PCB Characterization Sample Results for Parcel 25-43

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-43	Saltmarsh	S-17U-INT451-00-10	INT451	0.0	1.0	6/2/2017	Aroclor 1254 - Immunoassay	20.5	
25-43	Saltmarsh	S-17U-INT451-10-20	INT451	1.0	2.0	6/2/2017	Aroclor 1254 - Immunoassay	3.62	
25-43	Saltmarsh	S-17U-INT452-00-10	INT452	0.0	1.0	6/2/2017	Aroclor 1254 - Immunoassay	180	
25-43	Saltmarsh	S-17U-INT452-10-20	INT452	1.0	2.0	6/2/2017	Aroclor 1254 - Immunoassay	2.44	
25-43	Saltmarsh	S-15A-INT69-00-10	INT69	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	1.40	
25-43	Saltmarsh	S-15A-INT69-10-20	INT69	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	0.90	
25-43	Mudflat	S-15A-INT70-00-10	INT70	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	1534	D
25-43	Mudflat	S-15A-INT70-10-20	INT70	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	2.80	
25-43	Mudflat	S-15A-INT71-00-10	INT71	0.0	1.0	4/21/2015	Aroclor 1254 - Immunoassay	1285	D
25-43	Mudflat	S-15A-INT71-10-20	INT71	1.0	2.0	4/21/2015	Aroclor 1254 - Immunoassay	1.40	
25-43	Saltmarsh	S-15A-INT72-00-10	INT72	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	1751	D
25-43	Saltmarsh	S-15A-INT72-00-10-REP	INT72	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	952	D
25-43	Saltmarsh	S-15A-INT72-10-20	INT72	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	5.00	
25-43	Saltmarsh	S-15A-INT72-10-20-REP	INT72	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	4.60	
25-43	Saltmarsh	S-15A-INT73-00-10	INT73	0.0	1.0	4/20/2015	Total 139 PCB cong (excl non-detects)	27.0	
25-43	Saltmarsh	S-15A-INT73-10-20	INT73	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	1.00	
25-43	Saltmarsh	S-15A-INT74-00-10	INT74	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	1.30	
25-43	Saltmarsh	S-15A-INT74-10-20	INT74	1.0	2.0	4/20/2015	Aroclor 1254 - Immunoassay	1.30	
25-43	Saltmarsh	S-15A-INT75-00-10	INT75	0.0	1.0	4/20/2015	Aroclor 1254 - Immunoassay	2232	D
25-43	Saltmarsh	S-15A-INT75-10-20	INT75	1.0	2.0	4/20/2015	Total 139 PCB cong (excl non-detects)	67.0	
25-43	Saltmarsh	S-15A-INT75-20-30	INT75	2.0	3.0	4/20/2015	Aroclor 1254 - Immunoassay	1.20	
25-43	Saltmarsh	S-201616	S-201616	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor) ¹	800	
25-43	Mudflat	S-3349-2.9-3.4	S-3349	2.9	3.4	9/13/2001	Total 18 NOAA PCB cong (excl non-detects)	28.6	
25-43	Saltmarsh	S-3389-0.0-1.0	S-3389	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	198	
25-43	Saltmarsh	S-3389-1.0-2.0	S-3389	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	49.4	
25-43	Saltmarsh	S-3683-8-1.0	S-3683	0.8	1.0	10/29/2001	Total 18 NOAA PCB cong (excl non-detects)	4.68	
25-43	Saltmarsh	S-3684-0.0-8	S-3684	0.0	0.8	10/29/2001	Total 18 NOAA PCB cong (excl non-detects)	2392	
25-43	Saltmarsh	S-3685-0.0-4	S-3685	0.0	0.4	10/29/2001	Total 18 NOAA PCB cong (excl non-detects)	91.0	
25-43	Saltmarsh	S-3685-4-1.0	S-3685	0.4	1.0	10/29/2001	Total 18 NOAA PCB cong (excl non-detects)	16.1	
25-43	Saltmarsh	S-3685-1.0-2.0	S-3685	1.0	2.0	10/29/2001	Total 18 NOAA PCB cong (excl non-detects)	7.02	
25-43	Channel	S-3687-0.0-1.0	S-3687	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	146	
25-43	Saltmarsh	S-3688-0.0-1.0	S-3688	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	312	
25-43	Saltmarsh	S-3688-2.8-3.0	S-3688	2.8	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	5.72	
25-43	Saltmarsh	S-0054-1	S-54	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	820	
25-43	Saltmarsh	S-0054-2	S-54	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	8.00	
25-43	Saltmarsh	S-0057-1	S-57	0.0	1.0	9/8/1999	Total PCB Congeners (sum CONG x factor)	10.0	
25-43	Saltmarsh	S-0057-2	S-57	1.0	2.0	9/8/1999	Total PCB Congeners (sum CONG x factor)	3.00	
25-43	Mudflat	S-0058-1	S-58	0.0	1.0	9/8/1999	Total PCB Congeners (sum CONG x factor)	38.0	
25-43	Mudflat	S-0058-2	S-58	1.0	2.0	9/8/1999	Total PCB Congeners (sum CONG x factor)	6.80	
25-43	Saltmarsh	S-0059-1	S-59	0.0	1.0	9/7/1999	Total PCB Congeners (sum CONG x factor)	10000	
25-43	Mudflat	S-0061-1	S-61	0.0	1.0	9/2/1999	Total 18 NOAA PCB cong (excl non-detects)	338	
25-43	Saltmarsh	S-0062-1	S-62	0.0	1.0	9/2/1999	Total PCB Congeners (sum CONG x factor)	780	
25-43	Saltmarsh	S-0062-2	S-62	1.0	2.0	9/2/1999	Total PCB Congeners (sum CONG x factor)	9.20	
25-43	Saltmarsh	S-0064-1	S-64	0.0	1.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	4.00	
25-43	Saltmarsh	S-0064-2	S-64	1.0	2.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3.50	
25-43	Saltmarsh	S-0064-3	S-64	2.0	3.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3.20	
25-43	Saltmarsh	S-0064-3DUP	S-64	2.0	3.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3.00	
25-43	Mudflat	S-0067-1	S-67	0.0	1.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	12.0	
25-43	Mudflat	S-0067-2	S-67	1.0	2.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3.50	
25-43	Saltmarsh	S-0068-1	S-68	0.0	1.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	450	
25-43	Saltmarsh	S-0068-2	S-68	1.0	2.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3200	
25-43	Saltmarsh	S-0068-3	S-68	2.0	3.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	350	
25-43	Saltmarsh	S-0071-1	S-71	0.0	1.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	62.0	
25-43	Saltmarsh	S-0071-2	S-71	1.0	2.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	70.0	
25-43	Saltmarsh	S-0071-3	S-71	2.0	3.0	9/15/1999	Total PCB Congeners (sum CONG x factor)	3.20	
25-43	Upland	S-0728-1	S-728	0.0	1.0	10/31/2000	Total 18 NOAA PCB cong (excl non-detects)	0.96	
25-43	Upland	S-0728-2	S-728	1.0	2.0	10/31/2000	Total 18 NOAA PCB cong (excl non-detects)	0.11	
25-43	Saltmarsh	S-0761-1	S-761	0.0	1.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	1.27	
25-43	Saltmarsh	S-0761-2	S-761	1.0	2.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	0.42	
25-43	Saltmarsh	S-0762-1	S-762	0.0	1.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	0.39	
25-43	Saltmarsh	S-0762-2	S-762	1.0	2.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	0.00	U
25-43	Saltmarsh	S-0763-1	S-763	0.0	1.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	780	
25-43	Saltmarsh	S-0763-2	S-763	1.0	2.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	0.86	
25-43	Saltmarsh	S-0764-1	S-764	0.0	1.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	364	
25-43	Saltmarsh	S-0764-2	S-764	1.0	2.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	5.72	
25-43	Saltmarsh	S-0764-2DUP	S-764	1.0	2.0	10/10/2000	Total 18 NOAA PCB cong (excl non-detects)	3.90	
25-43	Upland	S-0765-1	S-765	0.0	1.0	10/31/2000	Total 18 NOAA PCB cong (excl non-detects)	1.46	
25-43	Upland	S-0765-2	S-765	1.0	2.0	10/31/2000	Total 18 NOAA PCB cong (excl non-detects)	0.10	
25-43	Saltmarsh	S-0766-1	S-766	0.0	1.0	10/31/2000	Total 18 NOAA PCB cong (excl non-detects)	52.0	
25-43	Saltmarsh	S-0766-2	S-766	1.0	2.0	10/31/2000	Total		

Table 2-1b
Pre-Excavation PCB Characterization Sample Results for Parcel 25-319 and ROW

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-319	Saltmarsh	S-ES2100-18FSP11-00-10	ES2100	0.0	1.0	9/5/2018	Total 209 PCB cong (excl non-detects)	76.8	
25-319	Mudflat	S-ES2101-18FSP11-00-10	ES2101	0.0	1.0	9/11/2018	PCB from Immunoassay (Aroclor 1254)	0.84	J
25-319	Mudflat	S-ES2101-18FSP11-10-20	ES2101	1.0	2.0	9/11/2018	PCB from Immunoassay (Aroclor 1254)	0.44	J
25-319	Saltmarsh	S-ES2102-18FSP11-00-10	ES2102	0.0	1.0	9/5/2018	Total 209 PCB cong (excl non-detects)	8.19	
25-319	Saltmarsh	S-ES2103-18FSP11-00-10	ES2103	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	0.104	
25-319	Saltmarsh	S-ES2103R-18FSP11-00-10-REP	ES2103	0.0	1.0	10/12/2018	Total 209 PCB cong (excl non-detects)	0.226	
25-319	Mudflat	S-ES2104-18FSP11-00-10	ES2104	0.0	1.0	9/11/2018	PCB from Immunoassay (Aroclor 1254)	1.2	J
25-319	Mudflat	S-ES2104-18FSP11-10-20	ES2104	1.0	2.0	9/11/2018	PCB from Immunoassay (Aroclor 1254)	0.4	J
25-319	Saltmarsh	S-ES2105-18FSP11-10-20	ES2105	1.0	2.0	9/5/2018	Total 209 PCB cong (excl non-detects)	2.65	
25-319	Saltmarsh	S-ES2106-18FSP11-30-40	ES2106	3.0	4.0	10/12/2018	PCB from Immunoassay (Aroclor 1254)	76	JD
25-319	Saltmarsh	S-ES2106-18FSP11-40-50	ES2106	4.0	5.0	10/12/2018	Total 209 PCB cong (excl non-detects)	2.97	
25-319	Saltmarsh	S-ES2106B-18FSP11-50-60	ES2106B	5.0	6.0	12/17/2018	Total 209 PCB cong (excl non-detects)	0.063	
25-319	Saltmarsh	S-ES2120-18FSP11-10-20	ES2120	1.0	2.0	9/17/2018	Total 209 PCB cong (excl non-detects)	0.838	
25-319	Saltmarsh	S-ES2121-18FSP11-10-20	ES2121	1.0	2.0	8/30/2018	Total 209 PCB cong (excl non-detects)	9.04	
25-319	Saltmarsh	S-ES2122-18FSP11-20-30	ES2122	2.0	3.0	10/12/2018	Total 209 PCB cong (excl non-detects)	12.8	
25-319	Saltmarsh	S-ES2123-18FSP11-10-20	ES2123	1.0	2.0	9/5/2018	Total 209 PCB cong (excl non-detects)	0.434	
25-319	Saltmarsh	S-ES2125-18FSP11-00-10	ES2125	0.0	1.0	9/6/2018	Total 209 PCB cong (excl non-detects)	1.65	
25-319	Saltmarsh	S-ES2126-18FSP11-00-10	ES2126	0.0	1.0	8/28/2018	PCB from Immunoassay (Aroclor 1254)	87	JD
25-319	Saltmarsh	S-ES2126-18FSP11-10-20	ES2126	1.0	2.0	8/28/2018	PCB from Immunoassay (Aroclor 1254)	8.48	
25-319	Saltmarsh	S-ES231-18FSP11-00-10	ES231	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	74.5	
25-319	Saltmarsh	S-ES231-18FSP11-10-20	ES231	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	8.63	
25-319	Saltmarsh	S-ES232-18FSP11-00-10	ES232	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	98.8	
25-319	Saltmarsh	S-ES232-18FSP11-10-20	ES232	1.0	2.0	6/4/2018	Total 209 PCB cong (excl non-detects)	3.66	
25-319	Saltmarsh	S-ES233-18FSP11-00-10	ES233	0.0	1.0	6/4/2018	Total 209 PCB cong (excl non-detects)	27.4	
25-319	Saltmarsh	S-ES234-18FSP11-00-10	ES234	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	0.673	
25-319	Saltmarsh	S-ES235-18FSP11-00-10	ES235	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	50.6	
25-319	Saltmarsh	S-ES235R-18FSP11-00-10-REP	ES235	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	65.5	
25-319	Saltmarsh	S-ES235-18FSP11-10-20	ES235	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	1.07	
25-319	Saltmarsh	S-ES236-18FSP11-00-10	ES236	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	12.1	
25-319	Channel	S-ES253-18FSP11-00-10	ES253	0.0	1.0	6/4/2018	Aroclor 1254 - Immunoassay	93	JD
25-319	Channel	S-ES253-18FSP11-10-20	ES253	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	99	JD
25-319	Channel	S-ES253-18FSP11-20-29	ES253	2.0	2.9	6/4/2018	Aroclor 1254 - Immunoassay	1.9	J
25-319	Saltmarsh	S-ES254-18FSP11-10-20	ES254	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	94	JD
25-319	Saltmarsh	S-ES254-18FSP11-20-30	ES254	2.0	3.0	6/5/2018	Total 209 PCB cong (excl non-detects)	16.70	
25-319	Saltmarsh	S-ES255-18FSP11-10-20	ES255	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	8.2	JD
25-319	Saltmarsh	S-ES256-18FSP11-10-20	ES256	1.0	2.0	6/5/2018	Total 209 PCB cong (excl non-detects)	34.8	J+
25-319	Saltmarsh	S-ES256-18FSP11-20-30	ES256	2.0	3.0	6/5/2018	Aroclor 1254 - Immunoassay	12	JD
25-319	Saltmarsh	S-ES257-18FSP11-10-20	ES257	1.0	2.0	6/5/2018	Total 209 PCB cong (excl non-detects)	29.4	J+
25-319	Saltmarsh	S-ES257-18FSP11-20-30	ES257	2.0	3.0	6/5/2018	Aroclor 1254 - Immunoassay	3.14	
25-319	Saltmarsh	S-ES258-18FSP11-10-20	ES258	1.0	2.0	6/5/2018	Total 209 PCB cong (excl non-detects)	13.8	
25-319	Saltmarsh	S-ES258-18FSP11-20-30	ES258	2.0	3.0	6/5/2018	Aroclor 1254 - Immunoassay	9.2	J
25-319	Saltmarsh	S-ES259-18FSP11-10-20	ES259	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	84	JD
25-319	Saltmarsh	S-ES259-18FSP11-20-30	ES259	2.0	3.0	6/5/2018	Aroclor 1254 - Immunoassay	76	JD
25-319	Saltmarsh	S-ES260-18FSP11-10-20	ES260	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	6.9	J
25-319	Channel	S-ES267-18FSP11-00-10	ES267	0.0	1.0	6/5/2018	Aroclor 1254 - Immunoassay	300	JD
25-319	Channel	S-ES267-18FSP11-10-20	ES267	1.0	2.0	6/5/2018	Total 209 PCB cong (excl non-detects)	18.8	
25-319	Channel	S-ES267-18FSP11-20-28	ES267	2.0	2.8	6/5/2018	Aroclor 1254 - Immunoassay	7.0	J
25-319	Channel	S-ES268-18FSP11-00-10	ES268	0.0	1.0	6/5/2018	Aroclor 1254 - Immunoassay	200	JD
25-319	Channel	S-ES268-18FSP11-10-20	ES268	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	640	JD
25-319	Channel	S-ES268-18FSP11-20-29	ES268	2.0	2.9	6/5/2018	Aroclor 1254 - Immunoassay	9.7	J
25-319	Channel	S-ES269-18FSP11-00-10	ES269	0.0	1.0	6/5/2018	Aroclor 1254 - Immunoassay	200	JD
25-319	Channel	S-ES269-18FSP11-10-20	ES269	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	170	JD
25-319	Channel	S-ES269-18FSP11-20-30	ES269	2.0	3.0	6/5/2018	Total 209 PCB cong (excl non-detects)	0.103	
25-319	Channel	S-ES269-18FSP11-30-39	ES269	3.0	3.9	6/5/2018	Aroclor 1254 - Immunoassay	5.8	J
25-319	Saltmarsh	S-ES273-18FSP11-00-10	ES273	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	93.1	
25-319	Saltmarsh	S-ES273-18FSP11-10-20	ES273	1.0	2.0	6/5/2018	Aroclor 1254 - Immunoassay	1.11	
25-319	Saltmarsh	S-ES274-18FSP11-00-10	ES274	0.0	1.0	6/5/2018	Total 209 PCB cong (excl non-detects)	139	
25-319	Saltmarsh	S-ES274-18FSP11-10-20	ES274	1.0	2.0	6/5/2018	Total 209 PCB cong (excl non-detects)	6.11	
25-319	Saltmarsh	S-ES298-18FSP11-00-10	ES298	0.0	1.0	9/11/2018	Total 209 PCB cong (excl non-detects)	70.8	
25-319	Saltmarsh	S-ES299-18FSP11-00-10	ES299	0.0	1.0	9/5/2018	Total 209 PCB cong (excl non-detects)	1.44	
25-319	Saltmarsh	S-ES299R-18FSP11-00-10-REP	ES299	0.0	1.0	9/5/2018	Total 209 PCB cong (excl non-detects)	1.86	
25-319	Saltmarsh	S-ES3102-18FSP9-00-10	ES3102	0.0	1.0	6/22/2018	Total 209 PCB cong (excl non-detects)	9.4	
25-319	Saltmarsh	S-ES3104-18FSP9-00-10	ES3104	0.0	1.0	6/22/2018	Total 209 PCB cong (excl non-detects)	17.7	
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Table 2-1b
Pre-Excavation PCB Characterization Sample Results for Parcel 25-319 and ROW

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-319	Saltmarsh	S-17Y-INT465-00-10	INT465	0.0	1.0	5/23/2017	Aroclor 1254 - Immunoassay	529	D
25-319	Saltmarsh	S-17Y-INT465-10-20	INT465	1.0	2.0	5/23/2017	Aroclor 1254 - Immunoassay	0.5	U
25-319	Saltmarsh	S-17Y-INT466-00-10	INT466	0.0	1.0	5/23/2017	Aroclor 1254 - Immunoassay	0.5	U
25-319	Saltmarsh	S-17Y-INT466-10-20	INT466	1.0	2.0	5/23/2017	Aroclor 1254 - Immunoassay	2.1	
25-319	Saltmarsh	S-17Y-INT467-00-10	INT467	0.0	1.0	5/23/2017	Aroclor 1254 - Immunoassay	196	D
25-319	Saltmarsh	S-17Y-INT467-10-20	INT467	1.0	2.0	5/23/2017	Aroclor 1254 - Immunoassay	0.5	U
25-319	Saltmarsh	S-17Y-INT468-00-10	INT468	0.0	1.0	5/23/2017	Total 139 PCB cong (excl non-detects)	110	
25-319	Saltmarsh	S-17Y-INT468-10-20	INT468	1.0	2.0	5/23/2017	Aroclor 1254 - Immunoassay	0.8	
25-319	Saltmarsh	S-15Y-INT77-00-10	INT77	0.0	1.0	5/7/2015	Total 139 PCB cong (excl non-detects)	9.40	
25-319	Saltmarsh	S-15Y-INT77-10-20	INT77	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	3.90	
25-319	Saltmarsh	S-15Y-INT78-00-10	INT78	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	1.60	
25-319	Saltmarsh	S-15Y-INT78-10-20	INT78	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.5	U
25-319	Saltmarsh	S-15Y-INT79-00-10	INT79	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	83.3	D
25-319	Saltmarsh	S-15Y-INT79-10-20	INT79	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	1.30	
25-319	Saltmarsh	S-15Y-INT80-00-10	INT80	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	48.2	D
25-319	Saltmarsh	S-15Y-INT80-10-20	INT80	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.90	
25-319	Saltmarsh	S-15Y-INT81-00-10	INT81	0.0	1.0	5/7/2015	Total 139 PCB cong (excl non-detects)	24.0	
25-319	Saltmarsh	S-15Y-INT81-10-20	INT81	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	1.10	
25-319	Saltmarsh	S-15Y-INT82-00-10	INT82	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	334.30	D
25-319	Saltmarsh	S-15Y-INT82-10-20	INT82	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.60	
25-319	Saltmarsh	S-15Y-INT83-00-10	INT83	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	83.40	D
25-319	Saltmarsh	S-15Y-INT83-10-20	INT83	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.50	
25-319	Saltmarsh	S-15Y-INT84-00-10	INT84	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	990.60	D
25-319	Saltmarsh	S-15Y-INT84-10-20	INT84	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.70	
25-319	Saltmarsh	S-15Y-INT85-00-10	INT85	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	352.60	D
25-319	Saltmarsh	S-15Y-INT85-10-20	INT85	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.60	
25-319	Saltmarsh	S-15Y-INT86-00-10	INT86	0.0	1.0	5/7/2015	Aroclor 1254 - Immunoassay	9.50	D
25-319	Saltmarsh	S-15Y-INT86-10-20	INT86	1.0	2.0	5/7/2015	Aroclor 1254 - Immunoassay	0.70	
25-319	Mudflat	S-202216	S-202216	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor) ¹	520	
25-319	Saltmarsh	S-3390-0.0-1.0	S-3390	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	203	
25-319	Saltmarsh	S-3391-0.0-1.0	S-3391	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	70.2	
25-319	Saltmarsh	S-3391-1.0-2.0	S-3391	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	2.00	
25-319	Saltmarsh	S-3391-2.0-3.0	S-3391	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	1.01	
25-319	Saltmarsh	S-3392-0.0-1.0	S-3392	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	7.02	
25-319	Saltmarsh	S-3392-2.0-3.0	S-3392	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	0.02	
25-319	Saltmarsh	S-3392-2.0-3.0REP	S-3392	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	0.04	
25-319	Saltmarsh	S-3393-0.0-1.0	S-3393	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	237	
25-319	Saltmarsh	S-3393-1.0-2.0	S-3393	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	5.46	
25-319	Saltmarsh	S-3393-2.0-3.0	S-3393	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	0.26	
25-319	Saltmarsh	S-3394-0.0-1.0	S-3394	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	190	
25-319	Saltmarsh	S-3394-1.0-2.0	S-3394	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	10.4	
25-319	Saltmarsh	S-3394-2.0-3.0	S-3394	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	1.64	
25-319	Saltmarsh	S-3395-0.0-1.0	S-3395	0.0	1.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	127	
25-319	Saltmarsh	S-3395-1.0-2.0	S-3395	1.0	2.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	7.02	
25-319	Saltmarsh	S-3395-2.0-3.0	S-3395	2.0	3.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	0.75	
25-319	Saltmarsh	S-3401-0.0-1.0	S-3401	0.0	1.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	59.8	
25-319	Saltmarsh	S-3401-1.0-2.0	S-3401	1.0	2.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	15.3	
25-319	Saltmarsh	S-3401-2.0-3.0	S-3401	2.0	3.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	2.86	
25-319	Saltmarsh	S-3402-0.0-1.0	S-3402	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	24.4	
25-319	Saltmarsh	S-3402-1.0-2.0	S-3402	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	0.23	
25-319	Saltmarsh	S-3403-0.0-1.0	S-3403	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	1430	
25-319	Saltmarsh	S-3403-2.0-3.0	S-3403	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	14.6	
25-319	Saltmarsh	S-3403-3.0-4.0	S-3403	3.0	4.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	7.54	
25-319	Saltmarsh	S-3404-0.0-1.0	S-3404	0.0	1.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	67.6	
25-319	Saltmarsh	S-3404-1.0-2.0	S-3404	1.0	2.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	1.53	
25-319	Saltmarsh	S-3405-0.0-1.0	S-3405	0.0	1.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	4.68	
25-319	Saltmarsh	S-3405-1.0-2.0	S-3405	1.0	2.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	4.94	
25-319	Saltmarsh	S-3406-1.0-2.0	S-3406	1.0	2.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	28.6	
25-319	Saltmarsh	S-3406-2.0-3.0	S-3406	2.0	3.0	10/26/2001	Total 18 NOAA PCB cong (excl non-detects)	13.0	
25-319	Saltmarsh	S-3641-0.0-1.0	S-3641	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	6.24	
25-319	Saltmarsh	S-3641-1.0-2.0	S-3641	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	4.94	
25-319	Saltmarsh	S-3641-2.0-3.0	S-3641	2.0	3.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	0.73	
25-319	Saltmarsh	S-3689-1.0-2.0	S-3689	1.0	2.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	1.53	
25-319	Saltmarsh	S-3690-0.0-1.0	S-3690	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	7.02	
25-319	Saltmarsh	S-3690-0.0-1.0REP	S-3690	0.0	1.0	11/12/2001	Total 18 NOAA PCB cong (excl non-detects)	12.5	
25-319	Saltmarsh	S-3691-0.0-1.0	S-3691	0.0	1.0	11			

Table 2-1b
Pre-Excavation PCB Characterization Sample Results for Parcel 25-319 and ROW

Parcel	Type	Sample ID	Station ID	Sample Depth Top (ft)	Sample Depth Bottom (ft)	Sample Date	Description	Total PCB (mg/kg)	Final Qualifier
25-319	Saltmarsh	S-0076-2	S-76	1.0	2.0	9/1/1999	Total PCB Congeners (sum CONG x factor)	2000	
25-319	Saltmarsh	S-0776-1	S-776	0.0	1.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	78.0	
25-319	Saltmarsh	S-0776-1DUP	S-776	0.0	1.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	46.8	
25-319	Saltmarsh	S-0776-2	S-776	1.0	2.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	0.00	U
25-319	Saltmarsh	S-0777-1	S-777	0.0	1.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	80.6	
25-319	Saltmarsh	S-0777-2	S-777	1.0	2.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	0.16	
25-319	Saltmarsh	S-0778-1	S-778	0.0	1.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	33.8	
25-319	Saltmarsh	S-0778-2	S-778	1.0	2.0	9/22/2000	Total 18 NOAA PCB cong (excl non-detects)	0.31	
25-319	Saltmarsh	S-0779-1	S-779	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	390	
25-319	Saltmarsh	S-0779-2	S-779	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	1.69	
25-319	Saltmarsh	S-0779-2DUP	S-779	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	4.42	
25-319	Saltmarsh	S-0780-1	S-780	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	18.2	
25-319	Saltmarsh	S-0780-2	S-780	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	3.12	
25-319	Saltmarsh	S-0781-1	S-781	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	49.4	
25-319	Saltmarsh	S-0781-2	S-781	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	80.6	
25-319	Saltmarsh	S-0782-1	S-782	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	13.26	
25-319	Saltmarsh	S-0782-2	S-782	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	0.05	
25-319	Saltmarsh	S-0783-1	S-783	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	3.12	
25-319	Saltmarsh	S-0783-2	S-783	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	0.00	U
25-319	Saltmarsh	S-0079-1	S-79	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	5.00	
25-319	Saltmarsh	S-0079-2	S-79	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.48	
25-319	Saltmarsh	S-0080-1	S-80	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	38.00	
25-319	Saltmarsh	S-0080-2	S-80	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	1.10	
25-319	Saltmarsh	S-0081-1	S-81	0.0	1.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	19.00	
25-319	Saltmarsh	S-0081-2	S-81	1.0	2.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	1.70	
25-319	Saltmarsh	S-0081-3	S-81	2.0	3.0	9/14/1999	Total PCB Congeners (sum CONG x factor)	0.22	
25-319	Saltmarsh	S-0843-1	S-843	0.0	1.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	0.55	
25-319	Saltmarsh	S-0843-2	S-843	1.0	2.0	9/25/2000	Total 18 NOAA PCB cong (excl non-detects)	0.09	
25-319	Saltmarsh	S-ad590	S-ad590	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor) ¹	0.00	U
25-319	Saltmarsh	S-ad592	S-ad592	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor) ¹	130	
25-319	Saltmarsh	S-ad600	S-ad600	0.0	1.0	Pre-ROD	Total PCB Congeners (sum CONG x factor) ¹	1.00	
ROW	Channel	S-ES252-18FSP11-00-10	ES252	0.0	1.0	6/4/2018	Aroclor 1254 - Immunoassay	96	JD
ROW	Channel	S-ES252-18FSP11-10-20	ES252	1.0	2.0	6/4/2018	Aroclor 1254 - Immunoassay	7.8	JD
ROW	Channel	S-ES252-18FSP11-20-25	ES252	2.0	2.5	6/4/2018	Aroclor 1254 - Immunoassay	3.6	J
ROW	Saltmarsh	S-ES295-18FSP11-00-10	ES295	0.0	1.0	9/6/2018	Total 209 PCB cong (excl non-detects)	3.5	
ROW	Saltmarsh	S-ES296-18FSP11-00-10	ES296	0.0	1.0	9/5/2018	Total 209 PCB cong (excl non-detects)	7.66	
ROW	Saltmarsh	S-17Y-INT453-00-10	INT453	0.0	1.0	5/30/2017	Aroclor 1254 - Immunoassay	12.7	
ROW	Saltmarsh	S-17Y-INT453-10-20	INT453	1.0	2.0	5/30/2017	Aroclor 1254 - Immunoassay	0.88	

Notes:

Pre-excavation confirmatory congener (PECC) samples are highlighted green.

D - reported value is from a dilution; J - estimated value; U - not detected; JD - estimated from dilution; J+ - high bias estimate.

Total 18 NOAA PCB congeners multiplied by a factor of 2.6.

1. Pre-ROD sample result is most likely a total Aroclor value although it is reported in the project database as Sum 18 NOAA PCB congeners X factor.

Table 3-1a
Compliance Survey Control Table for East Zone 2 Parcel 25-43

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft		
25-43	ES205	Sidewall	816423.4	2706229.7	6.5	TBD	TBD
25-43	ES206	Sidewall	816420.5	2706134.2	2.5	TBD	TBD
25-43	ES209	Sidewall	816251.3	2706068.9	2.8	TBD	TBD
25-43	ES210	Sidewall	816252.3	2706009.1	2.9	TBD	TBD
25-43	ES211	Sidewall	816326.0	2705978.2	2.4	TBD	TBD
25-43	ES212	Sidewall	816356.6	2705906.9	2.8	TBD	TBD
25-43	ES2127	Sidewall	815976.1	2706061.4	2.4	TBD	TBD
25-43	ES2128	Sidewall	816373.7	2706290.1	-2.2	TBD	TBD
25-43	ES2129	Sidewall	816359.6	2706192.4	-2.3	TBD	TBD
25-43	ES2130	Sidewall	816272.9	2706089.4	-2.2	TBD	TBD
25-43	ES2131	Sidewall	816176.4	2706118.8	-1.2	TBD	TBD
25-43	ES2132	Sidewall	816084.1	2706119.4	-1.4	TBD	TBD
25-43	ES2133	Sidewall	815938.4	2706046.3	-1.4	TBD	TBD
25-43	ES2134	Sidewall	815875.7	2705954.8	-2.5	TBD	TBD
25-43	ES2135	Sidewall	815834.5	2705864.3	0.2	TBD	TBD
25-43	ES2136	Sidewall	815850.3	2705777.5	-0.7	TBD	TBD
25-43	ES2137	Sidewall	815888.8	2705675.6	0.8	TBD	TBD
25-43	ES215	Sidewall	815934.8	2705930.2	1.6	TBD	TBD
25-43	ES217	Sidewall	815968.8	2705841.7	2.1	TBD	TBD
25-43	ES221	Sidewall	816020.0	2705665.8	1.3	TBD	TBD
25-43	ES222	Sidewall	815860.5	2705594.7	2.5	TBD	TBD
25-43	ES228	Sidewall	815849.7	2705356.7	-1.6	TBD	TBD
25-43	ES229	Sidewall	816001.6	2705316.6	1.4	TBD	TBD
25-43	ES242	Sidewall	816117.5	2706104.3	2.8	TBD	TBD
25-43	ES249	Sidewall	815882.8	2705475.8	1.6	TBD	TBD
25-43	ES278	Sidewall	816433.2	2706312.4	5.3	TBD	TBD
25-43	ES279	Sidewall	816408.3	2706087.8	2.9	TBD	TBD
25-43	ES281	Sidewall	816000.0	2705743.2	3.1	TBD	TBD
25-43	ES282	Sidewall	815860.2	2705705.1	2.0	TBD	TBD
25-43	ES283	Sidewall	815814.0	2705693.0	0.1	TBD	TBD
25-43	ES285	Sidewall	815824.3	2705631.7	1.6	TBD	TBD
25-43	ES286	Sidewall	815963.6	2705616.0	2.0	TBD	TBD
25-43	ES288	Sidewall	815851.9	2705537.0	1.6	TBD	TBD
25-43	ES289	Sidewall	815974.8	2705528.1	2.4	TBD	TBD
25-43	ES291	Sidewall	815958.8	2705478.5	2.7	TBD	TBD
25-43	ES292	Sidewall	815884.8	2705456.4	2.9	TBD	TBD
25-43	ES294	Sidewall	816012.8	2705412.1	2.0	TBD	TBD
25-43	INT73	Sidewall	816345.5	2706034.9	2.6	TBD	TBD
25-43	S-3685	Sidewall	816390.0	2706172.0	2.2	TBD	TBD
25-43	S-57	Sidewall	816000.0	2706125.0	-0.4	TBD	TBD
25-43	S-767	Sidewall	816300.0	2705942.0	3.1	TBD	TBD
25-43	ES2107	Floor	816385.5	2706265.8	-2.2	TBD	TBD
25-43	ES2111B	Floor	816300.0	2706058.0	-0.6	TBD	TBD
25-43	ES2112B	Floor	816368.9	2706186.0	-1.3	TBD	TBD
25-43	ES2113	Floor	816345.2	2705918.8	3.6	TBD	TBD
25-43	ES2114	Floor	815933.3	2705887.9	1.8	TBD	TBD
25-43	ES2115	Floor	815855.9	2705886.7	0.0	TBD	TBD
25-43	ES2116	Floor	815895.2	2705817.7	1.4	TBD	TBD
25-43	ES2117	Floor	815956.7	2705466.2	-0.3	TBD	TBD
25-43	ES2118	Floor	815917.6	2705396.9	-2.0	TBD	TBD
25-43	ES2119	Floor	815877.0	2705327.4	0.4	TBD	TBD
25-43	ES218	Floor	815986.3	2705768.1	1.7	TBD	TBD
25-43	ES223	Floor	815952.4	2705600.4	0.8	TBD	TBD
25-43	ES224	Floor	815857.8	2705668.5	0.8	TBD	TBD
25-43	ES239	Floor	816397.3	2706119.4	1.5	TBD	TBD
25-43	ES244B	Floor	815872.2	2705735.3	-1.5	TBD	TBD
25-43	ES246	Floor	815945.1	2705667.0	1.1	TBD	TBD
25-43	ES265	Floor	815901.8	2705557.9	0.0	TBD	TBD

Table 3-1a
Compliance Survey Control Table for East Zone 2 Parcel 25-43

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft		
25-43	INT436	Floor	816394.4	2706348.4	2.0	TBD	TBD
25-43	INT441	Floor	815912.5	2705977.2	1.1	TBD	TBD
25-43	S-3389	Floor	815954.0	2705345.0	1.4	TBD	TBD
25-43	S-766	Floor	816296.0	2706001.0	1.7	TBD	TBD

Notes:

Elevation measurements at sidewall locations will be taken at the base of the sidewall (bottom of the excavation).

Locations ES2128 through ES2137 are compliance survey locations only (no associated PCB sample data).

MA - Massachusetts; NAD83 - North American Datum 1983; NAVD88 - North American Vertical Datum 1988; ft - feet; TBD - to be determined.

Δ - difference between post-excavation elevation and design elevation.

Table 3-1b
Compliance Survey Control Table for East Zone 2 Parcel 25-319 and ROW

Parcel	Station ID	Location	Easting	Northing	Design Elevation	Post-Excavation Elevation	Δ (ft)
			MA State Plane ft, NAD83		NAVD88 ft		
ROW	ES295	Sidewall	816121.3	2705331.0	2.3	TBD	TBD
ROW	ES296	Sidewall	815871.4	2705279.0	2.4	TBD	TBD
25-319	ES2102	Sidewall	816006.6	2705068.5	1.4	TBD	TBD
25-319	ES2103	Sidewall	816187.0	2704943.2	1.8	TBD	TBD
25-319	ES2125	Sidewall	816239.6	2705297.4	2.1	TBD	TBD
25-319	ES2138	Sidewall	815719.4	2704621.4	-0.7	TBD	TBD
25-319	ES2139	Sidewall	815708.4	2704523.5	-0.9	TBD	TBD
25-319	ES2140	Sidewall	815695.4	2704434.9	-1.8	TBD	TBD
25-319	ES2141	Sidewall	815675.9	2704345.9	-1.4	TBD	TBD
25-319	ES233	Sidewall	816287.0	2705211.6	1.7	TBD	TBD
25-319	ES234	Sidewall	816272.9	2705123.9	2.1	TBD	TBD
25-319	ES236	Sidewall	816045.8	2705016.0	1.5	TBD	TBD
25-319	ES299	Sidewall	815952.4	2705130.1	1.4	TBD	TBD
25-319	ES3102	Sidewall	815748.7	2704710.2	-0.2	TBD	TBD
25-319	ES3104	Sidewall	815779.2	2704646.4	1.0	TBD	TBD
25-319	ES3105	Sidewall	815826.5	2704546.5	1.0	TBD	TBD
25-319	ES384	Sidewall	815858.4	2704444.0	1.0	TBD	TBD
25-319	ES387	Sidewall	815893.6	2704358.0	1.0	TBD	TBD
25-319	INT454	Sidewall	815934.5	2705213.0	1.0	TBD	TBD
25-319	INT77	Sidewall	816057.6	2705289.0	1.4	TBD	TBD
25-319	INT81	Sidewall	816259.9	2705057.4	1.6	TBD	TBD
25-319	S-3402	Sidewall	816100.0	2705000.0	1.4	TBD	TBD
25-319	S-780	Sidewall	816252.0	2704997.0	1.4	TBD	TBD
25-319	S-79	Sidewall	815800.0	2704600.0	1.0	TBD	TBD
25-319	S-80	Sidewall	815800.0	2704498.0	0.9	TBD	TBD
25-319	ES2105	Floor	816084.9	2705038.8	0.3	TBD	TBD
25-319	ES2120	Floor	816267.4	2705189.4	1.4	TBD	TBD
25-319	ES2121	Floor	816236.8	2705119.7	1.5	TBD	TBD
25-319	ES2122	Floor	816157.2	2705119.5	0.1	TBD	TBD
25-319	ES2123	Floor	815997.2	2705119.2	1.1	TBD	TBD
25-319	ES232	Floor	816259.4	2705247.3	1.6	TBD	TBD
25-319	ES254	Floor	816115.3	2705200.0	0.4	TBD	TBD
25-319	ES258	Floor	816186.4	2705056.6	1.5	TBD	TBD
25-319	ES274	Floor	816154.7	2704974.9	1.5	TBD	TBD
25-319	ES3147	Floor	815741.9	2704614.9	1.0	TBD	TBD
25-319	ES3148	Floor	815781.8	2704544.6	1.0	TBD	TBD
25-319	ES3149	Floor	815702.1	2704406.8	-0.3	TBD	TBD
25-319	ES3150	Floor	815862.0	2704406.9	1.0	TBD	TBD
25-319	ES3151	Floor	815741.9	2704338.2	1.0	TBD	TBD
25-319	ES3152	Floor	815822.2	2704338.4	1.0	TBD	TBD
25-319	S-3393	Floor	816150.0	2705248.0	1.5	TBD	TBD
25-319	S-3394	Floor	816049.0	2705200.0	1.3	TBD	TBD
25-319	S-3641	Floor	816070.0	2705129.0	1.5	TBD	TBD
25-319	S-3689	Floor	815978.0	2705187.0	-0.3	TBD	TBD
25-319	S-3699	Floor	815737.0	2704474.0	0.1	TBD	TBD
25-319	S-74	Floor	816195.0	2705199.0	0.3	TBD	TBD
25-319	S-776	Floor	815996.0	2705251.0	1.3	TBD	TBD
25-319	S-777	Floor	816096.0	2705250.0	1.5	TBD	TBD
25-319	S-81	Floor	815800.0	2704396.0	1.0	TBD	TBD

Notes:

Elevation measurements at sidewall locations will be taken at the base of the sidewall (bottom of the excavation).

Locations ES2138 through ES2141 are compliance survey locations only (no associated PCB sample data).

MA - Massachusetts; NAD83 - North American Datum 1983; NAVD88 - North American Vertical Datum 1988; ft - feet; TBD - to be determined.

Δ - difference between post-excavation elevation and design elevation.

Table 7-1a
Proposed Restoration Acreages by Cover Type for Parcel 25-43

Habitat Type	Existing Pre-Construction Area [acres]	Proposed Area of Restoration [acres]
Phragmites	0.15	0.00
Beach	0.08	0.11
High Marsh	1.05	1.17
Low Marsh	0.85	0.90
Scrub-Shrub Marsh	0.24	0.24
Minimal Backfill as Needed for Drainage or Slope Stability	0.44	0.44
Pannes	0.04	0.02
Upland	0.09	0.09
Stream	0.08	0.08
TOTAL	3.04	3.05

Table 7-1b
Proposed Restoration Acreages by Cover Type for Parcel 25-319 and ROW

Habitat Type	Existing Pre-Construction Area [acres]	Proposed Area of Restoration [acres]
Phragmites	0.05	0.00
Beach	0.01	0.01
High Marsh	2.02	2.21
Low Marsh	0.78	0.72
Scrub-Shrub Marsh	0.14	0.12
Minimal Backfill as Needed for Drainage or Slope Stability	0.02	0.02
Pannes	0.00	0.01
Upland	0.01	0.01
Stream	0.20	0.14
TOTAL	3.23	3.24

Table 7-2a
Parcel 25-43 Shrub Restoration Summary

Scientific Name	Common Name	On-Center Spacing Requirements (inches)	Number of Proposed Plants	Shrub Restoration Area
<i>Iva frutescens</i>	high-tide bush	36"	61	Area 1
<i>Juniperus virginiana</i>	eastern red cedar	48"	25	Area 2
<i>Myrica gale</i>	sweetgale	48"	25	Area 2
<i>Lindera benzoin</i>	spicebush	36"	44	Area 2
<i>Myrica gale</i>	sweetgale	48"	24	Area 3
<i>Iva frutescens</i>	high-tide bush	36"	43	Area 3
<i>Juniperus virginiana</i>	eastern red cedar	48"	24	Area 3
<i>Iva frutescens</i>	high-tide bush	36"	76	Area 4
<i>Iva frutescens</i>	high-tide bush	36"	112	Area 5
<i>Juniperus virginiana</i>	eastern red cedar	48"	21	Area 6
<i>Juniperus communis</i>	common juniper	36"	38	Area 6
<i>Juniperus virginiana</i>	eastern red cedar	48"	28	Area 7
<i>Iva frutescens</i>	high-tide bush	36"	307	Area 8
<i>Juniperus virginiana</i>	eastern red cedar	48"	96	Area 9
<i>Iva frutescens</i>	high-tide bush	36"	171	Area 9
<i>Iva frutescens</i>	high-tide bush	36"	167	Area 10
Total Proposed Trees/Shrubs for Parcel 25-43				1,262

Table 7-2b
Parcel 25-319 and ROW Shrub Restoration Summary

Scientific Name	Common Name	On-Center Spacing Requirements (inches)	Number of Proposed Plants	Shrub Restoration Area
<i>Iva frutescens</i>	high-tide bush	36"	225	Area 1
<i>Juniperus virginiana</i>	eastern red cedar	48"	127	Area 1
<i>Myrica gale</i>	sweetgale	48"	127	Area 1
<i>Vaccinium corymbosum</i>	highbush blueberry	60"	81	Area 1
<i>Iva frutescens</i>	high-tide bush	36"	182	Area 2
<i>Iva frutescens</i>	high-tide bush	36"	240	Area 3
<i>Vaccinium corymbosum</i>	highbush blueberry	60"	86	Area 3
<i>Vaccinium corymbosum</i>	highbush blueberry	60"	18	Area 4
Total Proposed Trees/Shrubs for Parcel 25-319 & ROW				1,086

Appendix A

Parcel 25-43 East Zone 2

Pre-Excavation Tree and Shrub Inventory

Subject	Parcel 25-43 Native Tree and Shrub Inventory	Project Name	New Bedford Harbor Superfund Site
Attention	Marie Esten USACE	Project No.	35BG2000
From	Jessica Rebholz/Kim Degutis	Document Control No.	ACE-J23-35BG6000-M1-0006
Date	23 April 2019		

Attachments: Figure 1 Parcel 25-43 Pre-Excavation Tree and Shrub Inventory, Tables 3-1 through 3-4 (inventory results)

1.0 Background

Jacobs conducted an inventory of existing trees and shrubs on Parcel 25-43 in the intertidal remediation area (Figure 1) on 18 November 2018. The purpose of the inventory was to identify existing trees and shrubs that would be removed in association with site remediation activities, including construction of the gravel access road, laydown area, and areas of excavation associated with contaminated sediment and soil removal. The information collected from this inventory is intended to be used to inform selection of proposed native woody species for future restoration plantings.

2.0 Methods

For the purposes of the inventory, trees were defined as any nonclimbing, woody plant that had at least one erect perennial stem (trunk) with a diameter at breast height (DBH) of 3.0 inches or greater, regardless of height. Jacobs' wetland biologists walked the planned remediation portions of Parcel 25-43 and identified all trees within the proposed excavation area and proposed access road. Tree locations were recorded using a Trimble Geo 7X GPS, capable of sub-meter accuracy.

For the purposes of the inventory, shrubs were defined as any nonclimbing, woody plant with a DBH less than 3.0 inches. Shrubs were inventoried according to dominant shrub types that appeared to constitute similar species diversity and percent areal cover. For purposes of documentation and reference, the results of the tree and shrub inventories are recorded by sub-area in separate tables included in Section 3 below.

3.0 Results

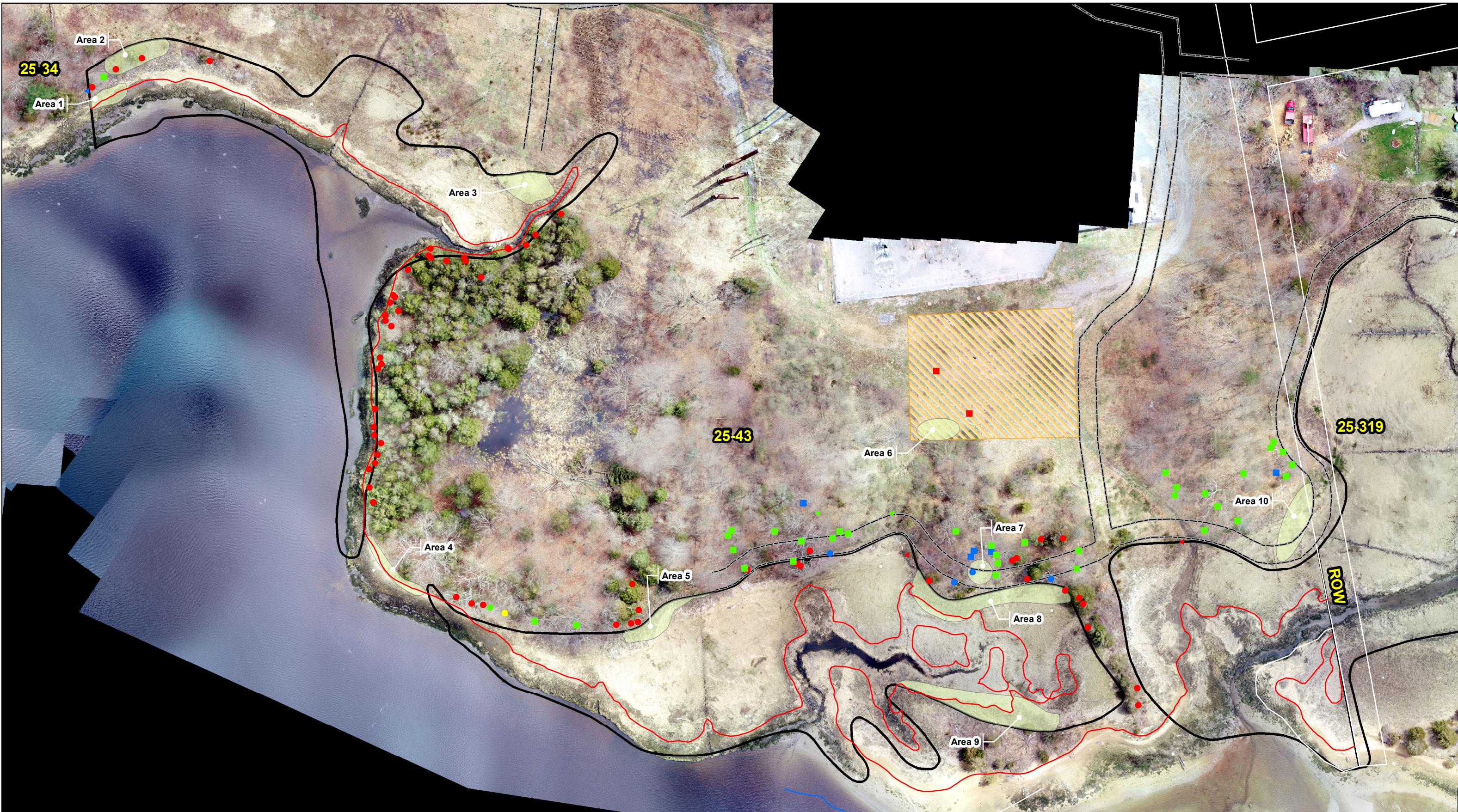
Eastern red cedar (*Juniperus virginiana*) is the dominant tree type within Parcel 25-43. The majority of the trees identified on-site are considered native and non-invasive. A list of the trees identified is provided in Table 3-1. For each species, the number of individual trees noted was calculated as an indication of the relative dominance of the species on-site. A total of 112 trees were identified.

Ten shrub areas were inventoried within Parcel 25-43. High-tide bush (*Iva frutescens*) was found to be present in 8 of the 10 areas, therefore making it a dominant shrub type. High-tide bush is a native, non-invasive upper saltmarsh plant typically found in wetlands. Most of the shrubs identified are considered native and non-invasive (Tables 3-2 through 3-11).

Each area where shrubs were identified and inventoried is identified on Figure 1. Shrubs were classified by genus and species. Tables 3-2 through 3-11 also identify whether the shrub occurred in upland or wetland, as well as any notes regarding specific species.

4.0 Conclusion

The species makeup of Parcel 25-43 is comprised almost entirely of native, non-invasive trees and shrubs, with high-tide bush (*Iva frutescens*) being the dominant shrub and eastern red cedar (*Juniperus virginiana*) being the dominant tree.



Legend

- | | | | |
|---------------------|--------------------|-------------------|-------------------------|
| ● Paper birch | ▲ Russian olive | ▲ Silky willow | Proposed Laydown Area |
| ■ Black birch | ■ Black locust | ■ Swamp white oak | 0-1' Excavation Depth |
| △ Northern catalpa | ■ Northern red oak | ■ Red maple | Parcel Boundary |
| ● Eastern red cedar | ● MLLW | ● MHHW | Proposed Access Road |
| | | | Inventoried Shrub Areas |

Basemap Data Source:
Nearview, LLC

0 50 100
Feet

June 2019



Parcel 25-43 Pre-Excavation
Tree and Shrub Inventory
New Bedford Harbor Superfund Site

Vertical Datum:
NAVD88

JACOBS

Figure 1

Table 3-1
Existing Tree Inventory for Parcel 25-43

Scientific Name	Common Name	Tree Count (≥3" DBH)	Invasive ¹	Native/Non-Native ²
<i>Acer rubrum</i>	red maple	1	no	native, county documented
<i>Betula lenta</i>	black birch	5	no	native, county documented
<i>Catalpa speciosa</i>	northern catalpa	1	yes	non-native, state documented
<i>Robinia pseudoacacia</i>	black locust	2	yes	non-native, county documented
<i>Quercus rubra</i>	northern red oak	34	no	native, county documented
<i>Betula papyrifera</i>	paper birch	4	no	native, county documented
<i>Elaeagnus angustifolia</i>	Russian olive	2	yes	non-native, state documented
<i>Juniperus virginiana</i>	eastern red cedar	60	no	native, county documented
<i>Quercus bicolor</i>	swamp white oak	1	no	native, county documented
<i>Salix sericea</i>	silky willow	2	no	native, county documented
	Total	112		

¹According to “The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts”:

<https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-2
Existing Shrub Cover for Parcel 25-43, Area 1

Scientific Name	Common Name	Area 1 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	40%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-3
Existing Shrub Cover for Parcel 25-43, Area 2

Scientific Name	Common Name	Area 2 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	35%	no	native, county documented	wetland
<i>Solidago bicolor</i>	white goldenrod	15%	no	native, county documented	upland
<i>Juniperus virginiana</i>	eastern red cedar	20%	no	native, county documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-4
Existing Shrub Cover for Parcel 25-43, Area 3

Scientific Name	Common Name	Area 3 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	35%	no	native, county documented	wetland
<i>Myrica gale</i>	sweetgale	10%	no	native, county documented	wetland
<i>Juniperus virginiana</i>	eastern red cedar	20%	no	native, county documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-5
Existing Shrub Cover for Parcel 25-43, Area 4

Scientific Name	Common Name	Area 4 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	50%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-6
Existing Shrub Cover for Parcel 25-43, Area 5

Scientific Name	Common Name	Area 5 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	80%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-7
Existing Shrub Cover for Parcel 25-43, Area 6

Scientific Name	Common Name	Area 6 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Robinia pseudoacacia</i>	black locust	1%	yes	non-native, county documented	upland
<i>Elaeagnus angustifolia</i>	Russian olive	1%	yes	non-native, state documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-8
Existing Shrub Cover for Parcel 25-43, Area 7

Scientific Name	Common Name	Area 7 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Juniperus virginiana</i>	eastern red cedar	40%	no	native, county documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-9
Existing Shrub Cover for Parcel 25-43, Area 8

Scientific Name	Common Name	Area 8 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	100%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-10
Existing Shrub Cover for Parcel 25-43, Area 9

Scientific Name	Common Name	Area 9 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	80%	no	native, county documented	wetland
<i>Juniperus virginiana</i>	eastern red cedar	10%	no	native, county documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-11
Existing Shrub Cover for Parcel 25-43, Area 10

Scientific Name	Common Name	Area 10 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	15%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Appendix A

Parcel 25-319 and ROW East Zone 2 Pre-Excavation Tree and Shrub Inventory

Subject	Parcel 25-319 & ROW Native Tree and Shrub Inventory	Project Name	New Bedford Harbor Superfund Site
Attention	Marie Esten USACE	Project No.	35BG2000
From	Jessica Rebholz/Kim Degutis	Document Control No.	ACE-J23-35BG6000-M1-0023
Date	23 April 2019		
Attachments: Figure 1 Parcel 25-319 & ROW Pre-Excavation Tree and Shrub Inventory, Tables 3-1 through 3-5 (inventory results)			

1.0 Background

Jacobs conducted an inventory of existing trees and shrubs on Parcel 25-319 and the adjacent ROW in the intertidal remediation area (Figure 1) on 18 November 2018. The purpose of the inventory was to identify existing trees and shrubs that would be removed in association with site remediation activities, including construction of the gravel access road and areas of excavation associated with contaminated sediment and soil removal. The information collected from this inventory is intended to be used to inform selection of proposed native woody species for future restoration plantings.

2.0 Methods

For the purposes of the inventory, trees were defined as any nonclimbing, woody plant that had at least one erect perennial stem (trunk) with a diameter at breast height (DBH) of 3.0 inches or greater, regardless of height. Jacobs' wetland biologists walked the planned remediation portions of Parcel 25-319 and the adjacent ROW and identified all trees within the proposed excavation area and proposed access road. Tree locations were recorded using a Trimble Geo 7X GPS, capable of sub-meter accuracy.

For the purposes of the inventory, shrubs were defined as any nonclimbing, woody plant with a DBH less than 3.0 inches. Shrubs were inventoried according to dominant shrub types that appeared to constitute similar species diversity and percent areal cover. For purposes of documentation and reference, the results of the tree and shrub inventories are recorded by sub-area in separate tables included in Section 3 below.

3.0 Results

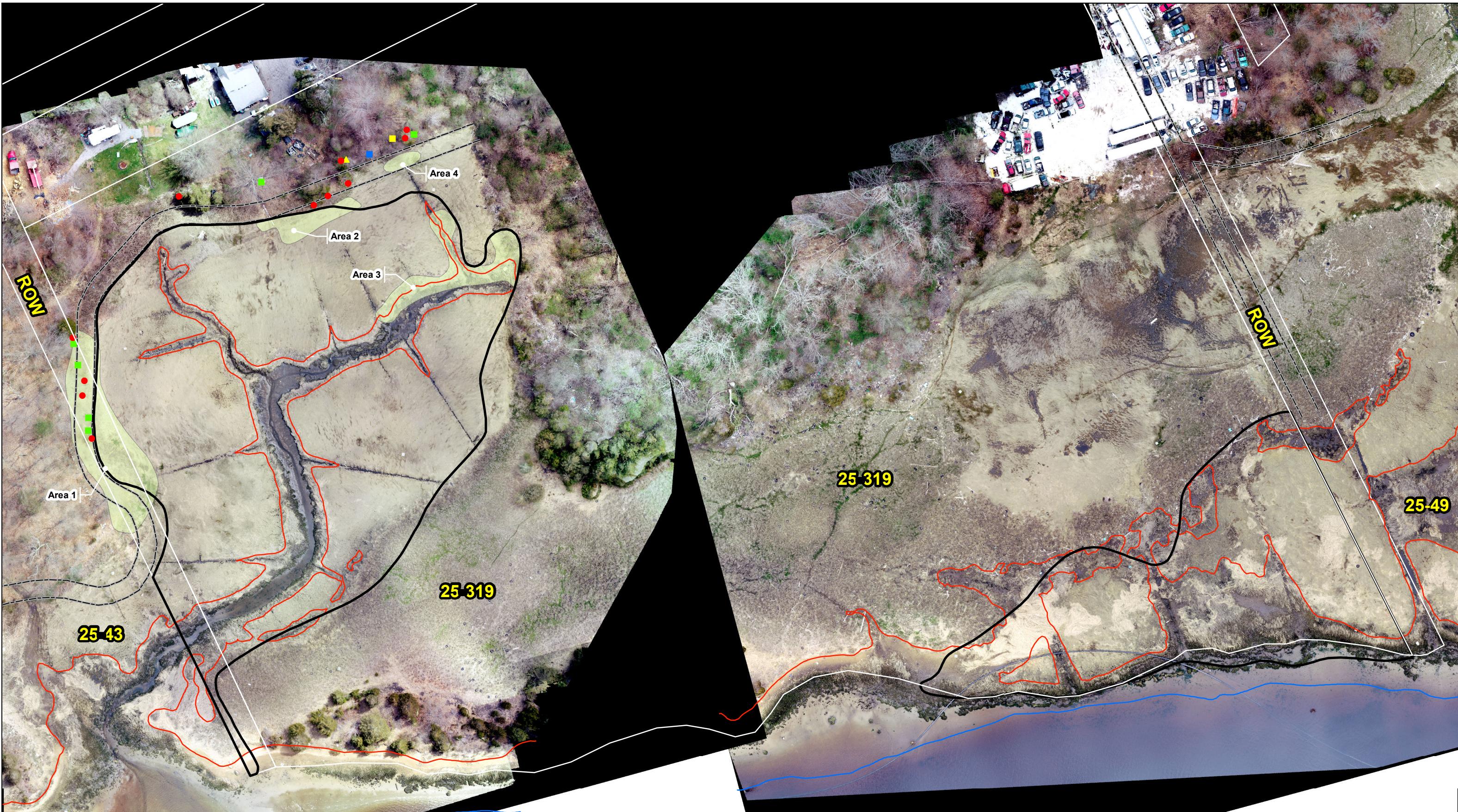
Eastern red cedar (*Juniperus virginiana*) is the dominant tree type within Parcel 25-319 & the ROW. All of the trees identified on-site are considered native and non-invasive. A list of the trees identified is provided in Table 3-1. For each species, the number of individual trees noted was calculated as an indication of the relative dominance of the species on-site. A total of 20 trees were identified.

Four shrub areas were inventoried within Parcel 25-319 & the ROW. High-tide bush (*Iva frutescens*) was found to be present in 3 of the 4 areas, therefore making it the dominant shrub type. High-tide bush is a native, non-invasive upper saltmarsh plant typically found in wetlands. All of the shrubs identified are considered native and non-invasive (Tables 3-2 through 3-5).

Each area where shrubs were identified and inventoried is identified on Figure 1. Shrubs were classified by genus and species. Tables 3-2 through 3-5 also identify whether the shrub occurred in upland or wetland, as well as any notes regarding specific species.

4.0 Conclusion

The species makeup of Parcel 25-319 & ROW is comprised entirely of native, non-invasive trees and shrubs, with high-tide bush (*Iva frutescens*) being the dominant shrub and eastern red cedar (*Juniperus virginiana*) being the dominant tree.



Legend

- Black birch
- Northern red oak
- MLLW
- Proposed Access Road
- Black cherry
- Witch hazel
- MHHW
- Inventoried Shrub Areas
- Eastern red cedar
- 0-1' Excavation Depth
- Parcel Boundary

Basemap Data Source:
Nearview, LLC

0 50 100
Feet
June 2019



**Parcel 25-319 and ROW Pre-Excavation
Tree and Shrub Inventory**
New Bedford Harbor Superfund Site

JACOBS

Figure 1

Table 3-1
Existing Tree Inventory for Parcel 25-319

Scientific Name	Common Name	Tree Count (≥3" DBH)	Invasive ¹	Native/Non-Native ²
<i>Prunus serotina</i>	black cherry	1	no	native, county documented
<i>Betula lenta</i>	black birch	1	no	native, county documented
<i>Hamamelis virginiana</i>	witch hazel	1	no	native, county documented
<i>Quercus rubra</i>	northern red oak	6	no	native, county documented
<i>Juniperus virginiana</i>	eastern red cedar	11	no	native, county documented
	Total	20		

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts":

<https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-2
Existing Shrub Cover for Parcel 25-319, Area 1

Scientific Name	Common Name	Area 1 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	50%	no	native, county documented	wetland
<i>Vaccinium corymbosum</i>	highbush blueberry	2%	no	native, county documented	wetland
<i>Toxicodendron radicans</i>	poison ivy	5%	no	native, county documented	upland
<i>Myrica gale</i>	sweetgale	10%	no	native, county documented	upland
<i>Juniperus virginiana</i>	eastern red cedar	15%	no	native, county documented	upland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-3
Existing Shrub Cover for Parcel 25-319, Area 2

Scientific Name	Common Name	Area 2 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	60%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-4
Existing Shrub Cover for Parcel 25-319, Area 3

Scientific Name	Common Name	Area 3 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Iva frutescens</i>	hightide bush	50%	no	native, county documented	wetland
<i>Vaccinium corymbosum</i>	highbush blueberry	15%	no	native, county documented	wetland

¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

Table 3-5
Existing Shrub Cover for Parcel 25-319, Area 4

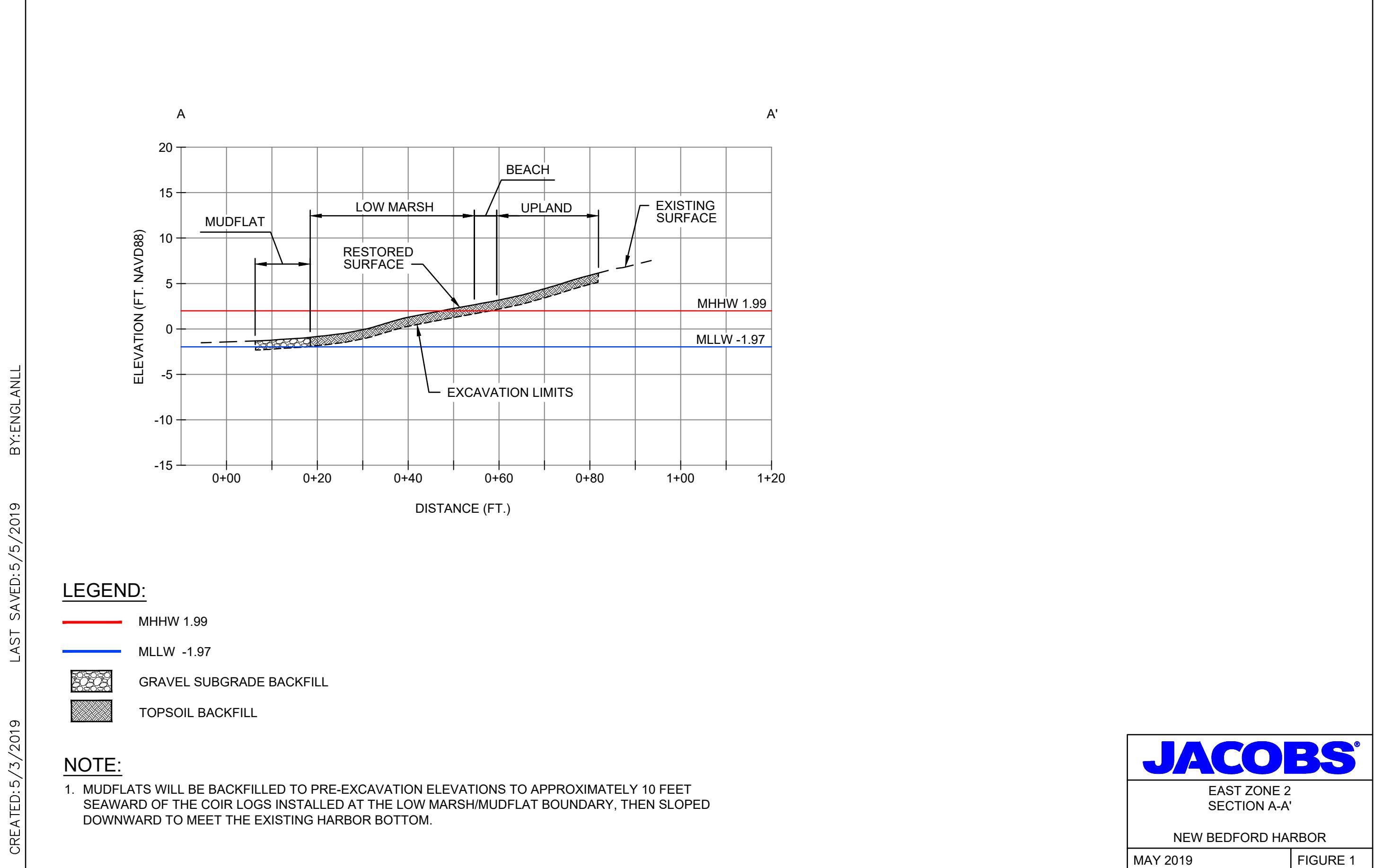
Scientific Name	Common Name	Area 4 Percent Areal Cover	Invasive ¹	Native/Non-Native ²	Upland/Wetland
<i>Vaccinium corymbosum</i>	highbush blueberry	30%	no	native, county documented	wetland

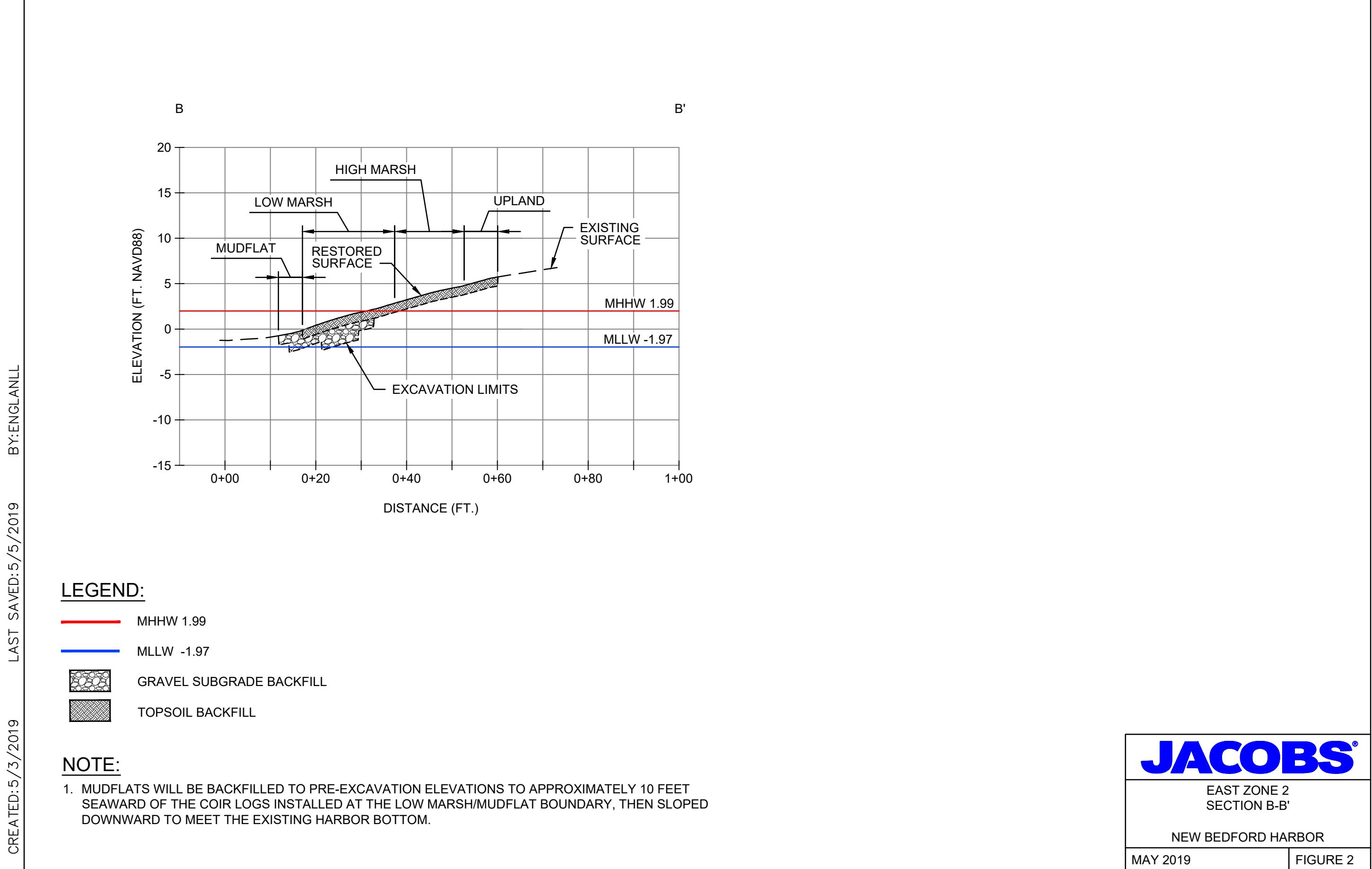
¹According to "The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts": <https://www.mass.gov/files/documents/2016/08/tm/invasive-plantlist.pdf>

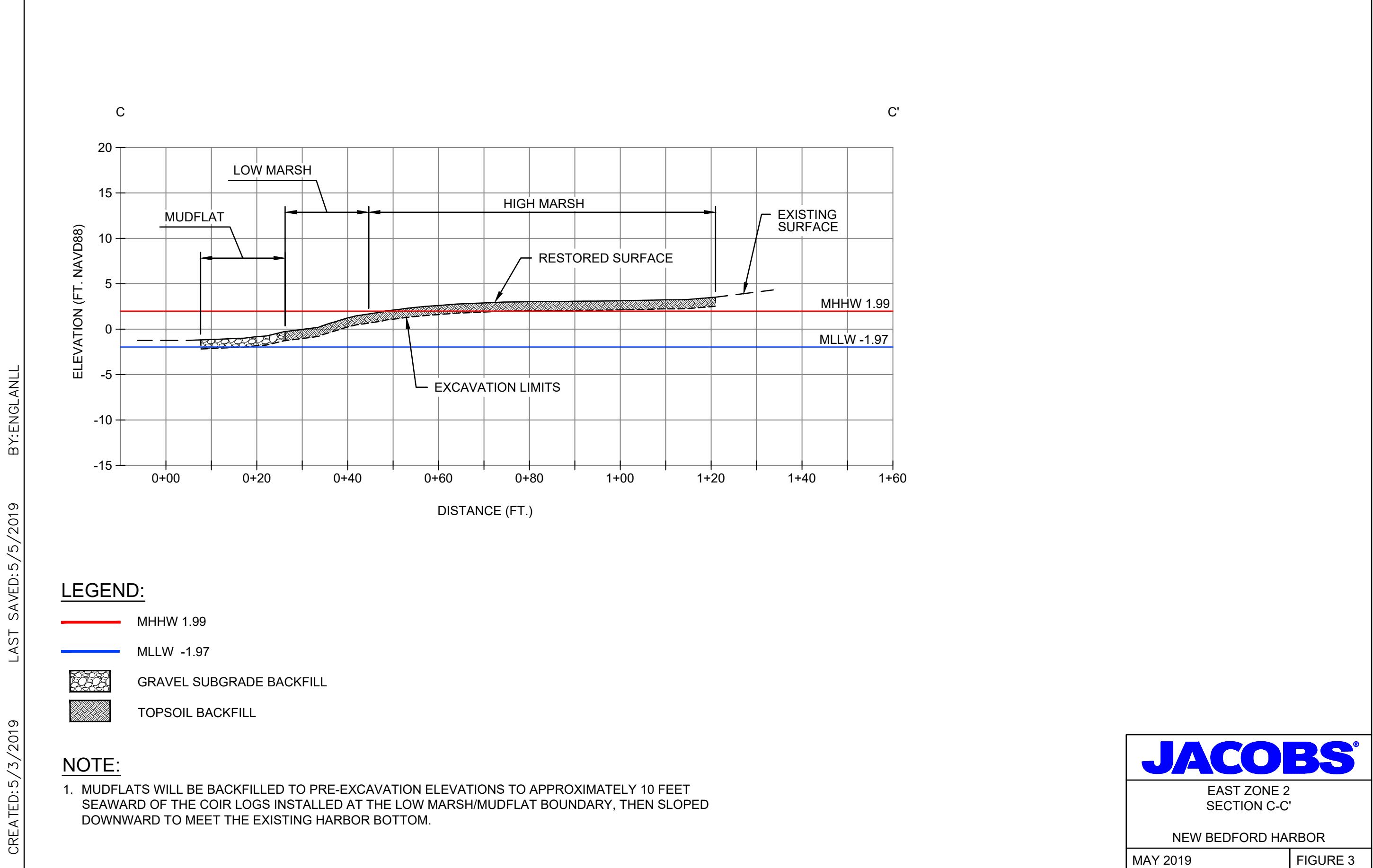
²New England Wildflower Society. 2011. Go Botany, 12 April 2018 (<https://gobotany.newenglandwild.org/>). New England Wildflower Society, Framingham, MA

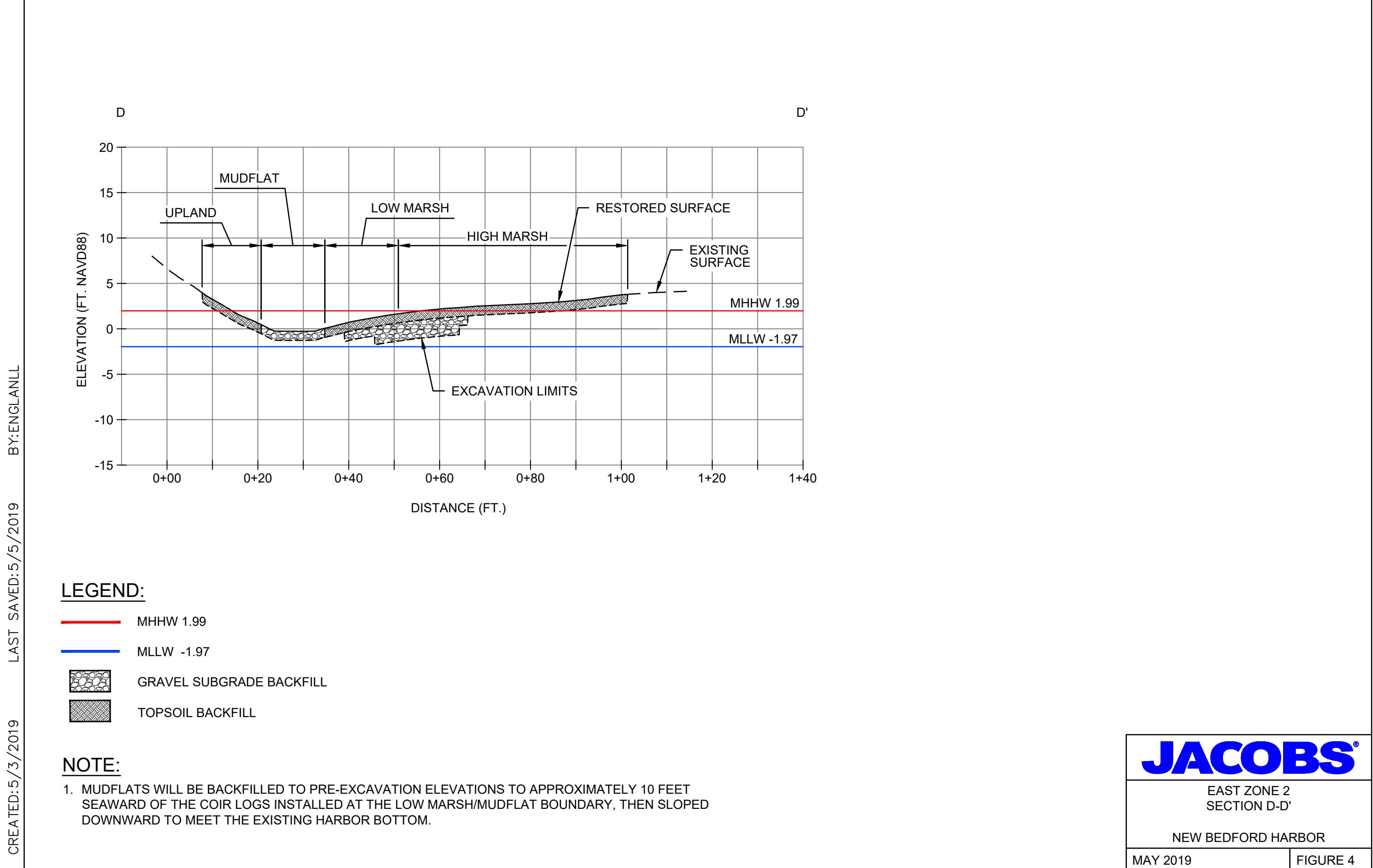
Appendix B

Cross Sections

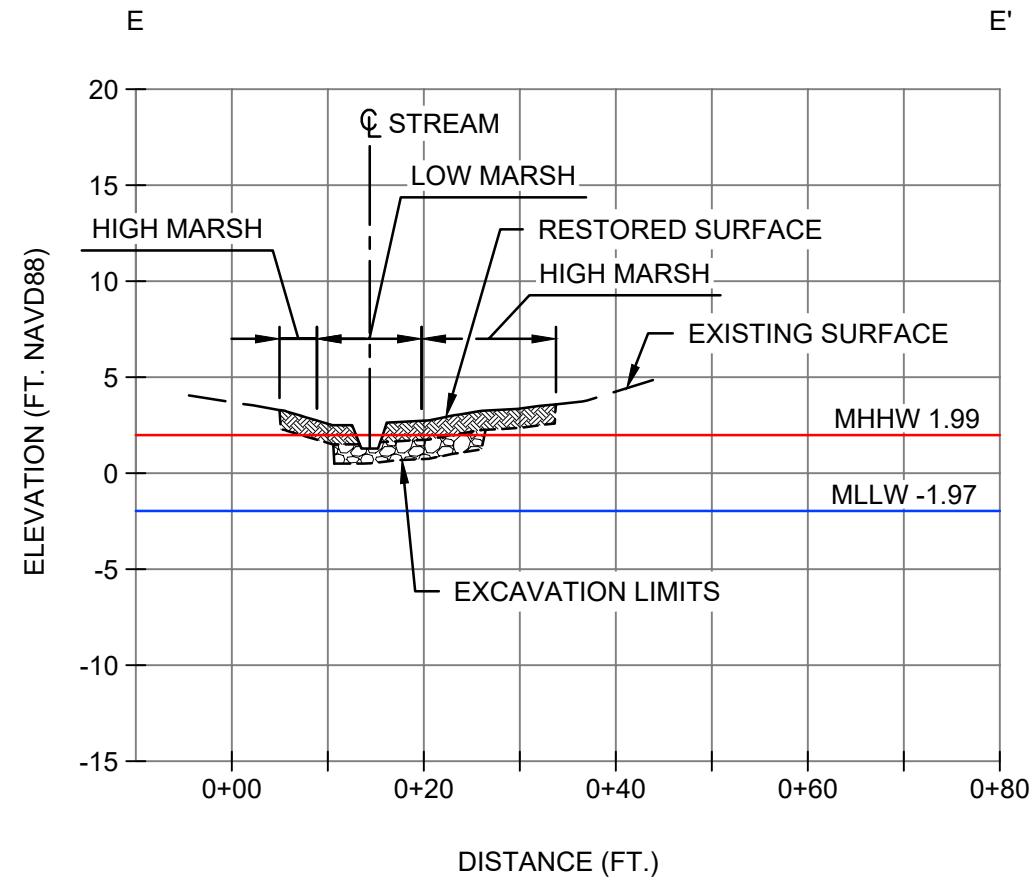






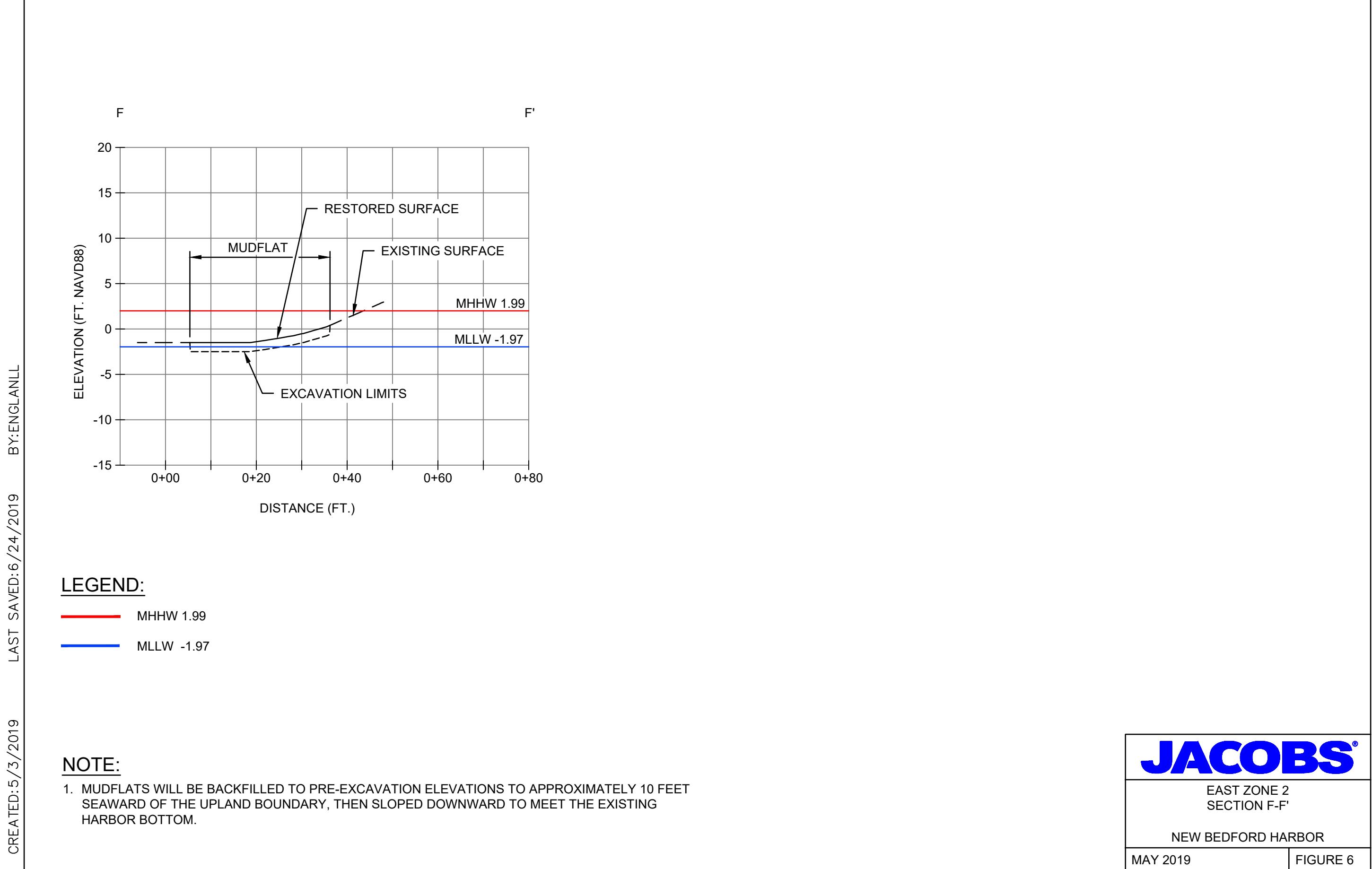


CREATED: 5/3/2019 LAST SAVED: 6/24/2019 BY: ENGLANLL

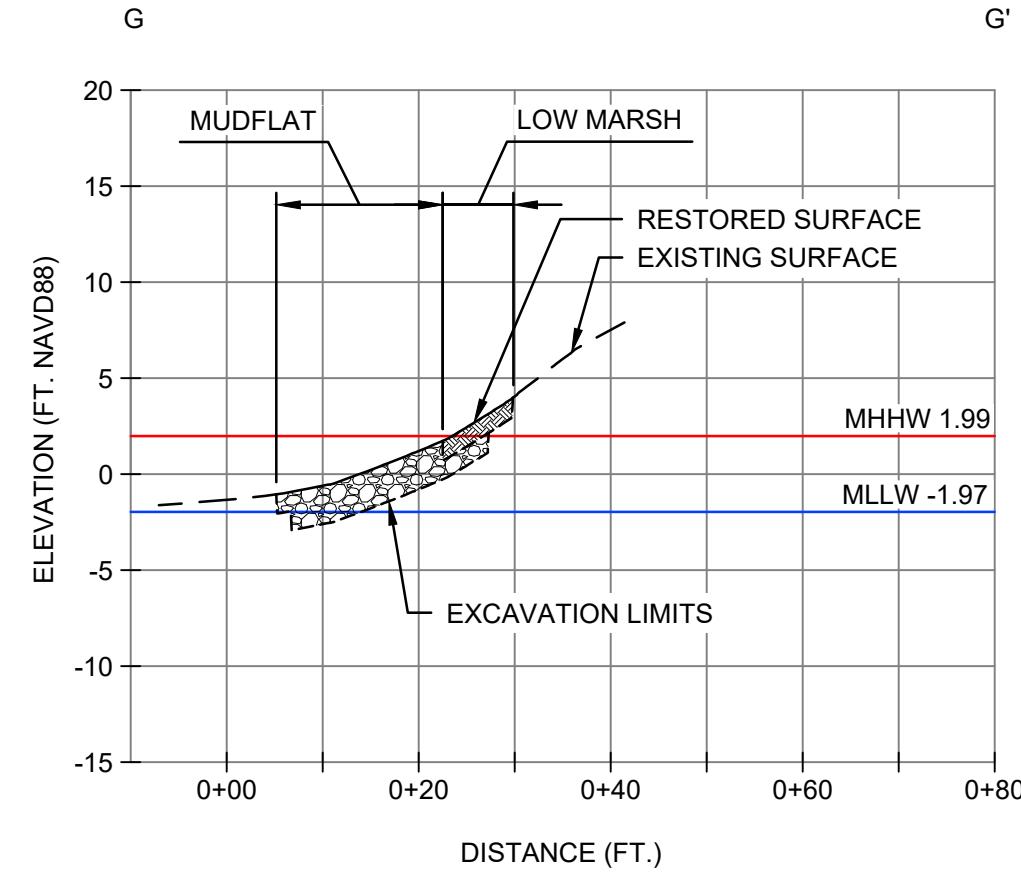


LEGEND:

- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL



CREATED: 5/3/2019 LAST SAVED: 5/7/2019 BY: ENGLANLL



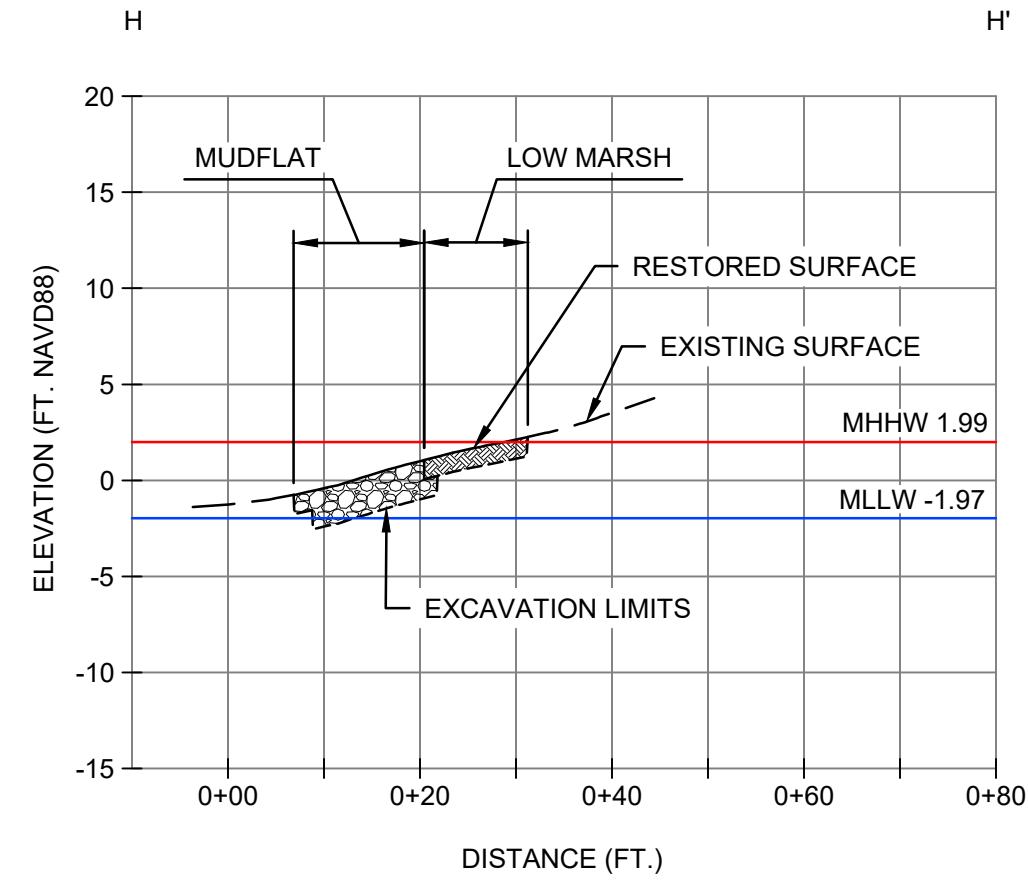
LEGEND:

- MHHW 1.99
- MLLW -1.97
- [Gravel pattern] GRAVEL SUBGRADE BACKFILL
- [Hatched pattern] TOPSOIL BACKFILL

NOTE:

1. MUDFLATS WILL BE BACKFILLED TO PRE-EXCAVATION ELEVATIONS TO APPROXIMATELY 10 FEET SEAWARD OF THE COIR LOGS INSTALLED AT THE LOW MARSH/MUDFLAT BOUNDARY, THEN SLOPED DOWNWARD TO MEET THE EXISTING HARBOR BOTTOM.

CREATED: 5/3/2019 LAST SAVED: 5/6/2019 BY: ENGLANLL

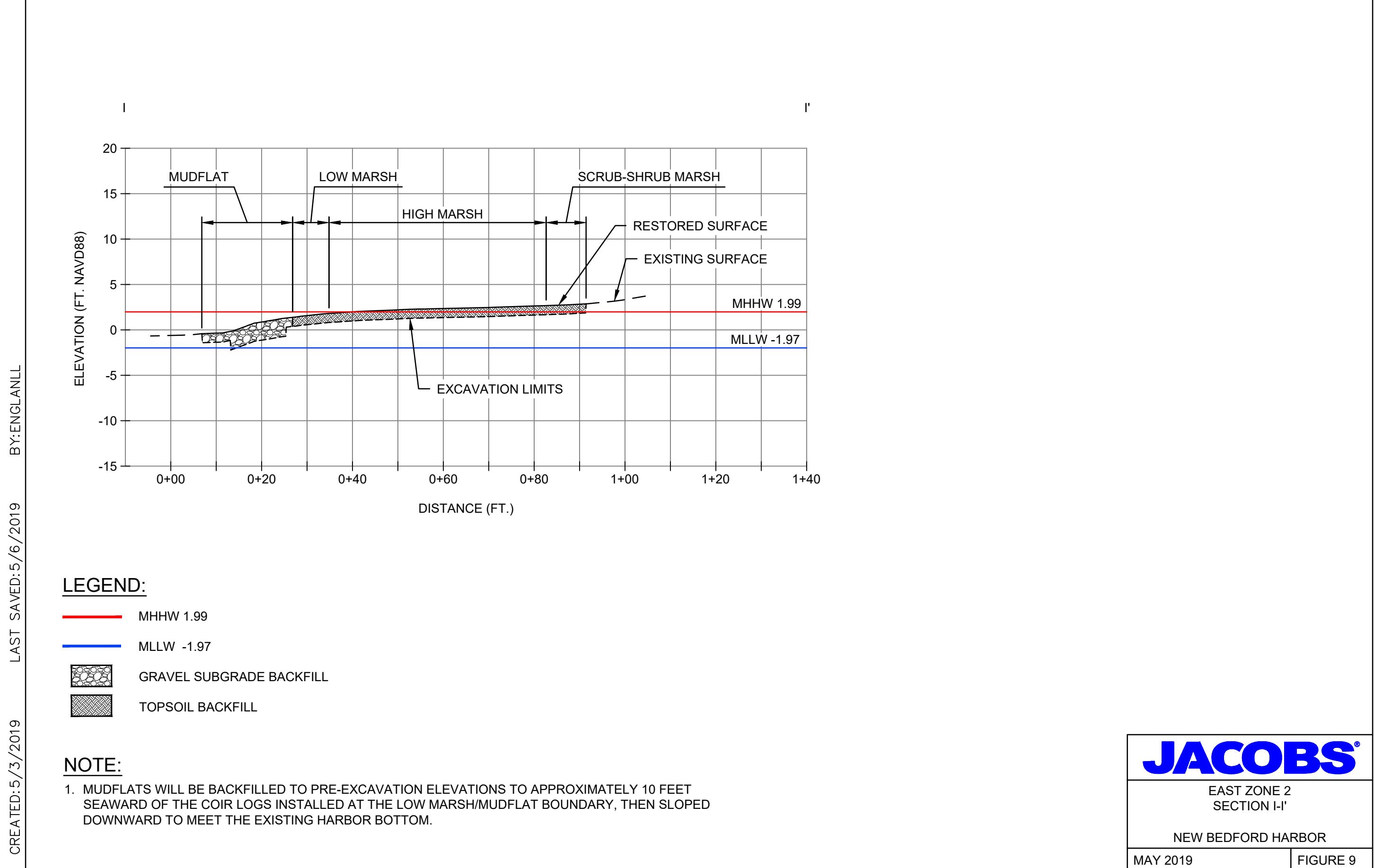


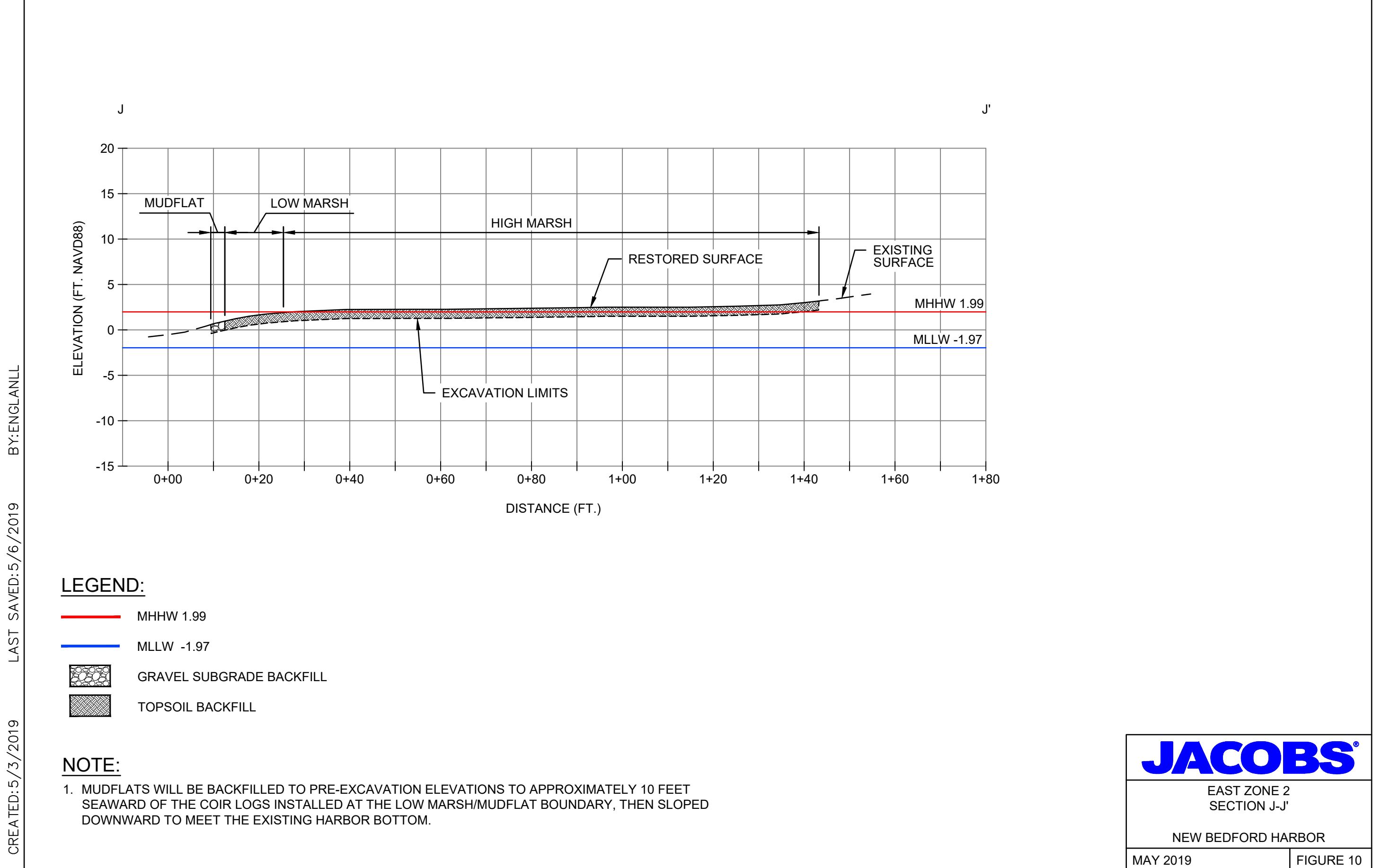
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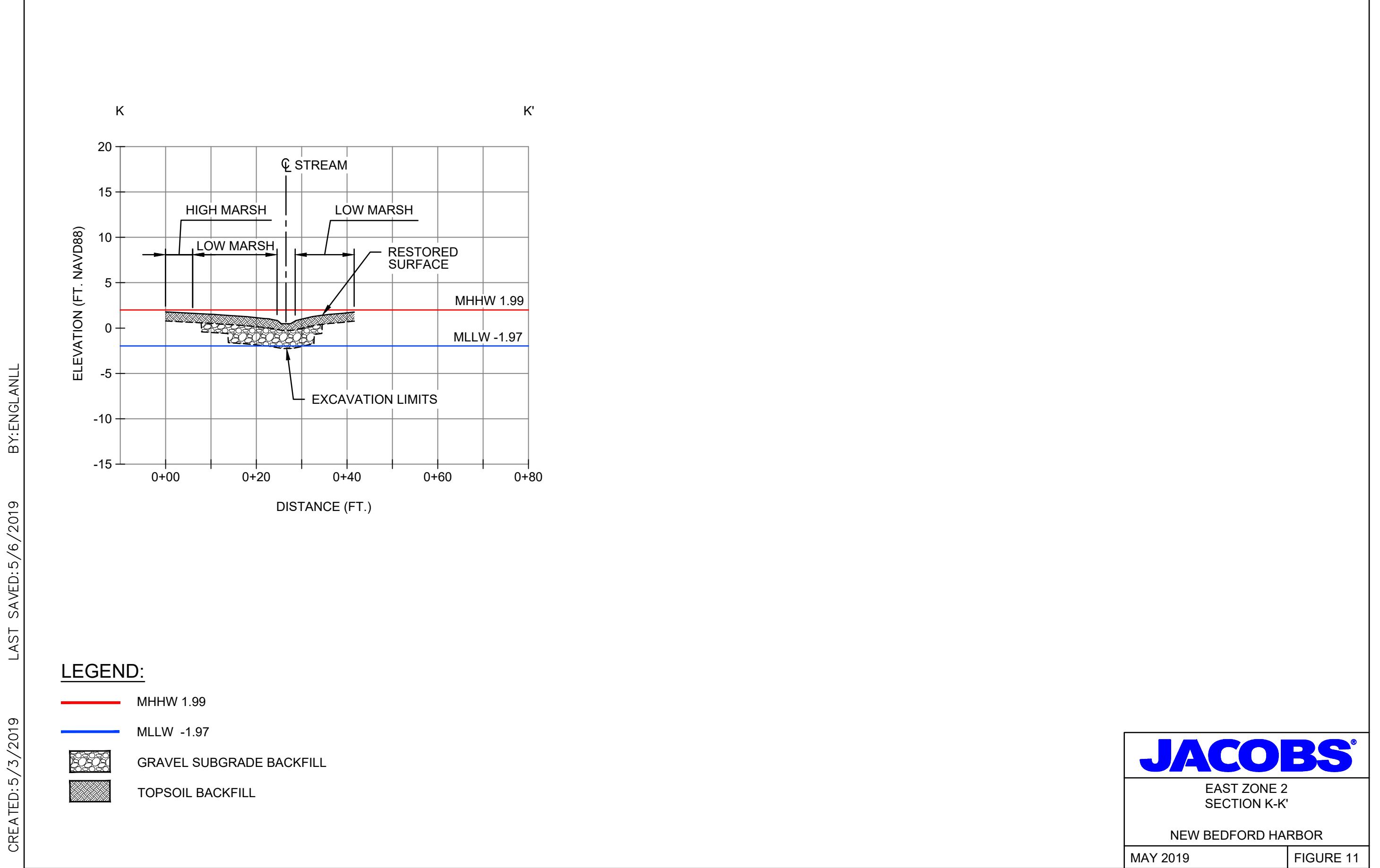
- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL

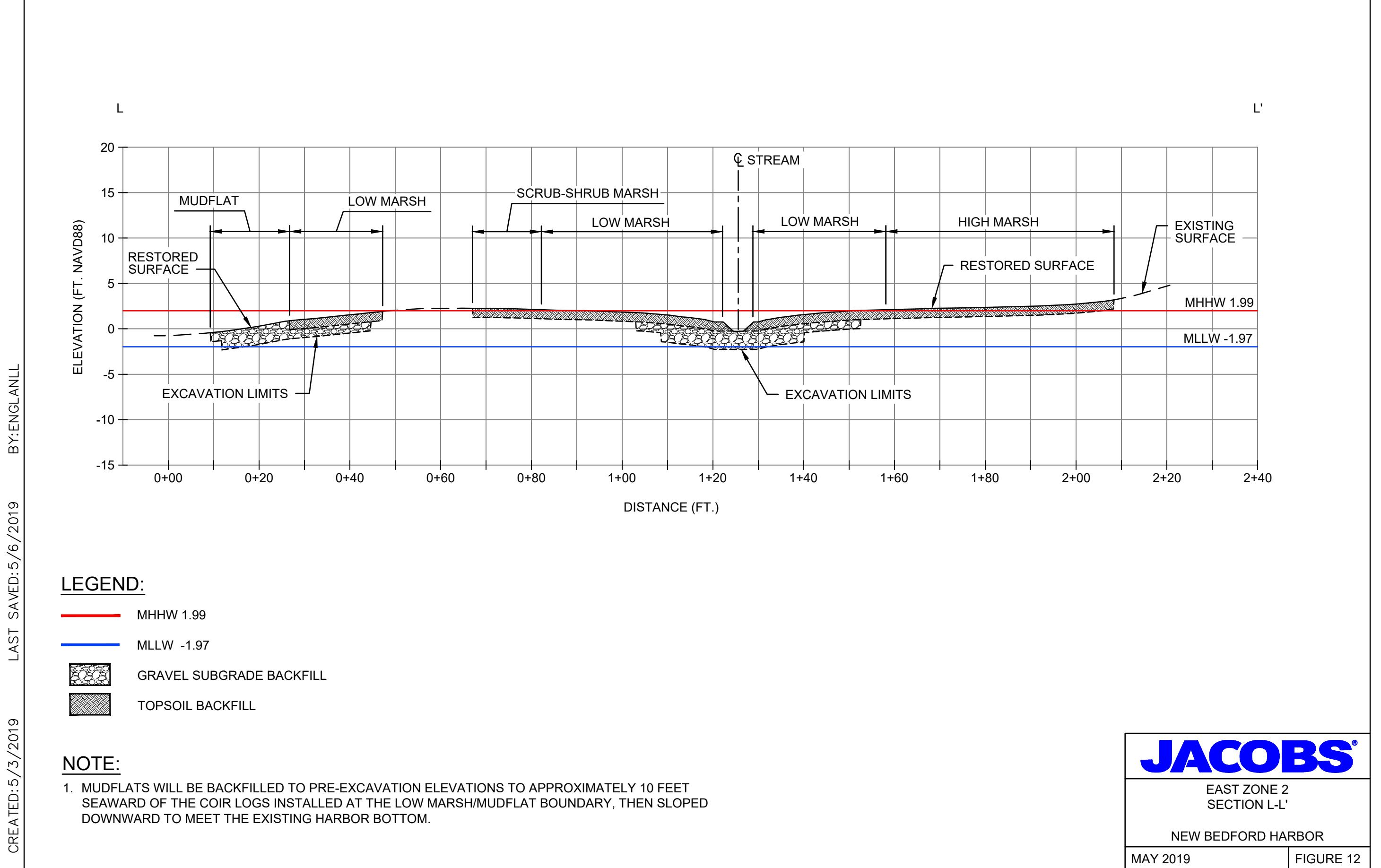
NOTE:

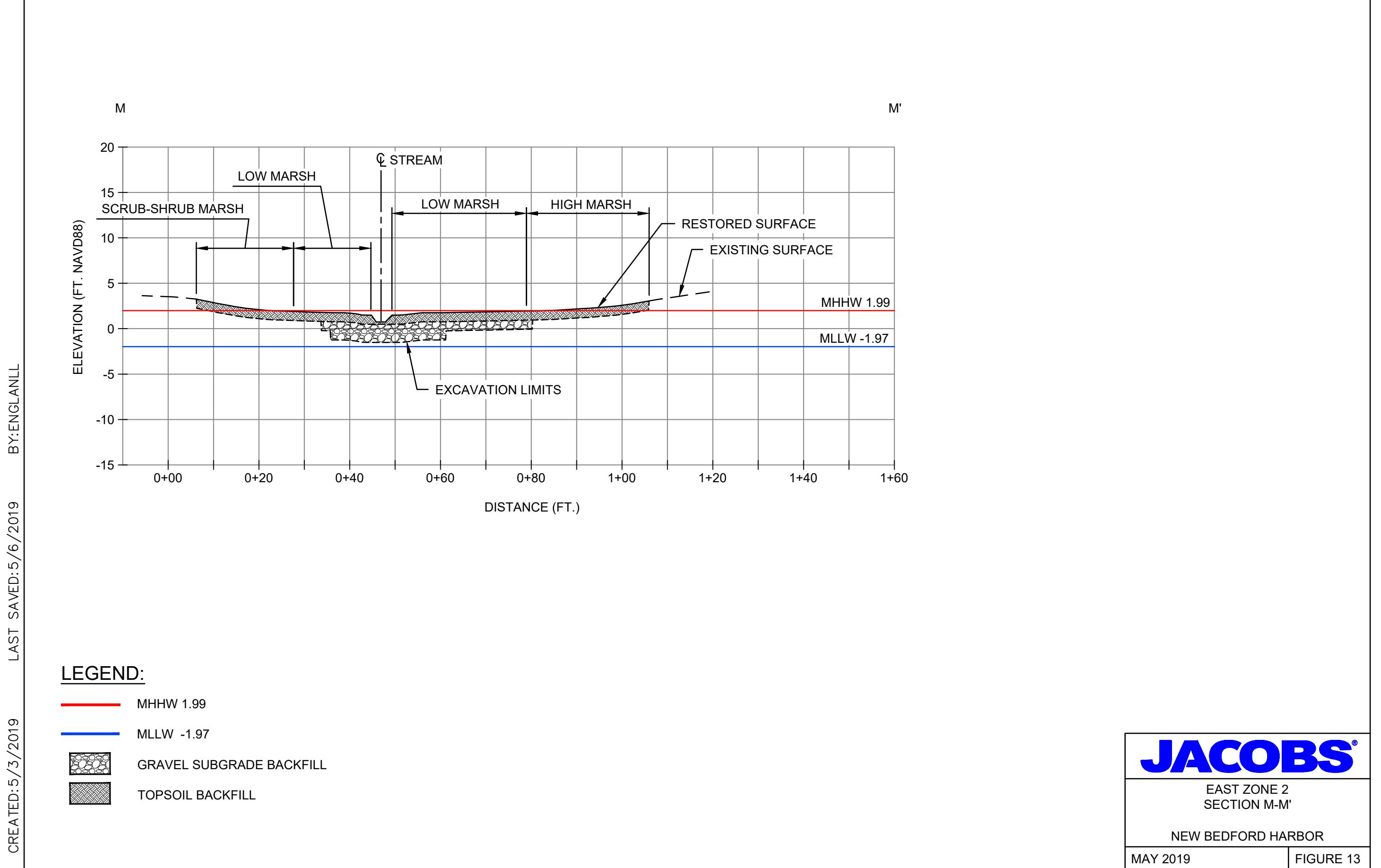
1. MUDFLATS WILL BE BACKFILLED TO PRE-EXCAVATION ELEVATIONS TO APPROXIMATELY 10 FEET SEAWARD OF THE COIR LOGS INSTALLED AT THE LOW MARSH/MUDFLAT BOUNDARY, THEN SLOPED DOWNWARD TO MEET THE EXISTING HARBOR BOTTOM.



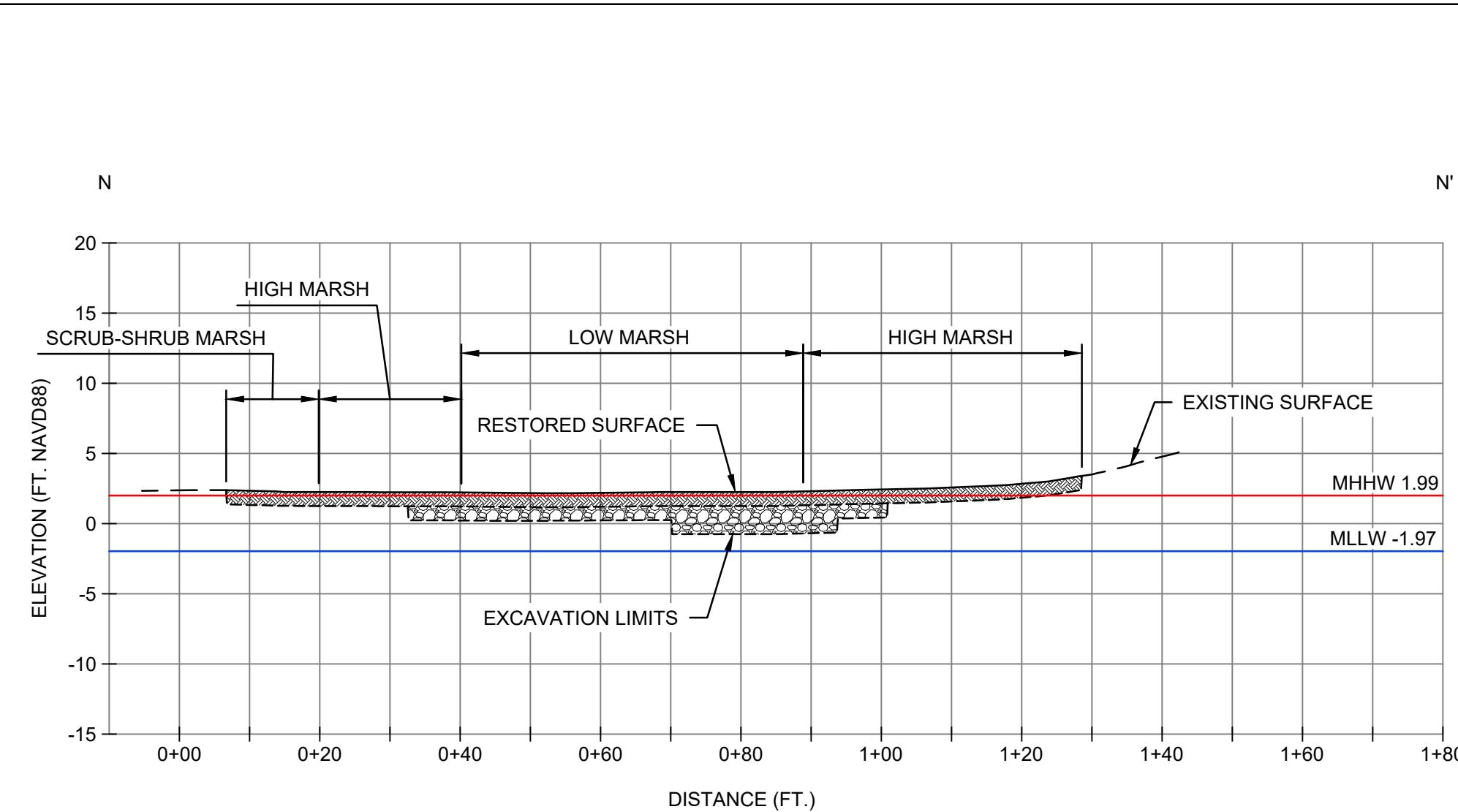








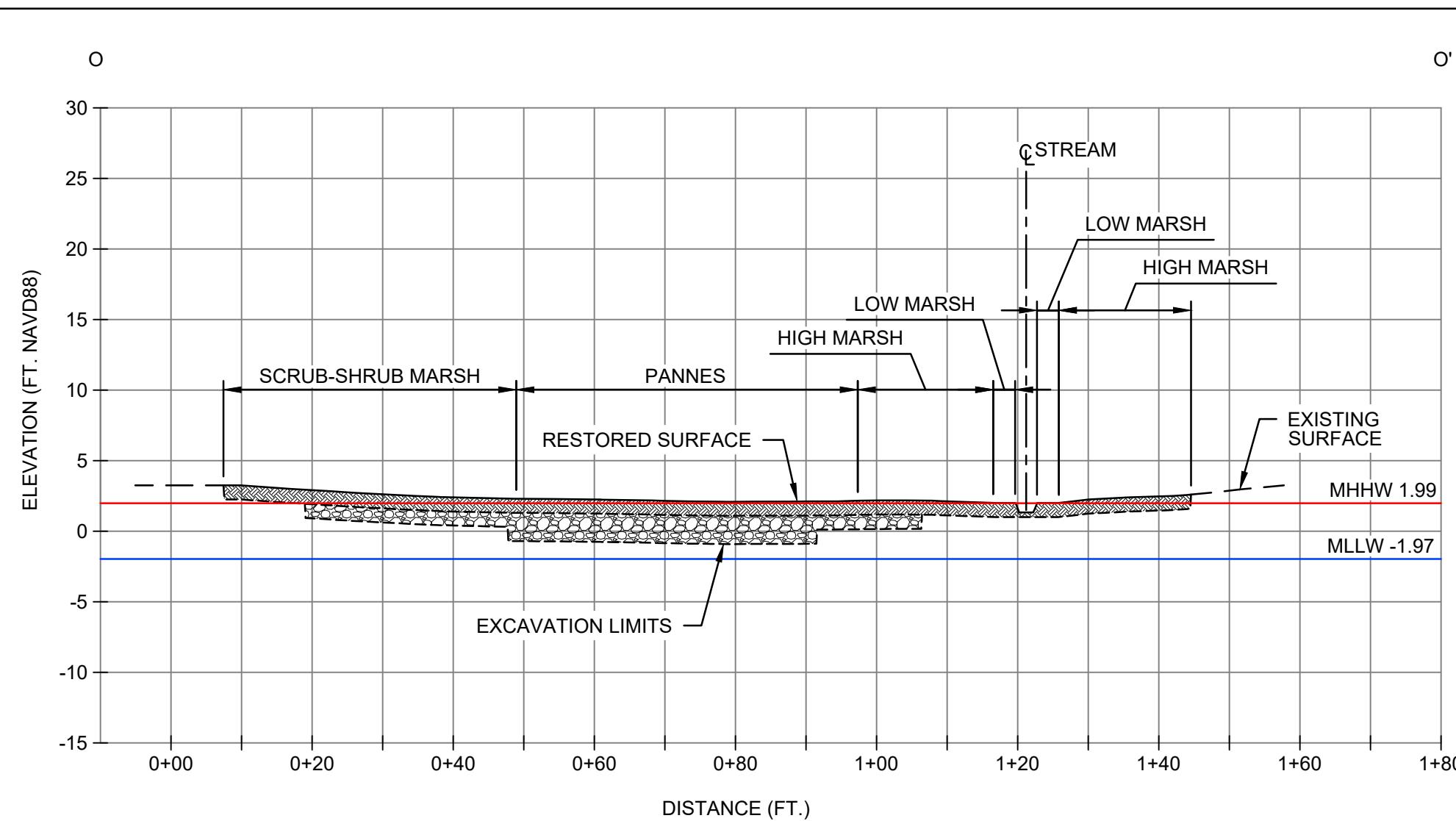
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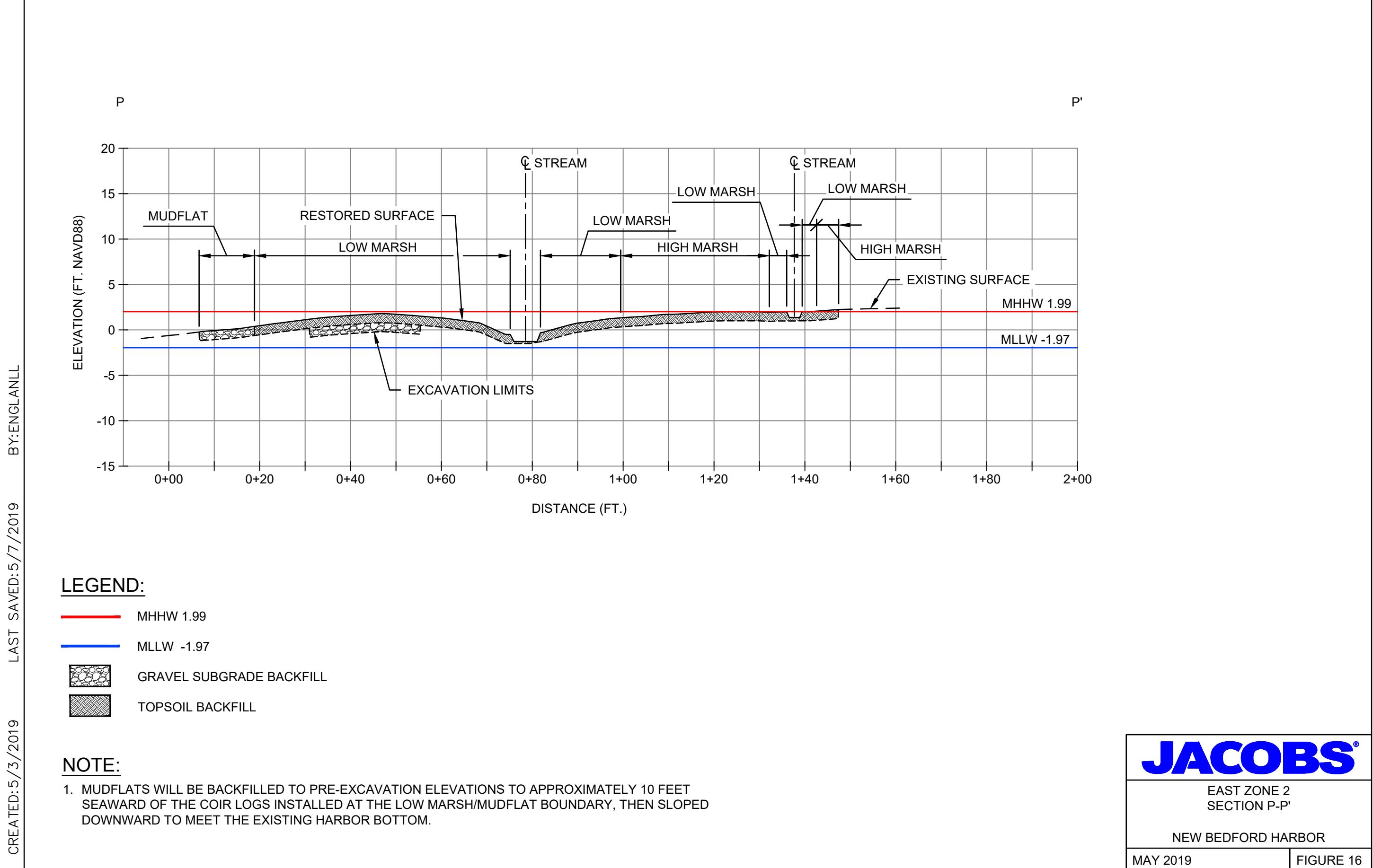
- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL

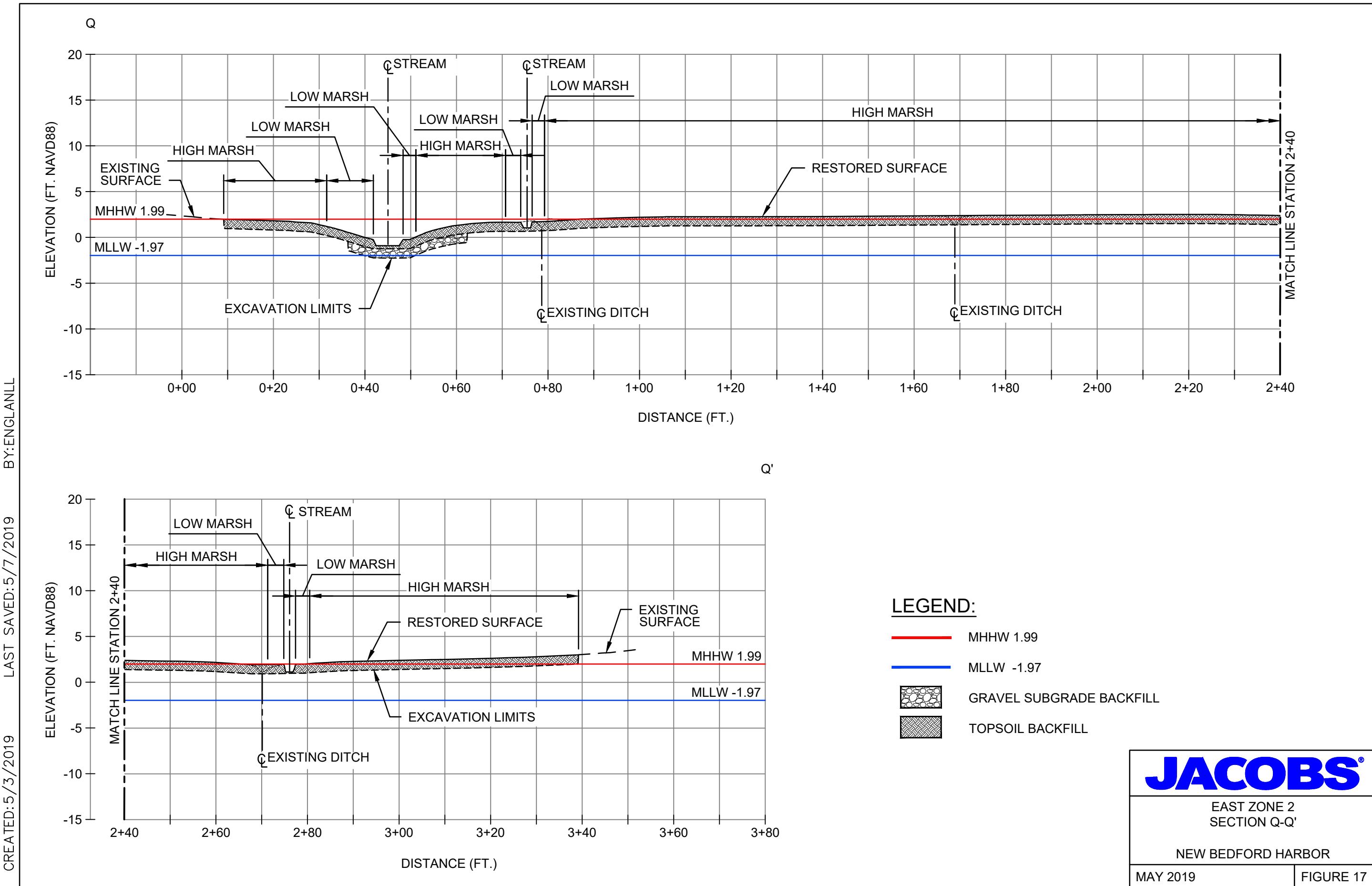
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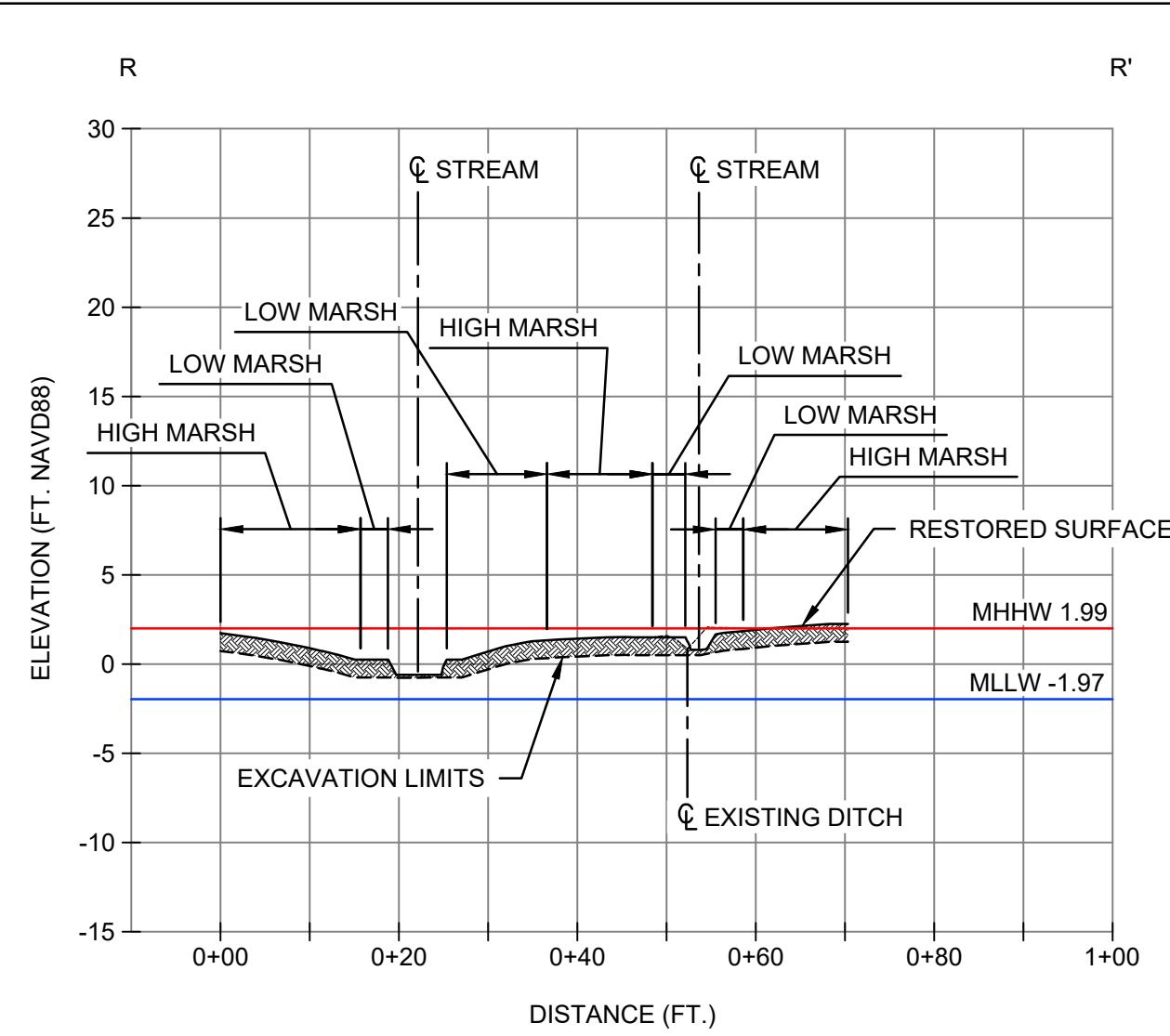
LEGEND:

- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL





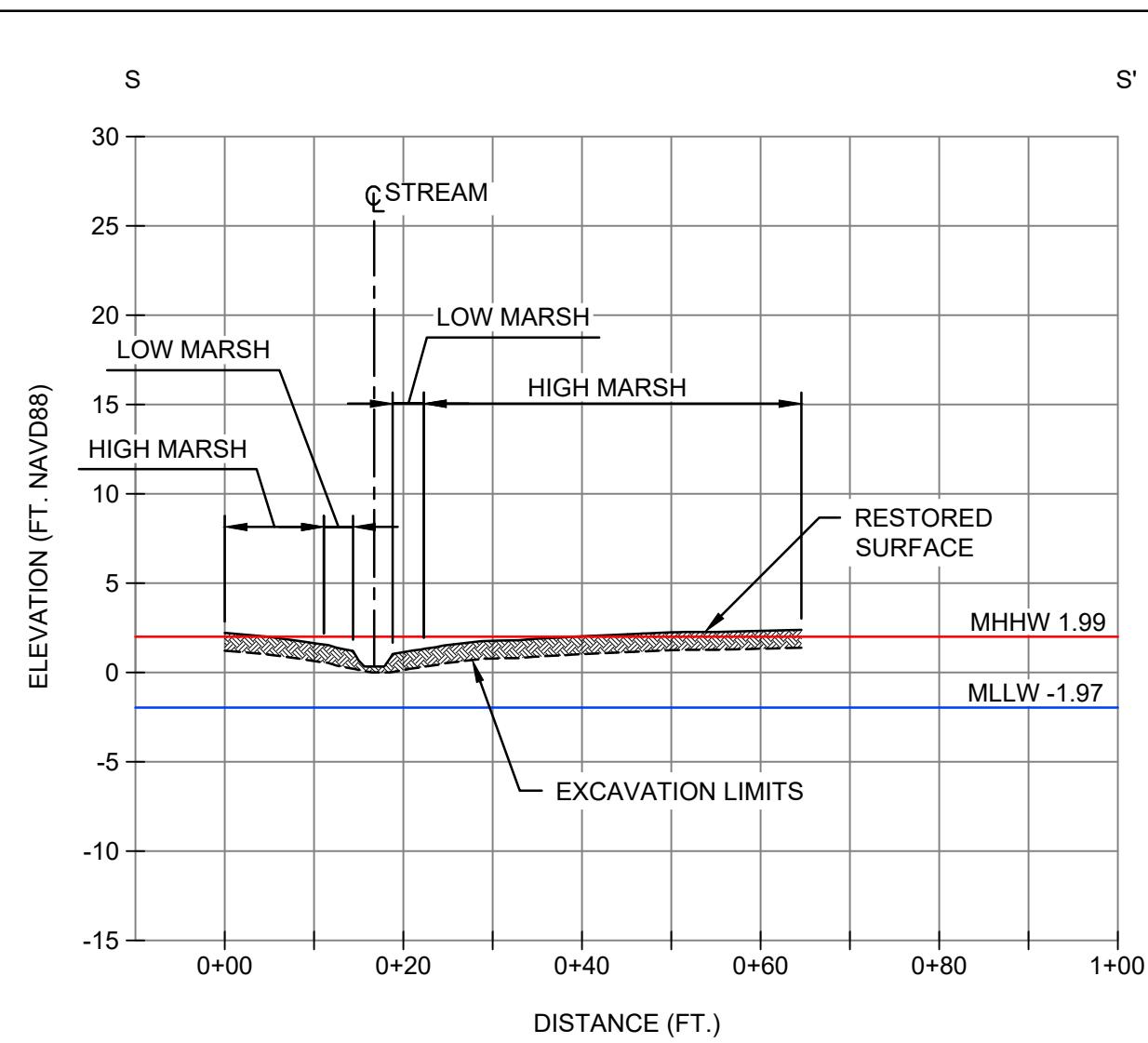
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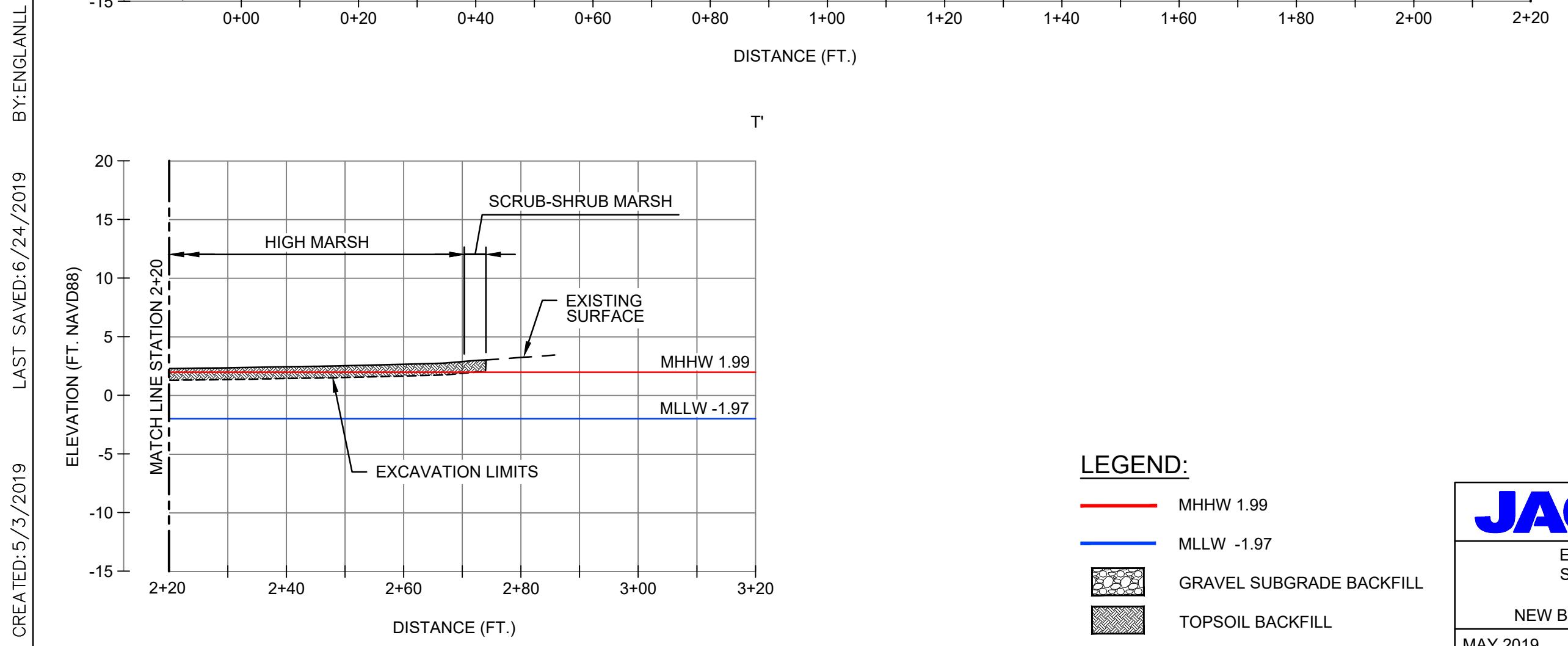
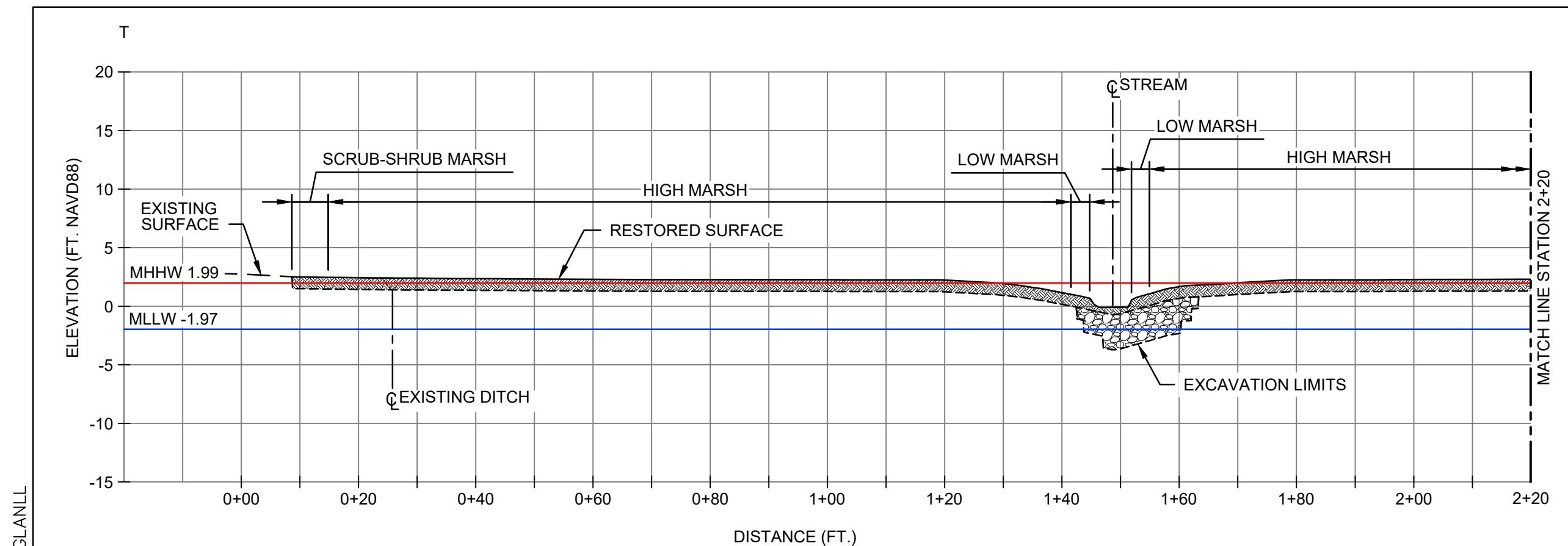
- MHHW 1.99
- MLLW -1.97
- TOPSOIL BACKFILL

CREATED: 5/3/2019 LAST SAVED: 5/7/2019 BY: ENGLANLL



LEGEND:

- MHHW 1.99
- MLLW -1.97
- TOPSOIL BACKFILL

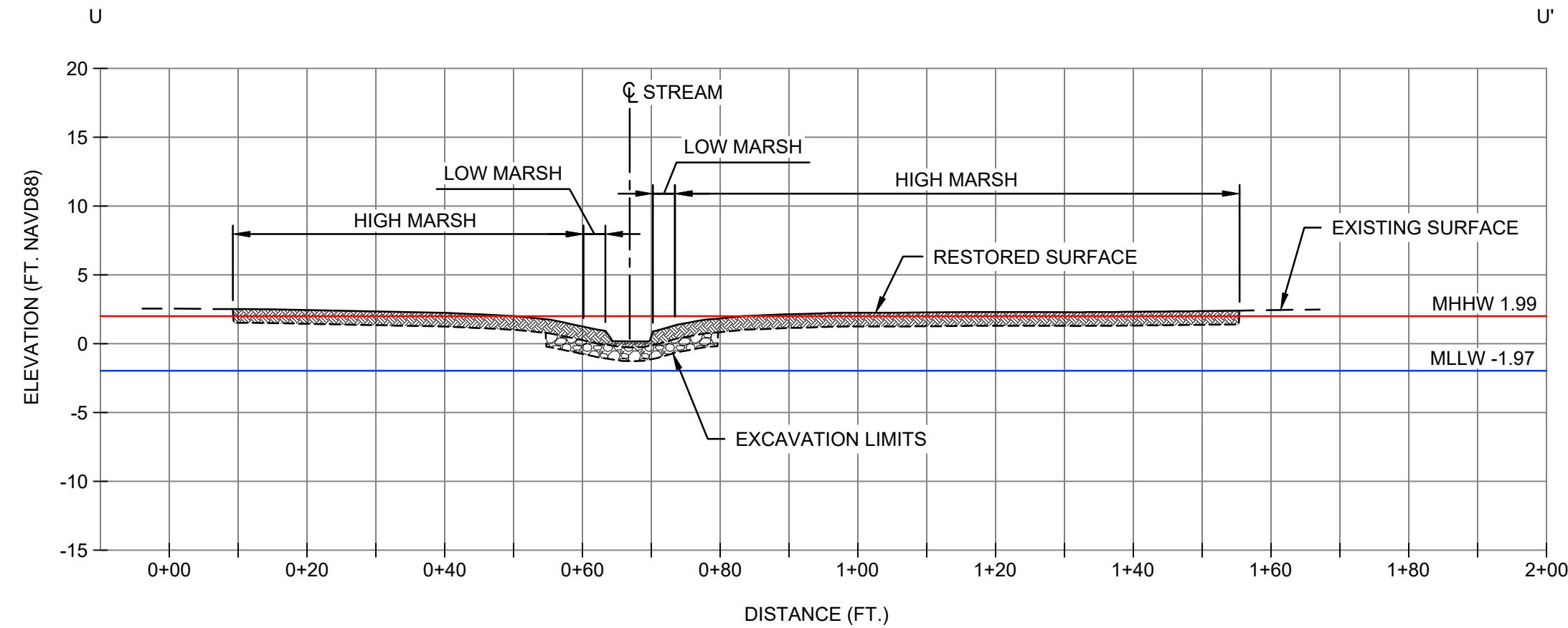


LEGEND:

- MHHW 1.99
- MLLW -1.97
- [Shaded box] GRAVEL SUBGRADE BACKFILL
- [Hatched box] TOPSOIL BACKFILL

JACOBS®
EAST ZONE 2
SECTION T-T'
NEW BEDFORD HARBOR
MAY 2019 FIGURE 20

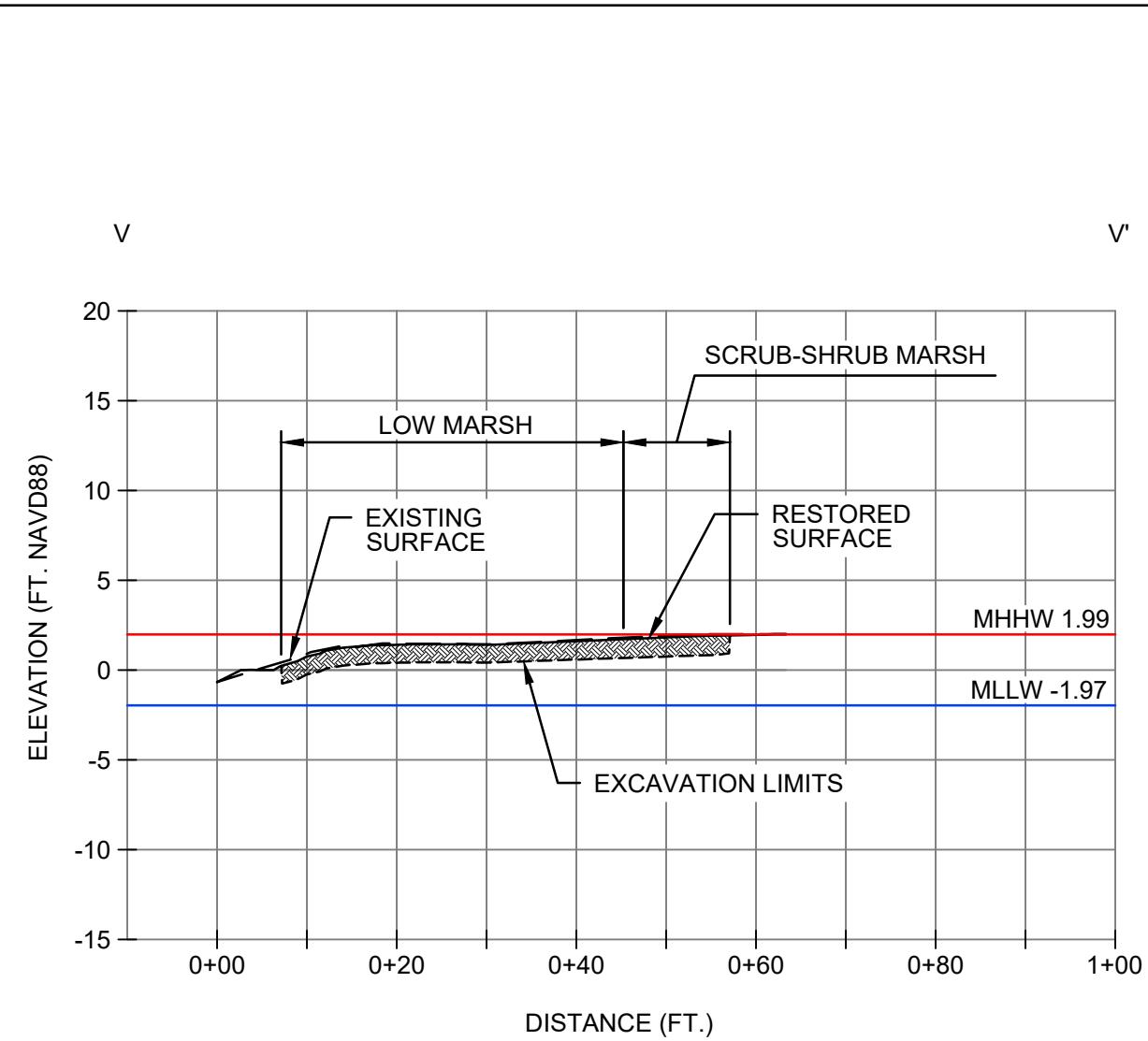
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LEGEND:

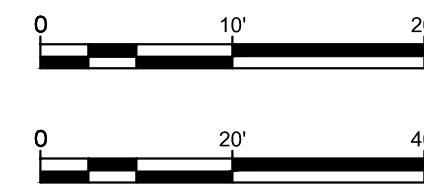
- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL

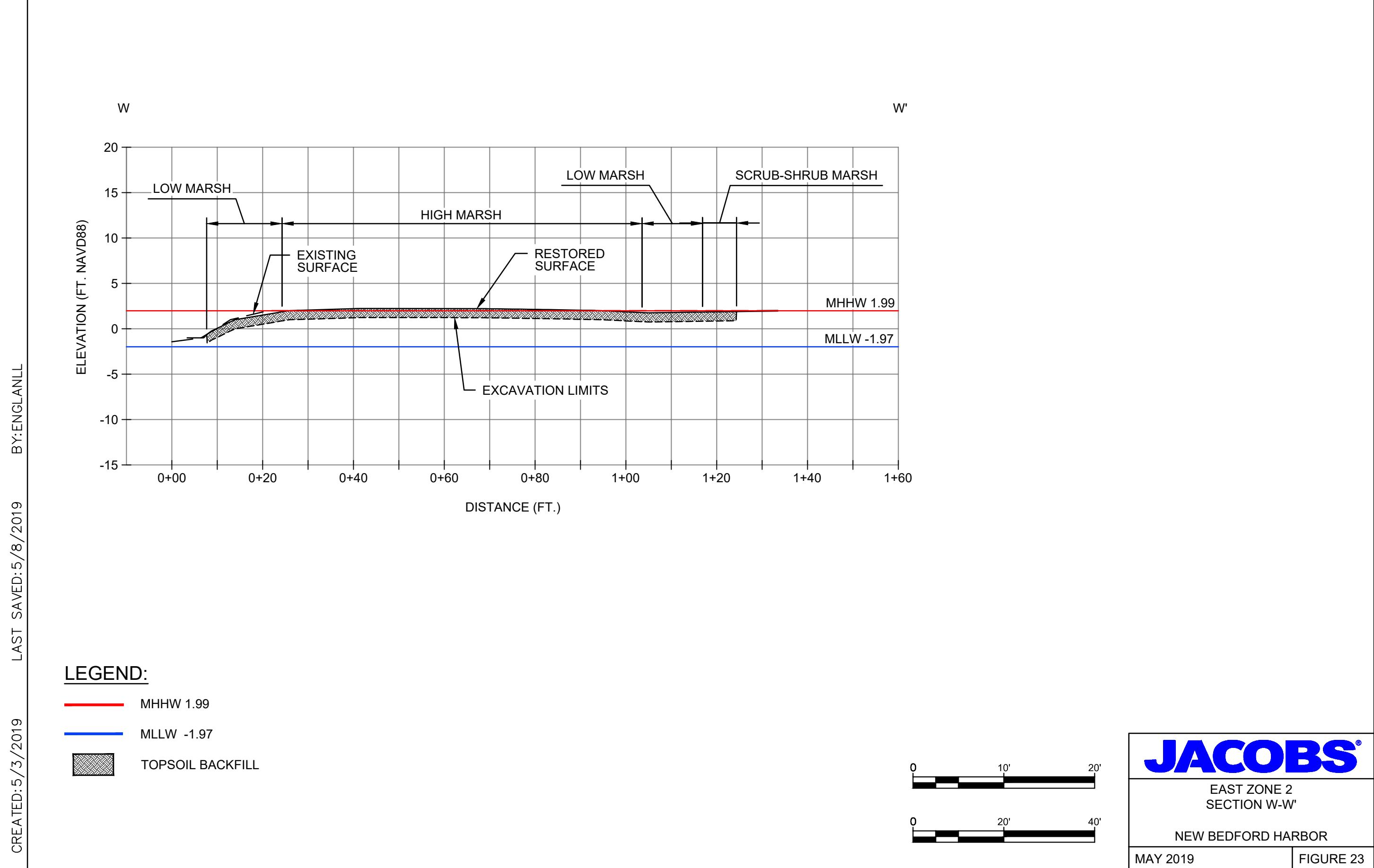
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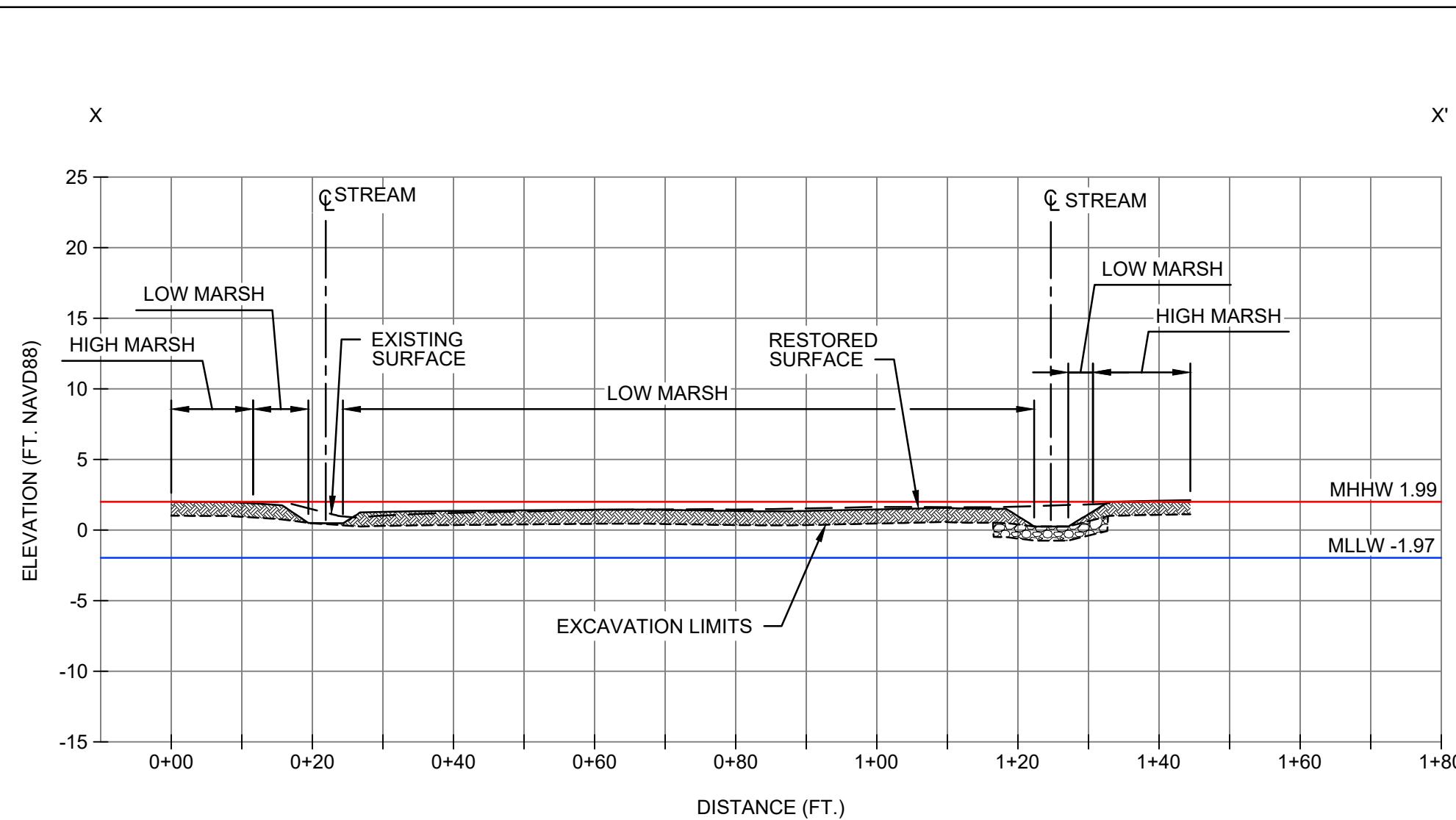
LEGEND:

- MHHW 1.99
- MLLW -1.97
- [Hatched pattern] TOPSOIL BACKFILL



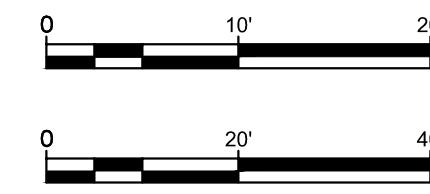


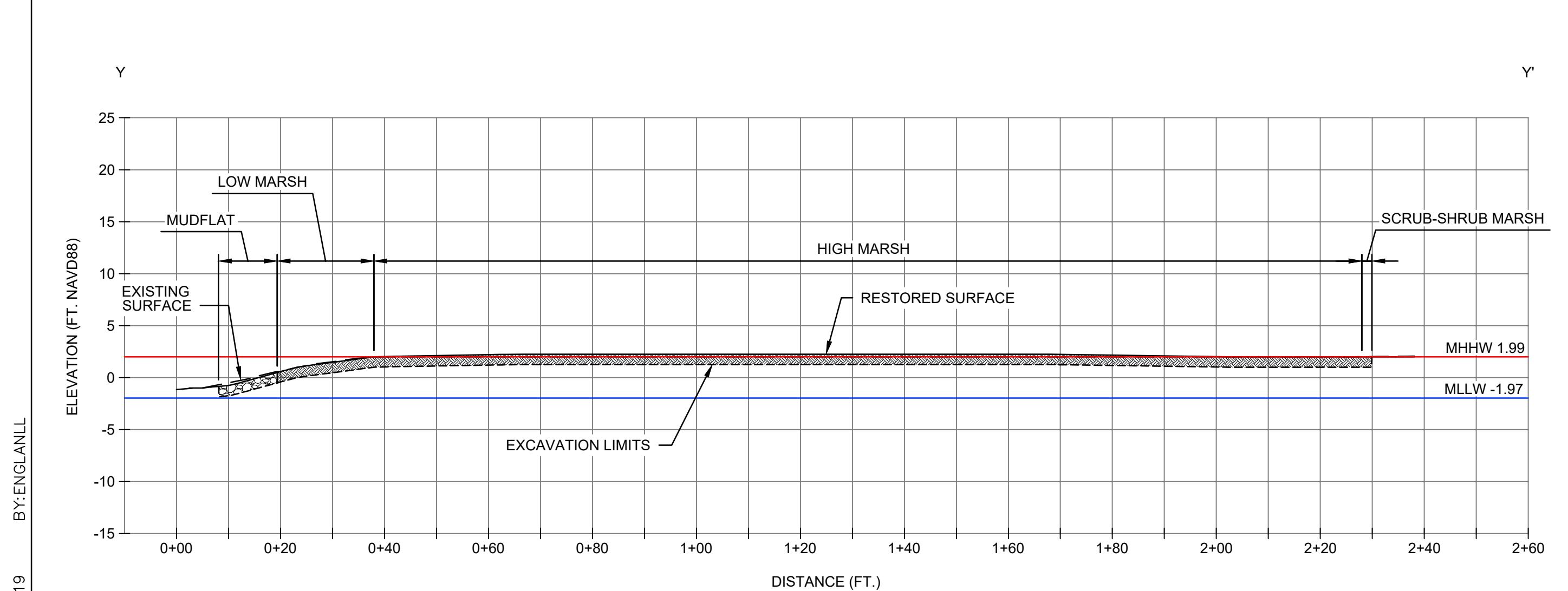
CREATED: 5/3/2019 LAST SAVED: 5/8/2019 BY: ENGLANLL



LEGEND:

- MHHW 1.99
- MLLW -1.97
- GRAVEL SUBGRADE BACKFILL
- TOPSOIL BACKFILL



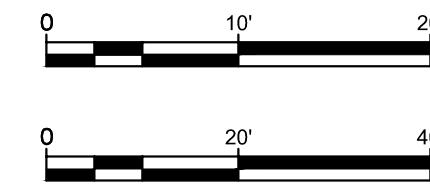


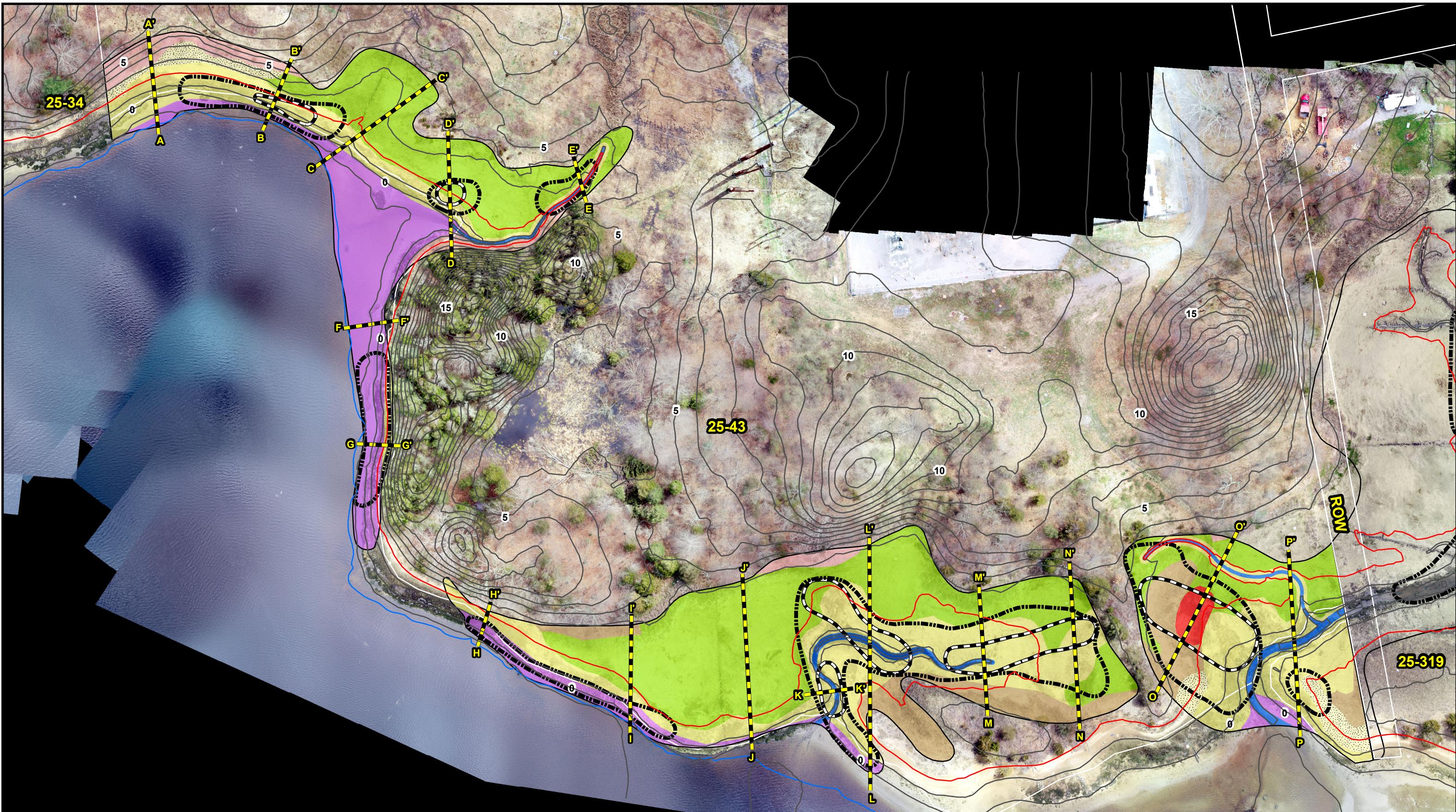
LEGEND:

- MHHW 1.99
- MLLW -1.97
- [Hatched pattern] GRAVEL SUBGRADE BACKFILL
- [Solid black] TOPSOIL BACKFILL

NOTE:

1. MUDFLATS WILL BE BACKFILLED TO PRE-EXCAVATION ELEVATIONS TO APPROXIMATELY 10 FEET SEAWARD OF THE COIR LOGS INSTALLED AT THE LOW MARSH/MUDFLAT BOUNDARY, THEN SLOPED DOWNWARD TO MEET THE EXISTING HARBOR BOTTOM.





Legend

Cross Section Locations	1-2' Excavation Depth	Proposed Low Marsh
1-foot Contour	2-3' Excavation Depth	Proposed Scrub-Shrub Marsh
Mean Higher High Water	Parcel Boundary	Minimal Backfill as Needed for Drainage or Slope Stability
Mean Lower Low Water	Proposed Beach	Proposed Upland
0-1' Excavation Depth	Proposed High Marsh	Proposed Pannes

0 50 100
Feet
June 2019



Intertidal East Zone 2 Parcel 25-43 Cross Section Locations

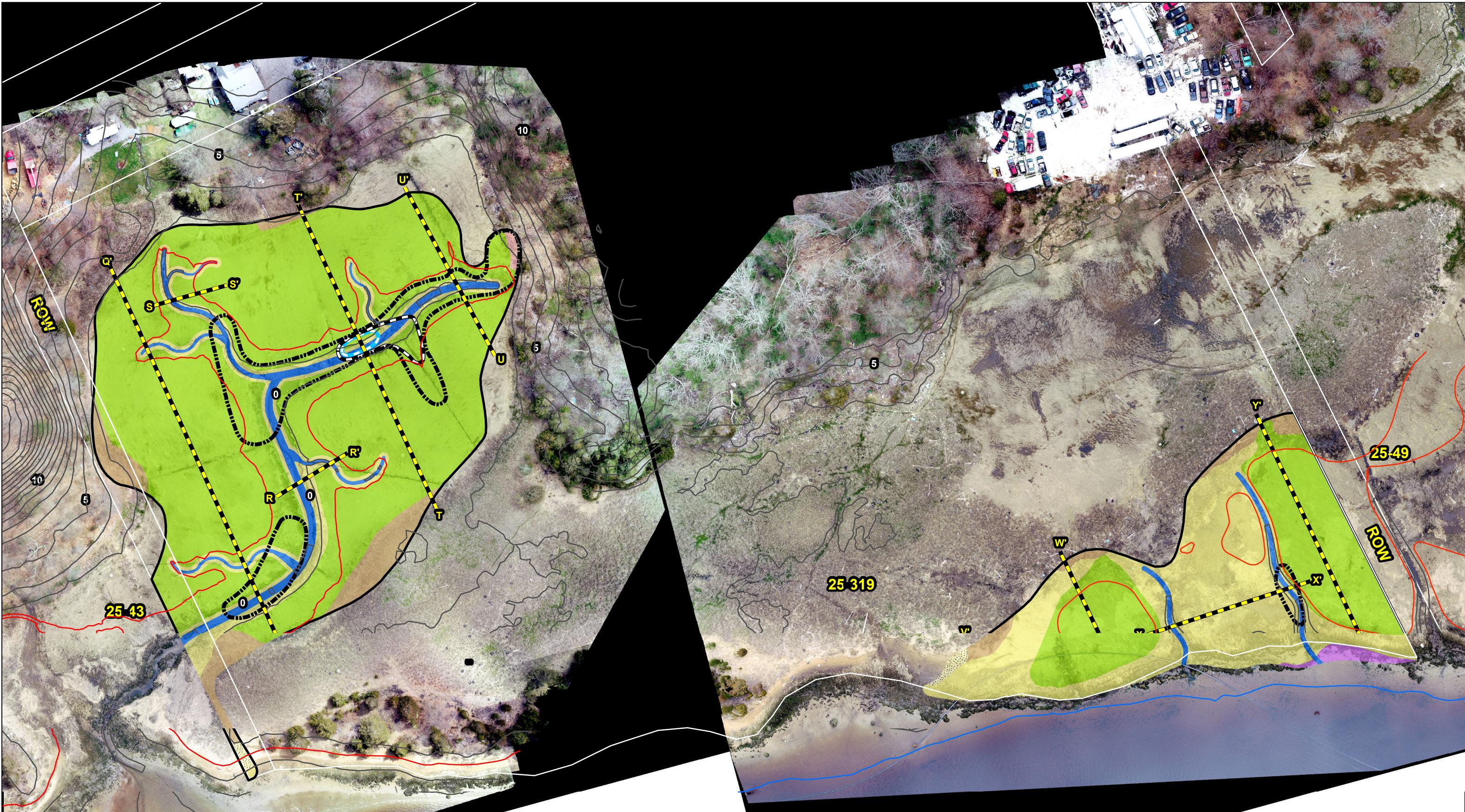
New Bedford Harbor Superfund Site

JACOBS

Figure 26

Basemap Data Source:
Nearview, LLC

Vertical Datum:
NAVD88



Legend

	Cross Section Locations		Parcel Boundary
	0-1' Excavation Depth		Proposed Low Marsh
	1-2' Excavation Depth		Proposed Scrub-Shrub Marsh
	Mean Higher High Water		Minimal Backfill as Needed for Drainage or Slope Stability
	Mean Lower Low Water		Proposed Stream
	2-3' Excavation Depth		Proposed Upland
	3-4' Excavation Depth		Proposed Beach
			Proposed High Marsh

Basemap Data Source:
Nearview, LLC

0 50 100
Feet

June 2019



Vertical Datum:
NAVD88

Intertidal East Zone 2 Parcel 25-319 & ROW
Cross Section Locations

New Bedford Harbor Superfund Site

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Figure 27

Appendix C

Schedule

(to be added at a later date)