



## Memorandum

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May 8, 2020

TO: Erin Flaherty (EOEEA-MEPA)

CC: Susan E. Nilson, P.E.

FR: Carlos G. Peña, P.E.

RE: EEA# 16190 Tisbury Marine Terminal (TMT) – Supplemental Information

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Pursuant to questions raised by the regulatory agencies during the MEPA Scoping Session last Friday, May 1, 2020, please accept the following responses:

1. *How does the proposed marine terminal facility address predicted sea-level rise?*

The proposed marine terminal components have been designed for a 50-year design life and to accommodate future retrofitting for a three (3) foot sea-level rise. The present marine terminal facility is located on a filled and graded site extending from Beach Road to the existing, authorized steel bulkheads and the top of the coastal beach as shown on the Foth plans dated April 15, 2020. The site is located in both FEMA VE (EL 13) and AE (EL 10) zones. The current topography for the site and Beach Road averages between 4' and 6' relative to NAVD88. Based on the current site topography and proposed grading for the reconstruction of Beach Road by MassDOT, the proposed grading for the TMT was designed to an elevation of 6' NAVD88 and to match, from an elevation perspective, the abutting properties and right-of-ways (ROW) to accommodate drainage flow, vehicular and truck traffic and pedestrian access. Due to the narrow dimensions of the site, abrupt grade changes would impede access to the site and disrupt drainage flow.

In order to accommodate predicted sea level rise, the design for the marine terminal referenced the Massachusetts Climate Change Projections published by the Northeast Climate Science Center at the University of Massachusetts at Amherst in March of 2018. According to the sea level rise projections for the Intermediate-High (IH) scenario the probabilistic projections for the next fifty (50) years to 2070 is a sea level rise of 3.0' for nearest tidal stations in Nantucket, MA and Newport, RI. The 50-year sea level rise projection matches the 50-year design life of the terminal components and as such, can be designed to be retrofitted and elevated at some point in the future if current IH projections underestimate realized sea level rise. The design for the steel bulkheads, piers

and wave fence will account for the additional forces and reactions based on a future 3.0' increase in structure height.

2. *How does the proposed marine terminal facility and building meet the performance standards for coastal dunes as set forth in 310 CMR 10.28 Coastal Dunes?*

The project site is located on a barrier island and the primary coastal resources are coastal beaches and dunes. A coastal dune is significant to storm damage prevention, flood control and the protection of wildlife. The project site has been historically utilized as a marine terminal and current operations extend from Beach Road to the limits of the authorized steel bulkhead and top of coastal beach as shown on the Foth plans dated April 15, 2020. The proposed marine terminal facility and building will be constructed in areas previously filled and graded to accommodate the past and present terminal activities. The site is located in both FEMA VE (EL 13) and AE (EL 10) zones. Within the VE zone the majority of the terminal structures will be constructed and protected by the proposed wave fence extending up to elevation 10' relative to NAVD88, the terminal building and a section of the driveway will be located within the AE zone.

In order to meet the performance standards for coastal dunes and meet the building code requirements, the proposed terminal building will be constructed on a pile foundation. The first floor elevation for the terminal building will be constructed at elevation 10' relative to NAVD88 with the existing grade at the building site averaging 6' NAVD88. The proposed pile foundation will allow the passage of coastal storm flowage and movement of sand to meet the performance standards outlined in the attached supplemental narrative which references 310 CMR 10.28 and provides a narrative along with an updated Table 7 for resources area impacts (replacing pages 21-24 in the ENF Project Narrative).

3. *Can a copy of the Foth Eelgrass report submitted and entered into the ENF record?*

Attached please find a copy of the Foth Eelgrass reported dated June 12, 2019.

4. *Can Foth color code the tide lines and provide an enhanced cross-sectional view of the proposed "environmental window" in the TMT bulkhead?*

The existing conditions plan shown of the Foth plans dated April 15, 2020 have been color coded for the Mean Low Water (MLW), Mean High Water (MHW), Historic High Tide Line (HHTL) and Annual High Tide Line (AHTL), along with the AHTL label "Highest Predicted Tide of Year on July 30, 2020.

The section and detail for the bulkhead "Environmental Window" has been modified on Sheet 6 of 6 of the Foth plans dated April 15, 2020 to show the top of the submerged steel sheet bulkhead at elevation -4' NADV88 and supporting intermittent king-piles.