MBTA Hingham Ferry Dock Project

Narrative, Maps, Photos, and Site Plan

Introduction

The MBTA is proposing to conduct geotechnical borings for analysis to determine design parameters for replacement of the pier at Hingham Shipyard (see attached USGS locus map). MBTA is coordinating on the project with the property owner, the Department of Conservation and recreation (DCR). For data collection purposes, the project proposes 6 (six) geotechnical borings below Mean Low Water along the inner edge of the proposed revised pier location and 2 (two) geotechnical borings on land (above Mean High Water) in the vicinity of the existing concrete walkway. The geotechnical investigation proposed for this project is part of a larger undertaking being proposed by the MBTA to replace the existing Hingham Ferry Dock.

WPA Jurisdiction

The proposed project is located in the following WPA jurisdictional areas:

- Land Under the Ocean (310 CMR 10.25)
- Coastal Beach (310 CMR 10.27)
- Land Subject of Coastal Storm Flowage (defined in 210 CMR 10.04)
- Land Containing Shellfish (310 CMR 10.34)

All impacts associated with the geotechnical investigations are considered temporary as the drilling methodology is considered to be a low impact operation. The sediment and soil environments will return or be returned to natural condition at the completion of the investigation.

Purpose and Need

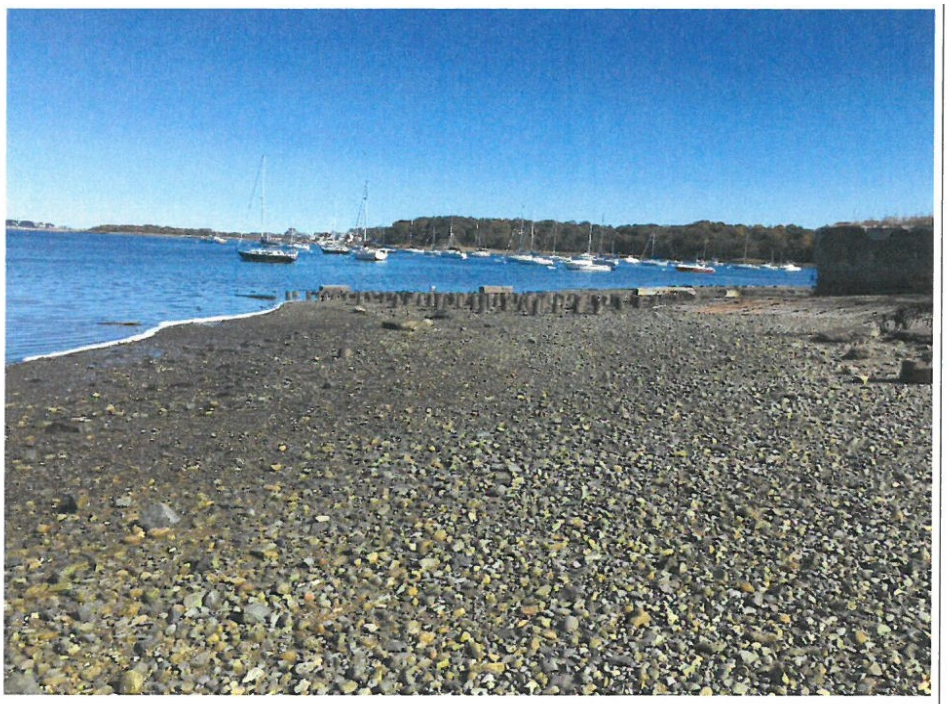
The purpose of the geotechnical borings is to collect data to be used to properly design the foundation piles that are being proposed for the pier and walkway replacement project. The project is needed to design the replacement pier and walkway to appropriate design standards.

Proposed Work – Geotechnical Boring

The geotechnical borings to be collected along the inshore edge of the proposed reoriented pier and the borings to be collected along the existing walkway will consist of small-diameter cased borings (approximately 4 inches interior diameter) drilled approximately 82 to 102 feet below the mudline or ground surface with Standard Penetration Test (SPT) samples taken every 5 feet (see attached Boring Location Plan for approximate locations). Undisturbed tube samples will be taken as directed if cohesive soils are encountered and approximately 10 feet of rock core will be drilled if encountered. Boring equipment for the marine borings will be staged from a barge; boring equipment for the land borings will be staged from a truck or ATV.

Avoidance, Minimization, Mitigation

During drilling and sampling, drilling fluids and soil cuttings will be contained and re-circulated through casings sealed in the bottom sediments and transferred to steel drums to prevent release to marine waters. The steel drums will be temporarily stored by the drilling contractor; any surplus cuttings and fluids will later be properly disposed by the driller. To the extent possible, the contractor will place the soil cuttings back in the drill casing/borehole prior to completing the operation. Previous testing has indicated that contaminants are not present at significant concentrations in the soil cuttings. In order to minimize any potential impact, the initial holes will be drilled with water, only using drilling fluids if necessary. Drilling equipment for in-water borings will be staged from the water to avoid the need for heavy equipment on the beach and the intertidal zone.



Direction: East

TOP: View of intertidal zone looking east from existing pier. Location of exposed wood piles shown. Low tide. Facing east.

BOTTOM: View of existing pier and foundations. Access gangway also shown. Low tide. Facing northwest.