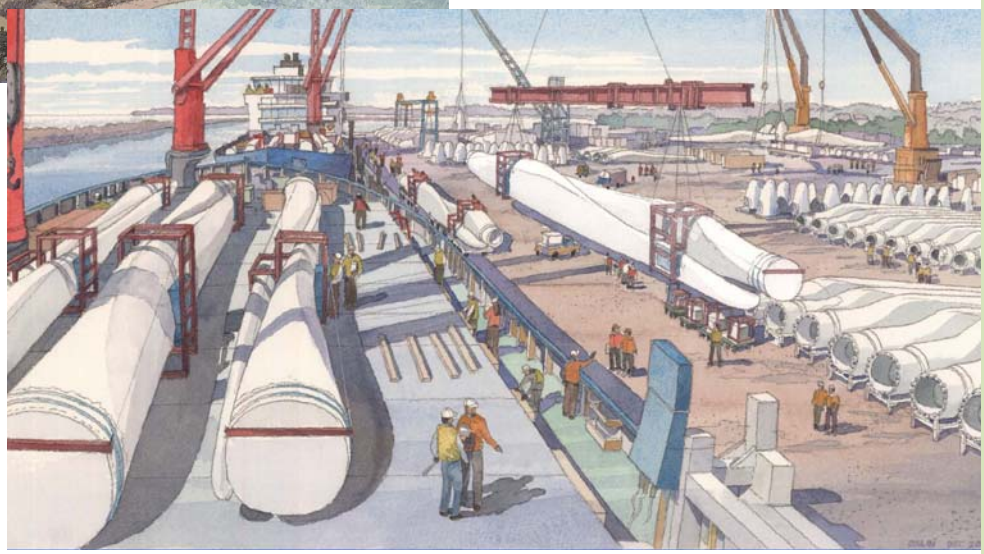
RETURN TO SER AR INDEX

CONSTRUCTION MANAGEMENT PLAN

New Bedford Marine Commerce Terminal (NBMCT)
New Bedford, Massachusetts

CMP



STATE ENHANCED REMEDY IN NEW BEDFORD, SOUTH TERMINAL

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

OCTOBER, 2012

SDMS Doc ID 70005503

TABLE OF CONTENTS

1. INTRODUCTION 4
2. SCOPE, CONTRACT, ADMINISTRATION AND AUTHORITY 5
2.1 Scope of the Plan 5
2.2 Contract and Project Requirements 5
2.3 Administration of the Plan 5
2.4 Authority 6
2.4.1 Responsibilities 6
2.4.2 Contacts and Chain of Command 6
2.5 Contractor Submittals 8
2.6 Interface with Contractor Plans and Policies 8
3. PUBLIC INVOLVEMENT AND INFORMATION PLAN 10
4. PROJECT DESCRIPTION 13
4.1 In-Water Construction 13
4.2 On-Land Construction 13
5. PROJECT SEQUENCING 15
5.1 UPLAND CONSTRUCTION 16
5.2 Dredging 16
6. SITE HEALTH AND SAFETY 18
6.1 Introduction 18
6.2 Authority and Responsibility 19
6.3 Objectives 19
6.4 Health & Safety and Rehabilitation Policies 19
6.5 Health & Safety Standards 20
6.6 Roles and Responsibilities 21
7. SITE CONTROL AND SECURITY 24
8. QUALITY ASSURANCE AND QUALITY CONTROL 26
8.1 Authority and Responsibility 26
8.2 Reporting 27
8.3 Monitoring, Management, Sampling, and Testing 28
8.4 Insufficiency Reporting and Remedial Actions 30
9 ENVIRONMENTAL MANAGEMENT 31

9.1 Introduction ... 31
9.1.1 Objectives ... 31
9.1.2 Environmental Policies ... 31
9.1.3 Environmental Standards ... 32
9.2 General Site Operations ... 32
9.2.1 Pollution Control ... 33
9.2.2 Spill Prevention, Control, and Countermeasure Plan ... 33
9.2.3 Air Emission Reduction ... 34
9.3 On-land Construction Operations ... 35
9.3.1 Site Control ... 35
9.3.2 Earth Moving, Sediment, and Erosion Control ... 36
9.4 Over-water Operations ... 36
9.4.1 Site Control ... 37
9.4.2 Pollution Prevention ... 37
9.4.3 Sediment Management and Siltation Control ... 37
10 STORMWATER MANAGEMENT ... 39
10.1 Upland Areas ... 39
10.2 Intertidal Areas ... 39
11 DUST MANAGEMENT AND AIR QUALITY MONITORING ... 40
11.1 UPLAND CONSTRUCTION ... 40
11.1 Dredging ... 42
12 WASTE MANAGEMENT ... 43
12.1 Excavation Out-of-Spec Debris ... 43
12.2 Construction Debris ... 44
12.3 Construction Generated Wastes ... 44
12.3.1 Personal Protective Equipment ... 45
12.3.2 Refueling and Lubricating Waste Management ... 46
12.3.3 Trash ... 46
13 ARCHAEOLOGICAL MANAGEMENT ... 48
13.1 Protection and Treatment of Identified Resources ... 49
13.2 Monitoring During Construction ... 50
13.3 Contacts, Reporting and Actions ... 51
13.3.1 Unanticipated Discovery of Human Remains: ... 51
13.3.2 Unanticipated Discovery of Underwater Archaeological Resources: ... 52
14 NOISE AND VIBRATION CONTROL AND MINIMIZATION ... 55
15 PARKING AND TRAFFIC MANAGEMENT ... 56
15.1 Parking Management ... 56
15.2 Traffic Management ... 56
16 CONSTRUCTION RISKS AND MITIGATION MEASURES ... 58

16.1 Project Approach 58

16.2 Appropriate Standards 59

16.3 Coordination with Community Stakeholders 59

16.4 Mitigation Measures 60

1. INTRODUCTION

The creation of the New Bedford Marine Commerce Terminal has been in the planning phase for several years and represents a key component of the City of New Bedford's Municipal Harbor Plan. As a filled structure adjacent to the shoreline, the proposed New Bedford Marine Commerce Terminal (NBMCT) includes design for a bulkhead wall extension, dredging to accommodate various cargo vessel types, and filling and finish work behind the bulkhead. The following Construction Management Plan (CMP) has been prepared to provide guidance for conducting the various activities required to construct the NBMCT with an emphasis on minimizing the impact of this large scale project on the local community and the environment of the greater New Bedford Harbor area.

The final design elements for the facility include, but are not limited to:

- Approximately 28 acre Marine Terminal capable of handling various cargoes including a staging area for offshore wind construction.
- Specialized loading to accommodate large cranes capable of lifting large wind turbine and tower components
- Dredging of material for channels and approach to the facility
- Confined Disposal Facility construction for dredge spoils and land side fill requirements
- Specialized cofferdam and sheet pile construction to meet loading, subsurface conditions, and site requirements.
- Utility and Site Improvements
- Specialized bulkhead construction as described below.

Designed as a cofferdam construction with a marginal wharf system bridging the scalloped edges of the facility to allow for berthing of vessels, the bulkhead for the New Bedford Marine Commerce Terminal is a one-of-a-kind construction that will support heavy-lift loads upwards of four times the capacity of any similar bulkhead in the United States. The construction of the bulkhead will be completed by utilizing dredge spoils from the construction of the boat basin and channel that were needed to access the facility.

The facility is anticipated to be utilized first and foremost as a staging area for offshore renewable energy construction projects. Subsequent to the first use of the facility, the facility is anticipated to be utilized for various non-off-shore wind energy-related applications, including: as a terminal for container shipping, a terminal for break-bulk cargo shipping, and a terminal for bulk cargo shipping. It is anticipated that the NBMCT could become a major short-sea shipping location within America's Marine Highway that will divert truck traffic from congested highways to the open sea and absorb a significant part of the future projected growth in highway freight traffic, reduce air pollution, traffic congestion, and shipping costs.

2. SCOPE, CONTRACT, ADMINISTRATION AND AUTHORITY

2.1 Scope of the Plan

A multi-faceted document, this Construction Management Plan (CMP) establishes the framework necessary for the execution of the procurement and the construction of the New Bedford Marine Commerce Terminal (NBMCT) project and associated works, and provides guidance for all project tasks to occur in the office as well as in the project area. The Construction Management Plan (CMP) has also been prepared to provide the general public with details about the steps to be taken to achieve proactive minimization and mitigation of construction impacts, including impacts arising from dust, traffic, noise, vibration, visual impacts, as well as other types of construction impacts, on the local community and on the environment of New Bedford Harbor. In recognition that the project site lies within an Environmental Justice community, so designated in accordance with Executive Order 12898, the CMP also addresses efforts to be made to engage this community during the construction phase and to elaborate on the process for informing the public concerning progress of construction and upcoming construction-related activities, as well as identifying opportunities for continued community involvement in the project. The success of the project to construct the NBMCT relies upon the understanding and support of the local community and every effort will be made to inform the public of its specific construction components as to how the local community could be impacted and how those impacts will be attenuated to acceptable levels. With regard to public knowledge this section will discuss further the scope, the contract, the projects administration and the authority to which the project will be held.

2.2 Contract and Project Requirements

This CMP reinforces the detailed performance measurement criteria and major milestones that are provided by the design specifications that forms the contract with the construction company retained to build the NBMCT. The CMP also provides an outline of the technical performance requirements for the management and control of the project from initiation of project through final delivery. A final project schedule will be developed to depict interrelationships of tasks and activities, milestones and durations that must be adhered to.

2.3 Administration of the Plan

This plan will be administered by the Massachusetts Department of Environmental Protection, via the Massachusetts Clean Energy Center (MassCEC), which is the contracting authority for the work. MassCEC will administer the implementation of this plan through its construction oversight representatives. The CMP documents all the operations that will be applied in the effort to cooperate with the US Environmental Protection Agency (USEPA), United States Coast Guard (USCG), and other applicable agencies for the duration of the project. Multiple companion documents are inserted into the plan by reference, in order to provide written policies, procedures, and guidance that establish the structure of the quality system to be implemented for the NBMCT Project.

2.4 Authority

The Massachusetts Department of Environmental Protection (MassDEP) is the lead permitting agency associated with the New Bedford Marine Commerce Terminal. Beginning in January, 2010, MassDEP has requested permission from USEPA to incorporate the New Bedford Marine Commerce Terminal into the New Bedford Superfund Site via the State Enhanced Remedy provision of the 1998 Record of Decision. USEPA issued a preliminary Draft Determination in July 2012, that the project could be incorporated into the State Enhanced Remedy, and that the project as proposed met the Applicable or Relevant and Appropriate Requirements that would be imposed by existing laws and regulations, had the project been permitted conventionally. The Commonwealth anticipates that EPA will issue a Final Determination in early November of 2012. The Executive Office of Energy and Environmental Affairs (EOEEA) has taken the lead role from MassDEP in advancing this project from a permitting perspective. EOEEA, on behalf of MassDEP, has directed the Massachusetts Clean Energy Center as the contracting vehicle through which the work associated with the design and permitting of the project has been completed (in tandem with MassDEP).

By way of a public bid process, MassCEC will award the contract to construct the NBMCT pursuant to its enabling statute, M.G.L. c. 23J, s. 1 et seq., and M.G.L. c. 23J, s. 9, by which MassCEC is authorized to procure construction services. Created by the Green Jobs Act of 2008, the mission of the MassCEC is to promote clean energy technologies, companies and projects in the Commonwealth of Massachusetts with the goal of expanding the economy and creating high-quality jobs in the process. With the signing of the Act Relative to Clean Energy in November 2009, Governor Deval Patrick transferred to MassCEC the state's Renewable Energy Trust Fund, which was established by a systems benefit charge paid by ratepayers of investor-owned utilities in Massachusetts and by municipal lighting plants that participate in the Trust. Serving as a clearinghouse in the clean energy sector, MassCEC makes direct investments in clean energy companies and supports renewable energy projects across the Commonwealth.

2.4.1 Responsibilities

This CMP outlines the roles and responsibilities of the various interfacing companies and agencies. Retained by MassCEC to serve as its lead consultant, Apex Companies, LLC will team with GZA Geoenvironmental, LLC and CLE and Associates, LLC (the Commonwealth's Representative), to perform the engineering, design, and construction oversight tasks required to construct the NBMCT. This plan also identifies the commitments of all the project participants. Sealed Bids for the MassCEC contract to construct the NBMCT will be received by the Executive Director of MassCEC at 55 Summer Street, 9th Floor, Boston, Massachusetts 02110 at a date to be determined and, immediately after the deadline for submission, the bids will be opened and read publicly (at a date and time to be determined).

2.4.2 Contacts and Chain of Command

Although MassCEC is under the direction of MassDEP (via EOEEA), once permitting work is complete and construction begins, MassCEC is anticipated to be the primary oversight for the day-to-day activities associated with the construction of the New Bedford Marine Commerce Terminal. In its role, MassCEC is the "Owner" of the Project with the authority to sign the Contract and bind

the successful Bidder into an Agreement to perform the Work. Serving as the Commonwealth's Representative, Apex is responsible for establishing project performance standards and approving all technical changes to the specifications.

The following is a list of contacts for each of the relevant agencies associated with the work:

EOEEA/MassDEP:
Mr. Gary Davis
General Counsel
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114.
Phone: 617-626-4983.

MassCEC:
Mr. Eric Macaux
Senior Director for Strategy and Legal Affairs
Massachusetts Clean Energy Center
55 Summer Street, 9th Floor
Boston, MA 02110.
Phone: 617-315-9355.

Commonwealth's Representative:
Apex Companies, LLC
1 Wamsutta Street, Suite 8,
New Bedford, MA 02740
(Please note that Apex is anticipating a move of its New Bedford office location prior to the start of construction. This information will be updated at the first public meeting, if applicable).
and
125 Broad Street, 5th Floor
Boston, MA 02110
Phone: 617-728-0070
(Please note that field phone numbers are not yet available. This information will be updated at the first public meeting).

Contacts:
Program Manager: Jay Borkland
Project Manager: Chet Myers, P.E., LSP
Resident Engineer/Field Operations Lead: Christopher Morris, P.E.

Contractor:

(Please note that contractor information is not yet available. This information will be updated at the first public meeting).

The following defines the chain of command:

- MassDEP/EOEEA and MassCEC will directly contract with both the Commonwealth's Representative and the Contractor.
- The Commonwealth's Representative will be delegated by MassCEC/EOEEA and MassCEC to oversee adherence to project performance standards.
- The Commonwealth's Representative may present technical changes to the Owner for approval.
- The Commonwealth's Representative is the primary point of contact with the Contractor, and is responsible for the flow of correspondence from the Contractor to MassDEP/EOEEA and MassCEC.
- The Commonwealth's Representative will be responsible for water quality sampling and testing required for monitoring the Contractor's dredging activities.
- The Commonwealth's Representative will be responsible for the flow of correspondence from MassDEP/EOEEA and MassCEC to the Contractor.
- Commonwealth's Representative will route significant issues requiring the Owner's attention from the Contractor.
- Field Inspectors and Resident Engineers of the Commonwealth's Representative will conduct field inspections and have the day-to-day direct contact with the Contractor.

2.5 Contractor Submittals

In addition to numerous materials and certifications that the successful Bidder is required to provide as part of its Bid submittal package, the Contractor is required to provide numerous submittals after award, during and after execution of the Contract, and before and after the start of construction. The general methods and detailed requirements of submissions to be provided by the Contractor are addressed in detail in Section 01300 of the Contract Documents, Submittal Procedures. The following is an example of the types of items that represent submittals; however, please note that this list is not comprehensive:

- Product Data
- Planning Documents
- Equipment Specifications
- Progress Schedules
- Construction Photographs

Immediately subsequent to award, the Contractor is required to provide a complete list of all submittals included in the technical specifications for use as a submittal register to track the dates for submission, comment, resubmission and final acceptance of the project submittals.

2.6 Interface with Contractor Plans and Policies

This CMP is intended to be a living document subject to change as conditions warrant or as project experience dictates. Providing a quality facility on schedule and within budget is the primary objective of all project participants. The operating procedures described in this CMP supplements

the Contract specifications for establishing more detailed and specific relationships among organizations participating in this project.

Plans provided by the Contractor and Contractor policies for performing the Work must conform to and not deviate from the requirements of the Contract Documents. The Contractor is required to make specific mention of any deviations on a Transmittal Form furnished by The Commonwealth's Representative and provide a detailed description and justification of any deviation in a letter attached to the submittal. Contractor submittal of all plans and policies to The Commonwealth's Representative for review and approval must be sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections of the Contract specifications so that the Work will not be delayed by processing times, which could include: disapproval; re-submittal; coordination with other submittals; inspection; off-site and/or on-site testing; purchasing; fabrication; delivery; and, similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals in a timely manner sufficiently in advance of the schedule of Work to be performed. Moreover, the review and acceptance of submittal by the Commonwealth's Representative does not relieve the Contractor of its responsibility to fulfill the terms of the Contract and the Contractor is liable for any expense or delay due to corrections or remedies required to accomplish conformity to the Contract.

3. PUBLIC INVOLVEMENT AND INFORMATION PLAN

The following section outlines a Public Involvement and Information Plan to establish a process for informing the public concerning the nature of construction and upcoming construction-related activities, as well as identifying opportunities for continued community involvement in the project. The proponents of the NBMCT project recognize that it is essential to the success of the project to adequately address the concerns of the local community and its various stakeholders as they will be subjected to impacts during construction and will have to live with the consequences long after completion.

As the genesis and scope of this project is of great interest to the local population and community, it is anticipated that there will be robust community interest. It is also recognized that the project site lies within a designated Environmental Justice (EJ) community as defined by Executive Order 12898. Therefore, this section will outline a robust public information process by which the Commonwealth will engage and inform the local community in order to proactively address local concerns.

3.1 Executive Order 12898 of February 11, 1994

Under the title "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," Executive Order 1288 was authorized by President Clinton to have each federal agency develop an EJ strategy to diminish disproportionately adverse human health or environmental impacts on low income and minority communities to the greatest extent practicable and permitted by law. The criteria established for the Commonwealth of Massachusetts identifies EJ populations on the following bases: income – households earn 65% or less of statewide median household income; minority population – 25% or more of residents belong to a minority group; foreign-born – 25% or more residents are foreign-born; and, English proficiency – 25% or more of residents lack English language proficiency. The site of the NBMCT project is located within an area meeting two EJ criteria (income and minority population) and is directly bordered to the south by an area meeting three EJ criteria (income, minority population, and foreign-born).

3.2 Public Outreach Process

At a minimum, the Public Involvement and Information Plan will provide the public with information regarding the status of construction activities, environmental sampling activities conducted to date, and the results of any analyses that have been conducted of water and air quality. The plan will also provide an opportunity for the public to express concerns regarding the construction process, specific opportunities for public participation in cleanup decisions. It is intended that the Public Involvement and Information Plan will identify the specific concerns community of the community, and evaluate activities to be undertaken to address and incorporate those concerns in the construction process.

3.3 Public Involvement Activities

Activities undertaken to involve the public in response actions serve two purposes:

- To inform the public about the status of the work at the site and the status of construction; and,
- To provide opportunities for public involvement so that, to the extent possible, public comments can be addressed and incorporated in planning of the work.

To meet each of these objectives, the Commonwealth proposes to undertake the following specific activities during work at the Site:

A. Informing the Public: The Commonwealth will provide site-specific information to the public by maintaining information repositories; maintaining a Site mailing list to distribute information about the Site; and by providing advance notification to local officials and residents about Site activities as follows:
   - The Commonwealth will establish and maintain a local information repository to provide easy access to information about the construction and cleanup process for the duration of the work. The site information repository will contain technical reports and documents summarizing results and recommendations, relevant correspondence, public information materials, public meeting summaries, summaries of responses to comments received, and copies of public notices about the site. This site will likely be t the New Bedford Public Library.
   - The Commonwealth will maintain a mailing list (or e-mail list) for the Site to include recognized stakeholder organizations, other interested residents, site abutters, local and regional news media, municipal officials, state legislators, EPA, MassDEP, EOEEA, MassCEC and anyone else interested in receiving information about the Site. The mailing list (or e-mail list) will be used to announce upcoming events, distribute fact sheets, notices of public comment periods, availability of documents in the information repositories, and other information about the Site. Anyone interested in being added to the Site Mailing List can make a request to be included.
   - Community notification of public meetings and/or major public milestones will be conducted to ensure proper attendance. It is currently anticipated that meetings will take place monthly, and therefore, planning for such meetings will be distributed to the public at least two weeks in advance. Major milestones could include important announcements regarding the start of work, completion of work, or, in some cases, particular phases of field work. Notification of field work includes information on the type of work and the approximate duration. Such notification could include posting a notice on the Project Website, posting in the Standard Times, written notification to the City's Board of Health and Mayor's Office, and e-mails to those who requested to be on the Electronic Distribution List.

B. Soliciting Public Input: The City will provide opportunities for public involvement and comment regarding the status of site work by holding monthly public meetings. The Commonwealth will prepare summaries of all meetings, as well as a list of questions asked and the public responses to such questions, as applicable.
   - The Commonwealth will prepare a summary of comments received at each meeting, and the Commonwealth's response to these comments.
   - The Commonwealth will brief the public about the status of the Site. Public meetings will occur monthly at times, dates, and locations to be determined; however, exact times, dates and locations will be promulgated to the mailing list generated during the public information process. Meetings will also be publicly advertised in the Standard

Time. Meetings will serve two purposes: 1) to provide community officials and the general public with a progress report regarding work at the Site, and 2) to provide an opportunity for the public to question and comment on the Site. Notices of a Public Meeting to be held by the Commonwealth will continue to be provided a minimum of 14 days in advance of the public meeting.

4. PROJECT DESCRIPTION

Selected by the Commonwealth of Massachusetts to be the primary staging point for future offshore renewable energy projects in New England, the New Bedford Marine Commerce Terminal (NBMCT) is a filled structure adjacent to the shoreline, bounded by sheet piling. Construction of the New Bedford Marine Commerce Terminal involves the extension of the existing South Terminal in New Bedford with the installation of sheet piling, dredging in front of the sheet piling and filling behind the sheet piling. Approximately 1,200 linear feet of berthing space will be available at the facility and its final size when construction is completed will be approximately 28 acres.

4.1 In-Water Construction

The area to the east of the New Bedford Marine Commerce Terminal will be dredged from its current depth of between -1 and -6 MLLW to between -14 and -32 MLLW to accommodate various sizes of vessels. These vessels are both representative of the offshore renewable energy industry, anticipated future cargo vessels, and tug vessels that will be needed to assist larger vessels that will berth at the new New Bedford Marine Commerce Terminal. To accommodate these vessels, portions of the existing South Terminal Basin would be dredged from its existing depth of -20 to -25 MLLW to a depth of -30 MLLW in order to construct a channel connecting the new South Terminal CDF boat basin to the federal turning basin north of South Terminal. The current dredge footprint anticipates:

- A boat basin that ranges in depth from between -14 MLLW to -32 MLLW.
- A channel dredged to -30 MLLW to allow access to the facility. The channel is oriented such that there is a direct line from the proposed turning basin (which is located in front of New Bedford State Pier) to the facility. A portion of the channel is located within the Federal Turning Basin associated with the Federal Navigation Project.
- A tug channel adjacent to the vessel channel. This will allow tugs to guide the larger vessels as they approach the terminal, and help them in docking procedures.

4.2 On-Land Construction

The main area of the facility, which will be adjacent to the harbor, is an approximately 18 acre area consisting of five parcels. This area will be designed to accommodate the heaviest loads at the facility. In order to meet the area requirements for off-shore renewable energy support, the use of 10 acres located within separate parcels to the west and south of the main operating area is required. This additional area will be supplied within four adjacent, ancillary properties, located to the south of the facility. The southern 10 acres provided by the ancillary properties would be used specifically for wind blade lay-down only, a relatively space-intensive use that does not require heavy-loading capacity. Therefore, the ancillary properties would not be subject to the intense usage and high load-bearing requirements of the remainder of the facility.

Very little site work will be required in order to utilize the ancillary properties. Some construction site work will be required to prepare the Former Dartmouth Finishing Site (the southern-most

property) for wind blade lay-down as the property previously contained a mill building that was demolished within the last 3-4 years, and currently contains rubble and portions of the building foundation (up to 8 feet in depth) that currently present a hazard to the general public, and will need to be either removed, covered and/or graded. Grading at this facility is anticipated to utilize a large portion of clean material generated from the navigational dredging.

The bulkhead for the New Bedford Marine Commerce Terminal is a one-of-a-kind construction that supports heavy-lift loads that are upwards of four times the capacity of any similar bulkhead in the United States. The bulkhead was designed with a cofferdam construction, with a marginal wharf system that bridged the scalloped edges of the facility to allow berthing of vessels. The maximum draft for berthing at the facility will be -32 MLLW.

5. PROJECT SEQUENCING

This Construction Management Plan provides an overview of and guidance for the conduct of the Work necessary to construct the New Bedford Marine Commerce Terminal (NBMCT). The Work includes construction of a confined aquatic disposal (CAD) cell in New Bedford Harbor, maintenance and improvement dredge projects adjacent to the proposed Terminal, improvement of the Former Dartmouth Finishing site, construction of several mitigation projects, and the cofferdam construction of the NBMCT. The Project "Site" includes: the upland areas of the New Bedford Marine Commerce Terminal, the mitigation areas, the capping areas, the disposal areas, the dredge areas, adjacent waterways, the Former Dartmouth Finishing site, adjacent structures and land thereto, the stormwater drainage swale mitigation area, the winter flounder mitigation area, mooring mitigation areas, the Gifford Street Channel dredge Area, OU-3 capping area, and Borrow Pit CAD Cell, CAD Cell #1, CAD Cell #2, and CAD Cell #3 and adjacent areas.

The Contractor is required to prepare and submit a project schedule with its bid that is incorporated into the selection process as a consideration in awarding the Contract (see Section 01310 Construction Progress Schedule of the Contract Documents). The specifications that comprise the Bid Documents in the solicitation for bids, which later constitute the Contract upon award and execution, contain the single overriding Mandatory Schedule Milestone that the Work must be within 570 days from the notice to proceed.

Within fifteen (15) days after the date of execution of the Contract, the Contractor is required to prepare and submit a detailed project Work schedule using a bar-chart form to show the order in which salient components of the Work will be conducted with start and completion dates. The Work schedule must employ the Critical Path Method is accompanied by a written chronological statement describing the schedule timelines, milestones, and critical activities. The Contractor is also required to submit weekly progress schedules by which the timeliness of the Contractor's construction effort will be appraised. The specifications provide for a process allowing the Contractor to revisit and revise the construction progress schedule every 15 days to reflect changes in progress of work and to indicate progress of each activity at date of submittal.

Given that both on-land and over-water construction operations will be mobilized and initiated simultaneously and conducted in parallel, the various activities in completing the Work will be performed in the following general sequence:

- removal and placement of the top of CAD Cell #3 into CAD Cell #2
- construction of the "bottom" of CAD Cell #3
- placement of contaminated material from the boat basin and channel into CAD Cell #3
- rock removal activities within the dredge footprint
- installation of cellular cofferdams
- dredging of an adjacent boat basin and channel
- general upland site construction – clearing, grubbing, debris management, etc.
- construction of associated mitigation projects
- removal of upland contaminated soil and disposal of soil offsite.
- Stripping, staging, and reuse of existing soil from onsite.
- dewatering of dredge material
- placement and compaction of uncontaminated dredge material at various locations

- installation of wharf appurtenances, such as fendering and ladders,
- installation of navigational aids,
- installation of utilities, and
- final grading of the facility.

Mobilization of construction materials, equipment, and personnel is scheduled to start within a month of the formal issuance of the notice to proceed. Dredging and general Site construction activities will commence within one month after mobilization.

5.1 UPLAND CONSTRUCTION

Upland construction begins with earthwork within the upland portion of the NBMCT as follows:

- Debris identified on the site will be characterized and disposed of offsite by the Contractor.
- Dense vegetation and organic soils will be removed and grubbed by the Contractor and disposed of offsite.
- Contaminated soils identified on the site will be excavated and disposed of offsite.
- Upland fill above Mean High Water and unsuitable material below Mean Low Water must be removed and staged onsite for reuse.

Site filling and grading activities are scheduled to begin within six months of mobilization.

- The site will be re-graded prior to placement of fill utilizing existing material.
- The fill used within the site will primarily come from the Bottom of Dredge, but will also include on-site materials previously stripped to Mean High Water as well as off-site material used to cap the facility.

Within eight months after mobilization, after rock removal activities have sufficiently progressed, the construction of the bulkhead at the NBMCT is scheduled to proceed as follows:

- Protection of the existing South Terminal bulkhead.
- Extension of the existing South Terminal bulkhead to the south.
- Installation of a return wall and revetment on the south side and return wall on the north side of the new bulkhead.
- Removal of unsuitable material from within the cofferdams and future filled structure.
- Filling of the structure.
- Compaction of the material within the new structure, and
- Installation of utilities as shown on the Contract Documents.

During the construction of the NBMCT at the main Site, re-grading of the Former Dartmouth Finishing Site and installation of utilities will be conducted.

5.2 Dredging

Dredging activities associated with the Work includes the following: temporary storage of dredge material on scows to allow for settling; removal, filtering and discharge of standing water; transportation to and disposal of dredge material; transportation to and capping with dredge material; and dewatering, compaction, transportation, and reuse of dredge material. As stipulated within the specifications, the Work includes removal and off-site disposal of any debris or artificial obstructions encountered during the dredging operations. To control preventable emissions of

fugitive dust, all dredge spoils stored in scows will be thoroughly wetted throughout the dredging processes and dredge crews will be provided with ongoing air quality monitoring information.

Initial dredging begins with activities associated with the construction of CAD Cell #3 as follows:

- The top of CAD Cell #3 will be placed into CAD Cell #2.
- The bottom of CAD Cell #3 will either be taken to the Cape Cod Bay Disposal Site, the Rhode Island Sound Disposal Site, or also may be used as capping material in accordance with Contract specifications.
- Marine debris unsuitable for disposal within Cad Cell #3 that has been identified within marine areas proposed for dredging, along with additional debris encountered by the Contractor, will be removed and disposed of offsite.

Within eight months after mobilization, dredging of the boat basin and channel in front of the new bulkhead is scheduled to begin as follows:

- Removal of fine-grained organic, contaminated sediment from the Top of Dredge Footprint and placement of that material into CAD Cell #3.
- Removal of intermediate dredge material, which may be utilized to cap CAD Cell #1 or the Borrow Pit CAD Cell.
- Removal of the Bottom of Dredge, which will either be placed upland, dewatered and used as fill for the site, either within the cofferdams, behind the cofferdams, further upland at the site, or at the Former Dartmouth Finishing Site or will be used to cap the Winter Flounder Mitigation Area, the OU#3 Capping Area, or the Stormwater Drainage Swale Mitigation Area.

After approximately one year into the project after mobilization, the following activities are scheduled to occur:

- Rock identified within the Bottom of Dredge area will be removed by the Contractor, who may crush and utilize the rock within the site as outlined on the Contract Documents and/or may dispose of the material offsite.
- Dredging of the Mooring Mitigation Areas and placement of the dredge material within CAD Cell #3.
- Dredging of the Gifford Street Channel Area and placement of the dredge material within CAD Cell #3.

6. SITE HEALTH AND SAFETY

6.1 Introduction

The Commonwealth will monitor job site conditions and exposures to the extent described and will provide oversight and enforcement of this Safety Plan; however, the Commonwealth does not assume responsibility for non-contracted duties relative to the client's or subcontractor's safety and health programs. *Although the Commonwealth will review the Contractor's health and safety plan, the ultimate responsibility for Contractor's health and safety resides with the Contractor; therefore, the Commonwealth will not be held negligent or liable for any inadequacies or deficiencies in the Contractor's site-specific worker health and safety plan or for any oversight or inadequacies in the Contractor's implementation of the safety plan.* For further reference please see Section 01900, General Safety Requirements, of the Contract Documents, which includes requirements for the Contractor to provide its own Health and Safety Plan.

At a minimum, all work performed to construct the NBMCT must comply with OSHA requirements in 29 CFR 1910 and 29 CFR 1926, and must be completed under the direction of a 40-Hour OSHA Hazardous Waste Operations (29 CFR 1910.120) trained individual. In order to protect the Health and Safety of all on-site workers, the Contractor is required to provide documentation demonstrating that all personnel coming in contact with sediment and/or soil materials contaminated with hazardous materials are appropriately trained and will be informed of procedures to be followed. Furthermore, prior to the start of construction and at least once per month afterwards until completion, the Contractor is required to conduct a safety meeting for all supervisors and foremen, and the Contractor's foremen must conduct a safety meeting for all workers. After each safety meeting, a safety meeting report must be completed and maintained for review by the Commonwealth's Representative as requested.

In addition, the Contractor is required to prepare and submit for approval a "Phased Job Activity Hazard Analysis" for each definable feature of the work to construct the NBMCT at a minimum of 15 days prior to the start of that phase of work. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform the work. The analysis must define all activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level.

All safety requirements laid out in this Construction Management Plan (CMP) are superseded by the project Health and Safety Plan. The Health and Safety Plan (HASP) issued by the Commonwealth (under separate cover) applies to the Commonwealth's employees, representatives, and visitors present at the NBMCT work site. The HASP does not apply to the Contractor, unless the Contractor specifically adopts the HASP, as the Contractor will have its own HASP that will be particular to the Contractor's specific duties and obligations onsite, duties that are beyond the scope of the Commonwealth's HASP. The HASP summarizes potential hazards associated with the known contaminants and planned activities, defines protective measures to mitigate these hazards, and also provides for emergency response actions. It defines the requirements and designate protocols

to be followed during the oversight of dredge and disposal operations and during marine sampling and data collection for the project in New Bedford Harbor.

Prior to entering the site, all non-Contractor personnel must review this HASP and sign the HASP Acknowledgment Form documenting agreement to comply with its requirements. The agreement form will be kept on site with the Site Safety and Health Officer (SSHO) for inspection. All personnel on site, contractors and subcontractors included, shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation.

The requirements set forth in the HASP are based on standard safety and health precautions applicable to typical dredging and other over-water activities. The HASP shall be properly implemented by a qualified and experienced SSHO. The SSHO, in coordination with the Corporate Health & Safety Director and Project Manager, will identify when additional requirements are necessary and ensure that this plan is supplemented and expanded as needs dictate.

6.2 Authority and Responsibility

Responsibilities of the Commonwealth's Representatives in the field (as well as its employees and consultants) will be limited to those specifically defined with the client via contract. In general, the Commonwealth's Representatives will monitor job site conditions and exposures to the extent described and will provide oversight and enforcement of the HASP. However, the Commonwealth does not assume responsibility for the Contractor's duties relative to the Contractor's safety and health programs, established in the Contractor's HASP.

6.3 Objectives

The HASP addresses potential hazards and unsafe work practices associated with Dredging and Disposal, and Marine Sampling/Data Collection, but are not intended to be all-inclusive. Although the HASP does not address all matters relating to general sampling protocol, all applicable regulations apply and are the sole responsibility of each contractor working on site. Applicability of the HASP extends to all employees, contractors, subcontractors, and visitors.

6.4 Health & Safety and Rehabilitation Policies

Work zones at the site will be established by the project manager (PM) and site health and safety representative to delineate high-traffic locations. Due to the fact that the project will be completed in a working marine harbor, establishing exclusion zones will not be practical. Additionally, the nature of the work being completed (dredging activities) does not present a specific hazard to passing boaters.

In the instance where contaminated materials are being handled, three primary work zones are to be demarcated. These include the Work Zone (WZ), Contamination Reduction Zone (CRZ) and the Support Zone (SZ). Each zone will be established by the PM or SHSO prior to commencing daily activities.

The WZ will contain areas where the survey equipment is operating. For employees involved with the survey, Modified Level D PPE is required to be worn in these areas. Use a minimum distance of

ten (10) feet surrounding the WZ for the demarcation line. This will vary depending upon location to workers, public and traffic.

The CRZ will be established on land leading from the contaminated area (WZ) to the support zone. In some circumstances, the back end of the company pick-up truck may be used. The corridor will be identified by tape, cones, fencing or other barricades. Although exposure to hazardous materials is not anticipated, decontamination of personnel and equipment will occur in this zone. Vehicles and other larger pieces of equipment that may become contaminated can be decontaminated in a separate CRZ.

The SZ will include all areas outside the WZ or CRZ where breaks will be taken and general support for workers will be provided from this area.

6.5 Health & Safety Standards

All site personnel must adhere to the following standard operating procedures and practices.

1. All safety equipment and protective clothing is to be kept clean and well maintained.
2. All prescription eyeglasses in use will be safety glasses. Contact lenses should not be worn in areas where there is a potential for injury to the eye due to particulate, fume, vapors, gases or other air contaminant.
3. The Safety Officer will approve all disposable or reusable gloves worn on the site.
4. Footwear used on site will be conducive to working conditions including while working on boats.
5. All personal protective equipment (PPE) used on site will be decontaminated or disposed of at the end of the workday. The Safety Officer will be responsible for ensuring decontamination of personal protective equipment before reuse.
6. All project personnel shall have a vision or corrected vision to at least 20/40 in one eye.
7. On-site personnel found to be disregarding any provisions of the HASP or SOP will, at the request of the Safety Officer, be barred from the project.
8. Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited while performing water quality monitoring activities.
9. All personnel will thoroughly cleanse their hands, face, forearms and other exposed areas prior to eating smoking, drinking, or using the toilet facilities.
10. No alcohol or drugs (without prescription) will be allowed on-site at any time.
11. All personnel who are on medication should report it to the Safety Officer who will make a determination whether or not the individual be allowed to work and in what capacity.
12. The Safety Officer may require a letter from the individual's personal physician stating what limitations, if any; the medication may impose on the individual.
13. At least one copy of these work practices shall be available for review at the job work site.
14. Legible and understandable, precautionary labels shall be affixed prominently to containers of contaminated scrap, waste, debris and clothing.
15. Transportation and disposal of contaminated materials shall comply with all applicable local, state, and federal regulations. The transporter and disposer will address these items.
16. Drummed contaminated materials shall be stored in tightly closed containers in well-ventilated areas.

17. Containers shall be moved only with the proper equipment and shall be secured to prevent dropping or loss of control during transport.
18. Before daily site operations begin, a tailgate safety meeting will be held to review the SSHASP concerns for the work activities and emergency response procedures. The Daily Tailgate Safety Meeting Logs will be maintained as part of the SSHASP. The Daily Tailgate Safety Meeting Form and Topics Guide are located in Appendix B.
19. Field personnel should not stand with their head directly over a container of hazardous material or well when it is being opened.
20. Events surrounding accidents/injuries will be recorded in the daily log. Document the incident on The Commonwealth's Representative's Incident Report and submit copies within 24 hours to the Corporate Human Resources Representative and Corporate Health and Safety Officer.
21. First aid kit(s) and fire extinguisher(s) will be available in all company vehicles and on project sites for responding to emergency situations.
22. Workers will not stand on drums.
23. Lockout-tag out procedures will be followed prior to performing any work on equipment for controlling hazardous energy.
24. Use of a "buddy system" will be used in hazardous areas.
25. Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to, or below, the permissible exposure limits (PEL) for substances regulated by OSHA, except to the extent that such controls and practices are not feasible.

6.6 Roles and Responsibilities

MassDEP/EOEEA will have permitting authority over the project, and will conduct periodic evaluations, but will ultimately be the final authority over the work. Through delegation of responsibilities, MassCEC will have contracting authority, and will act as the project Owner. The Commonwealth's Representative will act to implement the directives of MassCEC through the Contract Documents.

The following table summarizes Commonwealth Representative's personnel responsibilities at the job site. Responsibilities of the Contractor and his/her personnel will be handled in the Contractor's HASP. This information should be reviewed with all project personnel prior to commencing site activities.

PERSONNEL	ROLES AND RESPONSIBILITIES
Project Manager	• Provides direction, management and resources to achieve goals and objectives of project • Responsible for developing and implementing systems to ensure employees follow the HASP • Responsible for general safety performance of employees and implementing a phased disciplinary program for employees violating health and safety programs • Assigns and communicates safety and health responsibility to subordinates and holds subordinates accountable for their performance

PERSONNEL	ROLES AND RESPONSIBILITIES
Resident Engineer/ Field Operations Lead	• Ensures that specific work tasks are properly prioritized, planned and conducted in a safe manner • Verifies all site workers meet OSHA regulatory requirements • Provides resources and equipment necessary to conduct and execute assigned tasks in a safe manner • Designates an adequate number of health and safety specialists with the necessary authority and responsibility to develop and implement the HASP and to verify its effectiveness • Provides periodic health and safety program reviews/audits to ensure program effectiveness and quality
Site Health and Safety Officer	• Provides technical expertise necessary to carry out requirements and support work activities • Provides training on the HASP, Hazard Communication, and other project specific health and safety training • Implements and enforces HASP requirements, with project personnel assigned to work under their jurisdiction • Conducts initial site safety review and conducts exposure and environmental monitoring • Ensures that adequate safety controls are maintained • Obtains related information on suspect hazardous materials to facilitate preparation of hazardous material abatement • Ensures that appropriate health and safety-related project documentation is maintained for the project
Field Inspectors	• Conduct work in a safe manner in accordance with the HASP, other applicable safe work procedures and controls specified in permits such as hot work or confined space entry permits • Appropriately uses assigned personal protective equipment • Observes their work area surroundings for potential safety issues • Reports unsafe work conditions or practices to the health and safety specialist/site safety and health officer • Initiates feasible personal action to eliminate/mitigate unsafe conditions

PERSONNEL	ROLES AND RESPONSIBILITIES
Visitors	• Remain outside designated work zones unless authorized by Project Manager to enter hot or contamination reduction zones wearing appropriate PPE • Comply with all site specific HASP requirements including safe practices and levels of PPE • Comply with training, medical surveillance and other requirements of the HASP, if access is permitted on the site

7. SITE CONTROL AND SECURITY

This section of the Construction Management Plan (CMP) has been prepared to provide common practice security procedures concerning personnel and equipment for the Commonwealth's Representative's staff and the Contractor, both of which will adhere to at all times throughout the duration of the Work to construct the New Bedford Marine Commerce Terminal (NBMCT). A Port Facility Security Assessment (FSA) has been conducted by a contracted professional maritime security consulting agency in accordance with U.S. Coast Guard regulations for Maritime Security: Facilities at 33 CFR 105.000. Security infrastructure recommendations in this FSA may be incorporated into the final design. An update to the FSA will be completed and incorporated into the Facility Security Plan no later than sixty (60) days prior to first date of vessel operations in accordance with U.S. Coast Guard regulations. The Commonwealth's Representative has worked closely with a Securities Contractor to provide the NBMCT property with state of the art equipment and infrastructure to ensure a safe and secure Port facility. Additional information may be found within Section 01010 Summary of Work of the Contract Documents.

The following security measures will be implemented during the NBMCT project

- **Personnel Security.** At least one week prior to the start of work in New Bedford Harbor, the Contractor will, provide a list of all personnel (including proof of citizenship and/or passport/visa paperwork) that will be working on the project. Guidelines concerning national security at government facilities, such as New Bedford State Pier, will be followed. Security restrictions will be communicated via Sgt. Jill Simmons, Port Security Team, New Bedford Police Department, (508) 989-2925. If at any time the "threat level" of the harbor changes, the Port Security Officer will be contacted to determine if any additionally security measures are required.

- **Equipment Security.** The Contractor will be responsible for security of plant and equipment while that equipment is onsite. This includes 24-hour security for all equipment, including dredge plants and scows, while they are onsite. The security measures required include:
    - Lighting will be provided on the barge and dredge equipment consistent with Coast Guard regulations for ships and barges - lighting must be clearly visible from a distance of at least 100-feet;
    - Lighting must also meet OSHA requirements for safe working conditions and safe egress;
    - Security at the dredge plant, any Contractor moored or berthed vessels, and any upland work areas are the Contractor's responsibility. The dredge plant and associated equipment may be manned 24-hours a day for security purposes while moored and/or operating within New Bedford Harbor, if the Contractor desires;
    - Transients have recently been removed from the upland portion of the Site. In order to prevent transients and/or curious citizens from entering the property, security at the upland portion of the site must be maintained 24 hours a day. The facility will be encircled with fencing and may be monitored 24-hours a day for security purposes until the project is complete, if the Contractor desires;

- When docked at a pier, the dredge plant/barge(s) must have sufficient barge security measures, such as an electronic security systems or personnel guard, to ensure that unauthorized access does not occur;
- At all times, the Contractor is responsible to ensure that public access to the dredge plant, barges, scows, tug boats, and related equipment is excluded, except for authorized personnel.
- An 8-foot high temporary chain link fence will surround all project areas with locked gated entries throughout. Upon completion of the project his will be removed and permanent fences with concertina wire and secure gates will be installed.

8. QUALITY ASSURANCE AND QUALITY CONTROL

8.1 Authority and Responsibility

The Commonwealth's Representative is responsible for (1) assuring that an appropriate quality assurance program is established and effectively executed and (2) verifying, such as by checking, auditing, and inspection, those activities have been correctly performed. The quality assurance program established within is designed in such a way that persons performing quality assurance functions have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. The individuals assigned the responsibility for quality assurance functions report to a management level that provides the authority and organizational freedom required, including sufficient independence from cost and schedule when opposed to safety considerations, and have direct access to such levels of management as may be necessary to perform these functions. When conditions indicate that further processing of work may jeopardize the quality of safety-related items or services, quality assurance personnel are authorized to institute "Stop Work" actions on the Contractor as necessary.

The Contractor is responsible for quality control and is required to establish and maintain an effective quality control system. The quality control system consists of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system must cover all construction operations, both onsite and offsite, and must be keyed into the proposed construction sequence. The Contractor's project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Commonwealth's Representative for non-compliance with the quality requirements specified in the contract. The Site project superintendent in this context will be the Contractor's highest-level manager responsible for the overall construction activities at the site, including quality and production. The Site project superintendent must maintain a physical presence at the site at all times, except as otherwise acceptable to the Commonwealth's Representative, and is responsible for all construction and construction related activities at the Site.

After the Preconstruction Conference, before start of construction, the Contractor will meet with the Commonwealth's Representative and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details will be developed, including the forms for recording operations, control activities, testing, administration of the system for both onsite and offsite work. The goal of the meeting is to establish the interrelationship of Contractor's management team and quality control system with the Owner's quality assurance program. Minutes of the meeting will be prepared and signed by both the Contractor and the Commonwealth's Representative, and will become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the quality control system or procedures which may require corrective action by the Contractor. Additional information may be found within Section 01451 Contractor Quality Control of the Contract Documents.

8.2 Reporting

Within fifteen (15) days after the date of execution of the Contract, the Contractor is required is to submit a progress schedule for approval, or as otherwise determined by the Project Manager. During construction, the Contractor is required is to submit weekly progress schedule updates in the form of a chart graphically indicating the sequence proposed to accomplish each work feature or operation, and important work features, shown as milestone dates, that are critical to the timely overall completion of the project. This schedule will be the means by which the timeliness of the Contractor's construction effort is appraised. Anticipated adverse weather delay days shall be included in the schedule. Schedule changes resulting in contract time extensions must be approved by the Project Manager and the Contractor must revise the project schedule chart accordingly. Progress meetings with the Commonwealth's Representative are anticipated to occur twice weekly at a minimum in order to address problems, issues, and questions as the project unfolds.

The Contractor is also required to maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These quality control reports will include the work of subcontractors and suppliers in an acceptable form to include, as a minimum, the following information:

- Contractor/subcontractor and their area of responsibility.
- Operating plant/equipment with hours worked, idle, or down for repair.
- Work performed each day, giving location, description, and by whom.
- Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- Offsite surveillance activities, including actions taken.
- Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- Instructions given/received and conflicts in plans and/or specifications.
- Contractor's verification statement.

The quality control reports must indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered.

These reports shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract.

The Contractor is required to submit the original and one copy of the reports to the Commonwealth's Representative on a daily basis within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. At a minimum, one report must be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days will be accounted for throughout the life of the contract on the reports, which must be signed and dated by the Contractor. The quality control report must also include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

In addition to the progress schedule chart and quality control reports, the Contractor will develop a complete list of all other submittals required by the technical specifications for use as a submittal register to track the dates for submission, comment, resubmission and final acceptance of the project submittals. Among other possible reports and documents, these other submittals include: Product Data; Planning Documents; Equipment Specifications; Progress Schedules; and, Construction Photographs.

Under the name of the Contractor's company name and signed by the Contractor, each submittal is required to have the following Certification Statement

> "By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved submittals and all Contract requirements."

Submittals with product data sheets must be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet, which fully describes the packaged data and include a listing of all items within the package. The Contractor is further required to provide the Commonwealth's Representative a copy of each submittal transmittal form for product data and samples at the time of submittal. All complete submittals shall be submitted sufficiently in advance of construction requirements to provide no less than five (5) business days for review from the time received at the Commonwealth's Representative's.

The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.

8.3 Monitoring, Management, Sampling, and Testing

The Contractor is required to furnish all supervision, plant, labor, equipment, appliances and materials, and carry out all operations, including monitoring and other field engineering, as necessary to complete the Work. The Contractor will perform the Work in strict accordance with the contract specifications and the drawings, subject to the terms and conditions of the Contract and all applicable permits, certifications, codes and regulations and in accordance with the

schedules for completion set forth herein. The review and acceptance of samples or product data by the Commonwealth's Representative does not relieve the Contractor from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor.

No portion of the work requiring a submittal may be started or may any materials be fabricated, placed, or installed prior to the acceptance or qualified acceptance by the Commonwealth's Representative. Fabrication performed, materials purchased, or on-site construction accomplished which does not conform to accepted submittals and data is considered at risk to the Contractor. Project work, materials, fabrication, and installation must conform with approved applicable samples and product data. The Owner will not be liable for any expense or delay due to corrections or remedies required by the Contractor to accomplish conformity.

Prior to backfilling, the Contractor must provide access to the bottom and side walls of excavations for pre-backfilling environmental confirmatory sampling and testing of the exposed sub-grade and side walls, and the results of such testing will be made available to the Contractor no later than 14 days after sample collection. Backfilling may not commence prior to written approval of the Commonwealth's Representative as determined by the results of confirmatory sample test data.

Prior to offsite disposal of any soil or sediment offsite, the Contractor is required to:

- Separate such material from other stockpiled material (but such material shall not be removed physically from the site), and assume that material is hazardous, until and unless analytical results indicate otherwise.
- While the Contractor is protecting these materials, the Owner's Representative will prepare and submit a Sampling and Analysis Plan to EPA for their approval, and then shall collect sufficient samples (as approved by EPA) to fully characterize this material, before the Owner's Representative will allow the Contractor to remove this material and dispose of it offsite.
- If PCB concentrations in the soils are determined to be greater than one (1) mg/kg, but less than fifty (50) mg/kg, EPA approval shall be required prior to disposal of these soils offsite.
- The Contractor shall not dispose of this material offsite until such time as the material has been fully characterized in compliance with EPA regulations and EPA approval has been received;
- Notwithstanding these characterization requirements by EPA, the Contractor shall comply with 40 CFR 761.65(a)(9) and shall not allow PCB containing soil stockpiled onsite to remain onsite for longer than 180 days.
- If the concentration of PCBs in these soils is greater than or equal to fifty (50) mg/kg, the soils shall be disposed of in accordance with 40 CFR 761.61(c).

Any additional analysis or additional frequency of analyses required in order to adequately characterize soils for disposal at the approved disposal site will be the responsibility of the Contractor.

In testing off-site sources for potential use as fill material, the Contractor must submit gradation curves and moisture-density compaction reports on each potential type of off-site fill material

intended for use as backfill. The following additional tests shall be performed on a sample of material from each off-site source from which the material is derived: VOCs, SVOCs, TPH, PCBs and total and TCLP RCRA 8 metals. Results of Contractor testing from each source of material are due to the Commonwealth's Representative for approval at least one week prior to its use. Off-site materials shall not contain concentrations of constituents that exceed the Massachusetts Contingency Plan (310 CMR 40.0000) RCS1 criteria. The Contractor is not permitted to bring material on-site until approval is given.

In gradation testing of on-site sources to classify for reuse, samples of on-site material or dredged material will be taken by Commonwealth's Representative for gradation testing at a frequency of at least one sample per 1,000 cubic yards, provided the material is visually classified as uniform material. Testing turnaround time will be 8 hours or less. The Contractor is required to follow the characterization procedure contained within the specifications for determining whether certain material is unsuitable based on its geotechnical properties. The Contractor will bear the cost of removal of all unsuitable material that fail to conform to the specifications that has been placed without the prior approval of the Commonwealth's Representative.

The Contractor will employ a testing laboratory to perform concrete tests and to submit test reports in writing to Commonwealth's Representative and Contractor within 24 hours after testing. Reports of compressive strength tests must contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

8.4 Insufficiency Reporting and Remedial Actions

The Commonwealth's Representative will notify the Contractor of any detected noncompliance with any of the Contract requirements and specifications, and require the Contractor to take immediate corrective action after receipt of such notice. If the Contractor fails or refuses to comply promptly, the Commonwealth's Representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders can be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

The Commonwealth's Representative will perform a Pre-Final Inspection to verify that the work is complete and a Pre-Final Punch List may be developed as a result of this inspection. Any items noted on the Pre-Final Inspection must be corrected in a timely manner. The Contractor is required to ensure that all items on this list have been corrected before notifying the Commonwealth's Representative to schedule a Final Inspection. These inspections and any deficiency corrections required by the Commonwealth's Representative must be accomplished within the time slated for completion of the entire work, or any particular increment of the work if the project is divided into increments by separate completion dates.

The Contractor's superintendent, or other primary management person, and the Commonwealth's Representative, among other additional Owner personnel, will participate in the Final Inspection.

9 ENVIRONMENTAL MANAGEMENT

9.1 Introduction

9.1.1 Objectives

Environmental protection is of utmost importance during the construction of the NBMCT project. Success of the Environmental Management Program is measured by the extent to which preservation of land and water resources is achieved within the project boundaries and outside the limits of permanent work performed. This Construction Management Plan (CMP) provides steps for proactive minimization and mitigation of construction impacts and for preventing environmental pollution during or resulting from construction operations throughout this project. This plan includes the elimination or limitation of those construction activities, and the use of certain chemicals, physical or biological elements or agents, that have the potential to adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utilities of the environment for aesthetic and recreational purposes. The exact requirements of the Contractor regarding environmental protection are outlined within Section 01355 of the Contract Documents, Environmental Protection. The following sections outline the requirements contained within that section.

9.1.2 Environmental Policies

Environmental protection is the prevention/control of environmental pollution and habitat disruption that may occur to the environment during the Work. The control of environmental pollution requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

At all times, the Contractor is required to minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work will be protected during the entire duration of the project. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations and shall be responsible for any delays resulting from failure to comply with environmental laws and regulations. All employees shall have been trained through practical experience and instructions to be received on methods of detecting and avoiding pollution, familiarization with pollution standards and installation and care of facilities to insure adequate and continuous environmental pollution control. Each individual is responsible for his sphere of operations.

The Contractor's personnel must be trained in all phases of environmental protection and pollution control. The Contractor will conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings will be conducted for new personnel and when Site conditions change. The training and meeting agenda must include at a minimum the following:

- methods of detecting and avoiding pollution;
- familiarization with statutory and contractual pollution standards;

- installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control;
- identification of and familiarity with anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; and,
- recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

9.1.3 Environmental Standards

In addition to complying with the obligations and requirements set forth by the environmental permits obtained by the Owner for the construction of the project, the Contractor shall comply with the terms and conditions of the Performance Standards that were established under the State Enhanced Remedy (SER) through the New Bedford Harbor Superfund remedy as well as the conditions of the Final Determination issued by EPA in association with this project. Consistent with the implementing regulations of CERCLA at 40 CFR 300.515(f), the SER is a provision within the U.S. EPA Record of Decision of 1998 for the New Bedford Harbor Superfund Site which allows the inclusion of navigational dredging and other various Harbor improvement projects as an enhancement of Superfund remediation activities. Among other requirements for protecting the environment, the Performance Standards of the SER incorporate the anti-degradation provisions of the Massachusetts Surface Water Quality Standards to protect all waters, including wetlands.

In a 2004 Memorandum of Agreement, the NBHDC and MADEP entered into a commitment to jointly implement the provisions of the SER. Intended to provide a streamlined permitting process by coordinating the review process among numerous environmental stakeholder agencies, MADEP functions as the lead regulatory authority for the following: oversight of project documents, inspections and audits; interpretation of regulations; coordination with other agencies; and, technical liaison relative to State or Superfund resources. In the event that a discrepancy is discovered between permit documents, the specifications, and/or the contract drawings, the Contractor defers to the Commonwealth's Representative for clarification. The Commonwealth's Representative will rely on requirements and conditions of the Performance Standards/ARARs to resolve perceived conflicts.

9.2 General Site Operations

Utmost care will be exercised to prevent degradation of water, air, fish and wildlife resources and defacement, injury or destruction of trees, shrubs, vines, grasses, landforms or landscape features. Prior to the beginning of construction, the Contractor and Commonwealth's Representative will identify all land resources to be preserved within the work area. Land resources occurring in specific work areas will not be disturbed without authorization from the Commonwealth's Representative. Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved must be clearly identified by marking, fencing, or wrapping with boards, or any other approved technique. Under the constant supervision of the Commonwealth's Representative, the Contractor is required to keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Special management techniques will be implemented as necessary to control water pollution by construction activities included in Scope of Work. The Contractor will restore damage to natural resources as nearly as possible to its prior condition.

9.2.1 Pollution Control

Among other quality control documents, the Contractor is required to prepare and implement an Environmental Protection Plan (EPP) specific to the construction of the NBMCT with regard to both on-land and over-water activities. The purpose of the EPP is to present a comprehensive overview of known or potential environmental issues of concern which the Contractor must address during the Work. The EPP shall include the following plans: (1) Spill Control Plan, and (2) Contaminant Prevention Plan.

At the front line of all environmental protection activities, spill prevention is a major part of a comprehensive Best Management Practice program to avoid environmental pollution altogether. Besides spill prevention, the EPP must also address handling procedures and storage requirements and identifies spill cleanup procedures for areas and processes in which spills may potentially occur. In addition, the EPP will include procedures for environmental monitoring, storm water contamination assessment, flow diversion, record keeping, internal reporting, employee training, and preventive maintenance. An important part of an effective EPP is establishing a method for quick notification of the appropriate emergency response teams in the event of a spill.

Prior approval of the EPP by the Project Manager is required before it may be submitted as Final. The Contractor is required to meet with the Project Manager beforehand to review the procedures for implementing of the initial EPP; discuss possible subsequent additions and revisions to the EPP, including any reporting requirements; and establish methods for administration of the EPP. The EPP must be finalized before construction activities start or materials are delivered to the site.

The EPP is considered as a "living document" to be maintained onsite by the Contractor and updated as necessary during the course of the project to remain current. The Contractor(s) will record and maintain daily quality control reports of any problems in complying with laws, regulations and ordinances. Immediate corrective actions will be taken to correct pollution of the environment due to an accident, natural causes, or failure to follow the procedures set out in accordance with its EPP. The Contractor is required to immediately report any difficulties encountered with any Federal, State or local government agencies concerning environmental issues.

As appropriate, the Commonwealth's Representative recommends changes or deviations from the EPP and/or specifications to the PM for approval. The Commonwealth's Representative will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, project performance standards, and other elements of the EPP. The Contractor shall, after receipt of such notice, inform the Commonwealth's Representative of the proposed corrective action and take such action when approved. The Commonwealth's Representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Commonwealth's Representative may take under the contract or in accordance with ARARs.

9.2.2 Spill Prevention, Control, and Countermeasure Plan

Notwithstanding the requirement in the contract specifications to prepare a Spill Prevention Plan as part of the EPP, the Environmental Protection Agency (EPA) has adopted rules at 40 C.F.R. Part 112 requiring onshore and offshore facilities to prepare Oil Spill Prevention Control and Countermeasure (SPCC) Plans if there is a reasonable expectation that oil can be discharged to navigable water, and if a facility has aboveground oil storage capacity exceeding a total of 1,320 gallons (or underground oil storage capacity exceeding a total of 42,000 gallons). Contractors at the NBMCT Site subject to these rules must comply with specific requirements, including spill prevention, Oil SPCC Plan development, training, tank and drum testing, inspections, and providing adequate secondary containment for regulated oil tanks, containers, and equipment.

In determining the aboveground oil storage capacity, only containers of oil with capacities of 55 gallons or greater are counted. In addition, once a facility exceeds the threshold, it is subject to the Oil SPCC rules and every tank, container and piece of equipment with a capacity of 55 gallons and greater of oil must be included in the Plan and must comply with all of the rule requirements. Mobile equipment not subject to Department of Transportation regulations, such as off-road earth-moving equipment and dredge barges, are subject to SPCC regulations and are included in the determination of whether the 1,320-gallon threshold of oil of any kind in any form has been exceeded, to the extent that the volume of oil in each respective container exceeds 55 gallons.

Federal Oil SPCC regulations require NBMCT Site Contractors subject to the Oil SPCC rules to provide adequate containment and/or diversionary structures or equipment to prevent the discharge of oil. All bulk storage container installations, including 55-gallon drums, must be equipped with secondary containment capable of containing the entire contents of the container plus sufficient freeboard to allow for precipitation. All secondary containment systems must be capable of containing oil and must be constructed so that any discharge from a storage container will not escape the containment system before cleanup occurs. If a Contractor determines that secondary containment is not practicable, as is expected with mobile/portable equipment containing more than 55 gallons of oil, the Oil SPCC Plan must clearly justify the reasons for such a determination and provide adequate controls to prevent impacts to surface water should a release occur. Whenever mobile/portable equipment is used, particular care must be taken to avoid a release when operated adjacent to a surface water body or a stormwater collection structure, and adequate spill control equipment must be kept nearby at all times and deployed quickly to minimize environmental impact.

Contractors subject to Oil SPCC planning regulations must provide training for all employees who handle oil, and the training must cover operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution prevention control laws, rules, and regulations; general construction operations; and the contents of the Oil SPCC Plan. Each Contractor must designate a person who is accountable for discharge prevention and who reports to facility management.

9.2.3 Air Emission Reduction

Dust particles; aerosols and gaseous by-products from construction activities shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain the work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would

cause a hazard or a nuisance. Odors from construction activities shall be controlled at all times. The odors shall not cause a nuisance or health hazard and shall be in compliance with State regulations and/or local ordinances. All diesel engines used on this project are to be maintained at the highest acceptable industrial standards for operating to prevent air pollution. If any engine runs poorly, it will be repaired to meet proper pollution standards. Please refer to Chapter 11 – Dust Management and Air Quality Monitoring in this CMP for more in-depth information regarding this topic.

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor will abide by all local noise ordinance standards set by the local municipalities. A baseline (background) noise level reading will be taken and periodic levels checked during the life of the project, if noise levels are suspected to be out of compliance. Please refer to Chapter 14 – Noise and Vibration Control and Minimization in this CMP for more in-depth information regarding this topic.

9.3 On-land Construction Operations

The Contractor retained for on-land construction operations will plan activities and perform all work necessary to minimize the adverse impact or violation of environmental standards relative to water quality, fish and wildlife, air resources, hazardous waste/materials management, etc. All activities, equipment, processes and work operated or performed by the Contractor in accomplishing this project shall be in strict accordance with all permits obtained by the Owner, and the Performance Standards and accompanying Applicable or Relevant and Appropriate Requirements (ARARs) that were established under the State Enhanced Remedy (SER) through the New Bedford Harbor Superfund remedy and established under the Final Determination issued by EPA. All environmental resources affected by construction activities shall be monitored at all times.

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. There shall be no storage of fuel on the project site. Fuel must be brought to the project site each day that work is performed. All spent or waste fuels and lubricants are considered to be Hazardous Wastes and should be managed per the Hazardous Waste Regulations, 310 CMR 30.

The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Commonwealth's Representative. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility.

The Contractor shall participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

9.3.1 Site Control

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Commonwealth's Representative. Temporary movement or relocation of Contractor facilities shall be made only when approved by the Commonwealth's Representative. The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands. Authorization to enter specific wetlands identified shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries. The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site to ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds.

9.3.2 Earth Moving, Sediment, and Erosion Control

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water as required by the Clean Water Act.

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The Contractor will be responsible for any necessary sediment controls within the designated laydown area. No sediment or discharge waters will be allowed outside of the designated debris stockpiling area to prevent sediment from entering nearby waters or municipal systems. Refer to MA Regulations 310 CMR 10, 310 CMR 4, 310 CMR 9 and Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas for additional information regarding erosion and sediment controls.

9.4 Over-water Operations

The Contractor retained for over-water construction operations shall take all steps necessary to assure that the proposed activities will be conducted in a manner that will avoid violations of the SER Performance Standards and ARARs, which includes the anti-degradation provisions of the Massachusetts Surface Water Quality Standards protecting all surface waters, including wetlands. In addition to preparing an EPP to guide over-water construction activities, the specifications will require the Contractor to submit a Contingency Plan to meets the requirements of the Performance Standards and Contract Documents. The Contingency Plan must address mitigation measures to be taken if water quality performance standards are exceeded detailing the specific actions to be taken by the Contractor to achieve water quality criteria. The Contractor's plan for deployment of silt

curtains/absorbent booms shall be submitted to the SER PM for review prior to the start of in-water work. Should the deployment of silt-curtains prove not feasible or be unsuccessful, the SER PM will be notified prior to any dredging without silt curtains.

9.4.1 Site Control

Guided by the EPP and its Spill Prevention Plan, the Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during performance of the work. Hazardous substances expected to be used on site include #2 oil, gasoline, antifreeze, and lubricating oils. MSDS sheets for these substances will be located on each dredge. The Contractor shall coordinate the disposition of hazardous waste that is unearthed as a result of the dredging activity with the Commonwealth's Representative. Other hazardous substances will be transported to vessels in sealed containers and stored appropriately as recommended by the manufactures. The Contractor shall segregate hazardous waste from other materials and waste, and shall protect it from the weather by placing it in a safe covered location. Please refer to Chapter 12 – Waste Management in this CMP for more in-depth information regarding this topic.

9.4.2 Pollution Prevention

In addition to adhering to the requirements of the EPP, with its Spill Control Plan and Contaminant Prevention Plan, the Contractor will be required to prepare an Oil SPCC Plan compatible with the Federal regulations at 40 CFR 112 if the dredge barge has aboveground oil storage capacity exceeding a total of 1,320 gallons. Should an oil spill occur during cargo receiving or discharge operation, the Contractor will immediately notify the Commonwealth's Representative either via landline telephone, Cellular phone or by any other means available.

A properly licensed bulk delivery company will fuel all equipment and all fuel oil transfers will be performed in accordance with Coast Guard requirements and regulations. All fueling will be monitored from the delivery barge and the equipment to be fueled. The barge will have an emergency shutoff at the barge and a shutoff valve at the end of the dispensing hose. Fuel tanks being filled without fuel tight caps will not be topped off. The fueling areas will be designed to contain spillage of diesel fuel during refueling and absorbent material will be used to immediately prevent spillage from reaching the water. Should a release of fuel impact a water body, the Contractor will immediately report the spill and initiate the Spill Prevention Plan and/or Oil SPPC Plan, as appropriate.

9.4.3 Sediment Management and Siltation Control

All dredging under this contract shall be performed using a mechanical or hydraulic type dredge, although hydraulic dredging may be only utilized by the Contractor for capping purposes or for transporting sediment to upland locations. The Contractor is required to perform all dredging and disposal activities in such a manner as to minimize adverse impacts to water quality. Therefore, the Contractor will plan dredging and disposal activities, and select and operate equipment in such a manner as to minimize the re-suspension of silt, clay, oil, grease, and other fine particulate matter

and floatable materials, which could entail changes such as delaying disposal activities until certain tide conditions occur.

The Commonwealth's Representative will be responsible for water quality sampling and testing required for monitoring the Contractor's dredging activities. If the water quality standards are exceeded as a result of construction operations, the Contractor will be required to implement its Contingency Plan to correct the deficiency. When conducting mechanical dredging of maintenance material, an enclosed bucket should be used to meet water quality criteria, although a conventional bucket may be used to dredge material if it can be demonstrated that water quality criteria are not exceeded. Even so, an enclosed bucket must be maintained onsite at all times and adopted for use in the event of water quality exceedances encountered when a conventional bucket has been used. While implementing the Contingency Plan, if the use of a silt curtain is called for, the silt curtain will be deployed to enclose the dredging/disposal operational area for which the exceedance was observed. All silt curtains will be deployed and operated in accordance with the manufacturer's guidelines.

The Contractor is required to propose procedures to be used to screen sediment and remove artificial obstructions and debris that are not suitable for disposal or reuse (e.g., tires, cables, timbers, etc.). The Contractor will prepare a Debris Management Plan (DMP) for approval to identify the equipment to be used and the appropriate disposal locations for receiving dredged debris and other solid waste generated by the Contractor's activities. Please refer to Chapter 12 – Waste Management in this CMP for more in-depth information regarding this topic.

Dredge spoils will be loaded into dump scows for transport to the ultimate disposal site in accordance with the requirements of the Suitability Determination issued by the U.S. Army Corps of Engineers. Water and dredged materials are not allowed to overflow or spill out of scows when receiving dredged maintenance or improvement material. The Commonwealth's Representative may issue an order stopping dredging operations for failure to repair leaks or change the method of operation that is resulting in overflow or spillage, in which case, dredging may not resume until adequate repairs have been made or sufficient changes in practice have been put into effect.

Once a dump scow has been loaded, a tugboat will be used to transport the scow out to the disposal location designated for the dredge material it contains. The various tugs that may be required to assist in this work may be equipped with radar, marine radios, Commercial GPS Chart Plotters, and/or a USCG-approved AIS tracking system. The tug that is assigned to dump a particular scow will be given the proper GPS coordinates of the disposal location and, if required, will be carrying on board the USACE Certified Dump and Mammal Inspector as well as the remote control radio transmitter for the particular scow. Once the tug captain confirms that the scow is on the proper location, the tug captain will activate the remote control radio transmitter for the scow from the tug's wheelhouse to open the scow. After all the material has been disposed from the scow, the tug captain will activate the remote control radio transmitter for the scow to close the scow and will depart the disposal site to return the scow back to the dredge site.

10 STORMWATER MANAGEMENT

10.1 Upland Areas

In upland areas, the Contractor will be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls will be selected and maintained such that water quality standards are not violated as a result of the construction activities. The National Pollutant Discharge Elimination System (NPDES) permit program is administered jointly in Massachusetts by the US EPA and MADEP. As authorized by the Clean Water Act NPDES regulations at 40 CFR 122, the NPDES permit program controls water pollution from construction that disturbs one (1) or more acres of land by regulating point sources discharging pollutants into surface waters. Point sources are discrete conveyances such as pipes or man-made ditches.

Temporary stormwater detention basins will be installed as necessary to collect stormwater for settling and infiltration, while the site is exposed and prior to final grading and stabilization. Diversionary stormwater detention trenches will be utilized between the construction areas and surface water as needed to intercept stormwater prior to discharge to New Bedford Harbor. The drainage plan will follow best management practices outlined in the Contract specification, which include the installation of bale/silt fence barriers around all catch basins and at down gradient areas. Anti-tracking pads will be placed at each site exit point that will be comprised of 1 ½" crushed stone at a minimum of 6" thickness with an under layer of filter fabric. All structures will be removed after they have served their usefulness. Additional requirements for stormwater management are contained within Section 01355 of the Contract Documents, Environmental Protection, the Final Determination issued by EPA, the SER Performance Standards, and the Stormwater Pollution Prevention Plan for this project.

10.2 Intertidal Areas

Steps to prevent stormwater runoff into intertidal areas will consist of constructing grade level sediment barriers, berms, and wattle. These barriers will be maintained and monitored by the Contractor. While the site is exposed and prior to final grading and stabilization, the Contractor will also be required to install temporary stormwater detention basins as necessary to collect stormwater for settling and infiltration. Diversionary stormwater detention trenches will be utilized between the construction areas and surface water as needed to intercept stormwater prior to discharge to New Bedford Harbor.

11 DUST MANAGEMENT AND AIR QUALITY MONITORING

This section provides for proactive minimization and mitigation of construction impacts of dust, dust-generating materials, and other types of potential construction air quality impacts. Dust suppression measures and air pollution controls will be implemented during the following activities:

- site preparation clearing and grubbing;
- on-land excavation;
- over-water sediment dredging; and,
- any construction operations that involve the handling of potentially air-borne waste, and oil and hazardous materials (OHM).

Any violation of any such air quality standard will be cause for cessation of Work and implementation of corrective actions to mitigate the airborne release before continuing, as noted in the Contract Documents. Corrective actions will be proposed, and upon approval, fully implemented. Restart after a work stoppage will only commence following approval communicated by the Commonwealth's Representative.

At a minimum, dust suppression activities will include application of dust suppression water from water misting equipment, supplemented as necessary from other sources, in sufficient quantities to achieve compliance with the Work-specific air quality performance standards. Other dust suppression methods may also be applied as necessary to achieve compliance with the Work-specific air quality performance standards, including, but not limited to: application of foam to building materials prior to demolition and use of mist cannons to aid in minimizing fugitive dust emissions. Additional information may be found within Section 01355 Environmental Protection of the Contract Documents.

11.1 UPLAND CONSTRUCTION

The Commonwealth will require the Contractor to implement dust suppression activities to minimize airborne constituent concentrations during earthwork/demolition; land grubbing, clearing, and grading; debris processing; and loading activities so that dust generation is minimized and air quality standards are maintained pursuant to the applicable air quality standards established for the Site. Prior to implementation of dust suppression activities involving the application of water, runoff control measures will be implemented by the Contractor to prevent off-site migration of dust suppression water.

The Commonwealth's Representative anticipates that the Contractor will utilize dust suppression equipment, which will spray a controlled fine mist of water that can effectively wet the material without producing significant standing water or runoff. If necessary, multiple units may be used depending on wind conditions and site-specific conditions. The dust suppression equipment will generally be positioned upwind and will likely be active during most phases of demolition activities and earthwork involving heavy equipment. Prior to any earthwork, the active work area will likely be pre-wetted by utilization of hand water delivery systems, such as fire hoses with misting nozzles. All wetting activities will be completed with an ample amount of water to suppress the potential

dust but will be minimized to prevent large areas of ponding, poling, and/or runoff. Additionally, please note that existing conditions at the time during activities will drive the suitability or need for dust suppression operations. Should the upland material be sufficiently coarse, some reduction in the assumed dust suppression activities may be warranted.

Specifically, The Contractor will complete the following dust control measures:

- The Contractor will connect water supply lines/hoses to existing Site infrastructure fire hydrants that are in working condition or fire hydrants immediately adjacent to the Site to use for water misting activities.

- The Contractor will monitor the prevailing wind direction to determine general earthwork/demolition approach and water misting directions.

- The Contractor will man dust suppression equipment, hoses, and spray/mist dust generating materials during active earthwork/demolition activities that have the potential to create dust. Several on-site water lines/hoses will be used to supply water to the dust suppression equipment and fire hoses.

Regarding Diesel Engines, any stationary emergency or standby engine installed at the site will comply with the requirements of 310 CMR 7.02(8)(i) and 310 CMR 7.26(40) and (44) as applicable. Any engine that is mobile in nature will comply with federal standards with regards to limitation on the sulfur content of fuel. Construction equipment used for this project will comply with federal off road diesel emission standards including the use of ultra low sulfur diesel fuel (<15 ppm sulfur content) in all diesel engine powered equipment. All equipment will meet the Tier1-3 emission standards for off-road diesel equipment and to the extent practicable; all diesel powered equipment will meet the Tier 4 emission standards, the final deadline for which is 2015, per 40 CFR Part 89.

Contractors will be encouraged to use diesel oxidation catalyst retro-fitted vehicles and equipment, and project will be directed to DEP for retrofitting guidance. The regulations also require specific opacity limits, based on equipment type.. The regulation states that no person who owns operates or controls a marine vessel, spark-ignited internal combustion engine or non-stationary diesel engine will cause, suffer, allow or permit visible emissions including smoke, 310 CMR 7.06.

An air monitoring program will be conducted throughout the construction process. Appropriate measures such as proper dust suppression measures will be implemented during construction activities to prevent excessive emissions of particulate matter. At least four air monitoring stations will be established around the NBMCT construction project site to obtain daily measurements of air-borne particulate matter/dust particles. The results will be measured in micrograms of particle per cubic meter and will be augmented with the meteorological (MET) results for the average wind speed and direction.

The Commonwealth's Representative will use the same criteria and coding system as used for the Aerovox demolition project to determine the level of mitigation action. Using this system, information will be made available to the surrounding communities and presented in a format that

will likely be familiar to those community members concerned about air quality or interested in the data.

The following matrix lays out the threshold and reaction to fugitive dust detection by field crew:

Monitoring		NGL	Required Response	
Type	**Equipment**	**Action Levels**		
PM_{10} Particulates	Aerosol Monitor and Visual Inspection	<75 ug/m^3 and no visible dust	No actions required	
		>75 ug/m^3 and <100 ug/m^3 or visible dust	Discuss and implement site practices which may result in reduction of dust level.	Increase monitoring frequency to confirm NGL remains <100 ug/m^3
		> 100 ug/m^3	Temporarily halt work and discuss site practices which may result in NGL excursion.	Increase monitoring frequency to confirm NGL remains <100 ug/m^3
		NGL remains >100 ug/m^3	Suspend work and implement dust suppression techniques to lower NGL <100 ug/m3	Review construction practices and adjust - confirm NGL remains <100 ug/m^3

Sprinkling of water, or the use of particulate control equipment, or other methods will be permitted to control particulates in the work area. The Contractor will be required to provide sufficient, competent equipment available to accomplish these tasks. The Contractor will implement particulate control measures whenever a particulate nuisance or hazard occurs, and will comply with all State and local visibility regulations.

11.1 Dredging

All dredge spoils stored in scows will be thoroughly wetted throughout the dredging processes. Dredged material will be transferred to enclosed basins while dewatering is occurring. Runoff from such basins shall be routed to detention basins for additional treatment and infiltration. Water and air quality monitoring will be ongoing to provide dredge crews with information to avoid fugitive dust situations. Maintenance material, defined as sediments accumulated within the dredge areas since the last dredging project, are considered contaminated with PCBs until proven otherwise and may also be impacted with other pollutants. These sediments will be disposed of in CAD cell to be constructed as part of the NBMCT project. Extreme care will be taken to prevent maintenance material from drying out and becoming air-borne by wetting down surfaces on dredge plants and scows. Improvement material, defined as native, undisturbed sediment beneath the maintenance

material, is uncontaminated sediment deemed by the U.S. Army Corps of Engineers as suitable for open-ocean disposal that will be used during the construction process as fill and capping material.

12 WASTE MANAGEMENT

This Construction Management Plan (CMP) provides guidance for minimizing and mitigating construction impacts to prevent environmental pollution during or resulting from construction operations throughout the duration of the Project. The management of solid, chemical, gaseous, and liquid waste is a major component of the NBMCT Project and resides at the core of the environmental pollution control program for the Work. Excavated soil and dredge materials that may contain some contaminants will be reused onsite as backfill to the maximum extent practicable in consideration of their geotechnical properties and degree of contamination. Also, during the course of the Project, the Contractor will be consuming oil and hazardous materials (OHM), and generating wastes from these and other materials used for construction that will require careful management to prevent environmental pollution. If a spill or release of oil and hazardous materials occurs that exceeds the reporting threshold of the Massachusetts Contingency Plan, immediate containment actions must be taken to minimize the effect of any impacts to the environment and all cleanup activities must conform to applicable federal, state, and local regulations. Additional guidelines are contained within Section 01355 of the Contract Documents (Environmental Protection), as well as Section 02111, Excavation and Handling of Contaminated Material.

12.1 Excavation Out-of-Spec Debris

New Bedford Harbor is a listed Superfund Site that is currently undergoing active remediation by the U.S. EPA to control sediments highly contaminated by PCBs and, to a lesser extent, by heavy metals and other pollutants. Over-water operations to construct the NBMCT involve dredging and disposal of potentially contaminated sediments adjacent to the Project Site. The Contractor is required to implement procedures to screen sediment and remove artificial obstructions and debris that are not suitable for disposal or reuse, such as piles, tires, plastic, timbers, etc. The Contractor must coordinate the disposition of hazardous waste that is unearthed as a result of the dredging activity with the Commonwealth's Representative. Hazardous substances employed by the Contractor during construction must be transported to vessels in sealed containers and stored appropriately as recommended by the manufactures. The Contractor is required to segregate hazardous waste from other materials and waste (except where explicitly prohibited via TSCA), and to provide protection from the weather by placing them in a safe covered location.

The Contract specifications further require the Contractor to prepare and submit for approval a Debris Management Plan (DMP) to identify the equipment to be used and the appropriate disposal locations for receiving dredged debris and other solid waste generated by the Contractor's activities. The DMP must identify a methodology and specify the equipment to be used for containing, recovering, and/or securing floating debris that escapes containment while dredging is underway. In addition, the Contractor is required to collect all OHM floating on the water surface resulting from debris recovery or dredging operations for disposal at a permitted facility offsite.

The DMP should also address the means and methods for cleaning debris of hazardous materials, and the proper handling of the resulting waste. In-water washing/rinsing of debris should be minimized and Water Quality Standards must be observed at all times. The Contractor is required to identify any subcontractors responsible for the transportation and disposal of solid waste in its DMP, along with licenses or permits for solid waste disposal sites that are not commercial operating facilities. During construction, evidence of the disposal facility's consent to accept the solid waste must be attached to the DMP and completed copies of all Bills of Lading indicating the total amount of debris in tons which was transported and accepted at the disposal facilities must be submitted to the Commonwealth's Representative. Additional requirements are contained within Section 02482 – Dredging, of the Contract Documents.

12.2 Construction Debris

Construction and demolition waste includes solid wastes, building materials, rubbish, debris, and rubble resulting from demolition, clearing, grading, and construction operations. Debris includes both combustible and noncombustible wastes, and the significant amount of vegetation to be cleared from the various properties and parcels that comprise the Site. It is anticipated that as on-land construction clearing and grading operations are conducted a significant amount of demolition materials and debris will be encountered that must be managed as solid waste for offsite disposal. The main 18-acre area of the Project Site is the location of the Former Potomska Mills complex and one of the adjacent ancillary properties immediately to the south previously contained the Former Dartmouth Finishing Site, a large mill building that was demolished within the last 2-3 years. The Contractor will be provided with existing conditions plans showing known areas of soil and rubble piles, which are included within the definition of "upper existing materials" as potentially contaminated and require special handling for proper management and disposal

12.3 Construction Generated Wastes

The specifications and Contract Drawings designate contaminated upland locations to be excavated and disposed offsite that arise from residual concentrations of contaminants, primarily lead and PCBs. Areas of contamination will be excavated to the limits and elevations shown on the Contract Drawings and performed in such a manner as to limit the potential for contaminated material to be mixed with uncontaminated material. Any "upper existing material" for the NBMCT Project is potentially contaminated and requires special handling for its proper management and disposal. The Contractor is responsible for adhering to regulations, specifications, and recognized standard practices related to the management of contaminated and potentially contaminated material during all excavation and removal activities. During the course of the Work, the Commonwealth's Representative may also direct the Contractor to segregate certain contaminated materials, including excavated soil materials deemed unsuitable for reuse based geotechnical properties that may also be contaminated, and manage those materials for disposal offsite.

The Contractor is required to prepare and submit for approval an Excavation and Handling Work Plan (EHWP) to establish the methods for on-site stockpiling of potentially contaminated excavated soils and/or dredge materials. The EHWP must provide a means for segregating materials of various contamination classifications during processing operations and provide stockpile locations

with appropriate drainage controls. Adequate construction methods must be adopted for on-site soil tracking to ensure cross contamination does not occur that include procedures for decontamination of tools and equipment. The Contractor must maintain a log of the materials and any visible signs of contamination encountered during excavation for each area of excavation.

The EHWP must also identify locations for offsite disposal of excavated contaminated material and those subcontractors responsible for transportation and disposal of contaminated material. The Contractor will provide licenses or permits for disposal sites that are not commercial operating facilities. During construction, the Contractor must also provide evidence of the disposal facilities acceptance of the contaminated material as an attachment to the EHWP. Additional guidelines are contained within Section 02111, Excavation and Handling of Contaminated Material of the Contract Documents.

12.3.1 Personal Protective Equipment

Sediments, and possibly soil materials, could be encountered at the work site that are contaminated by PCBs at a concentration in excess of 50 ppm and, if present at such elevated levels, would be regulated as a hazardous material under the Federal Toxic Substances Control Act (TSCA). The Contractor is responsible for ensuring that all site laborers conduct work in a safe manner in accordance with OSHA requirements in 29 CFR 1910 and 29 CFR 1926. The Work must be completed under the direction of a 40-Hour OSHA Hazardous Waste Operations (29 CFR 1910.120) trained individual in accordance with all other applicable safe work procedures and controls specified in permits, such as hot work or confined space entry permits.

In order to protect the Health and Safety of all on-site workers, the Contractor is required to provide documentation demonstrating that all personnel coming in contact with sediment and/or soil materials contaminated with hazardous materials are appropriately trained and will be informed of procedures to be followed. At a minimum, the training must ensure that construction personnel is competent in observing their work area surroundings for potential safety issues and that they are adequately informed of the appropriate use of assigned personal protective equipment (PPE). Site workers must be encouraged to report unsafe work conditions or practices to the designated Safety Officer who must have sufficient authority to initiate feasible personal actions to eliminate and/or mitigate unsafe conditions.

The Contractor must institute engineering controls and work practices to reduce and maintain employee exposure to, or below, the permissible exposure limits (PEL) for substances regulated by OSHA, except to the extent that such controls and practices are not feasible. With regard to PPE, the Contractor is responsible for ensuring that all site personnel adhere to the following standard operating procedures and practices:

1. All safety equipment and protective clothing is to be kept clean and well maintained.
2. All prescription eyeglasses in use will be safety glasses. Contact lenses should not be worn in areas where there is a potential for injury to the eye due to particulate, fume, vapors, gases or other air contaminant.
3. The Safety Officer will approve all disposable or reusable gloves worn on the site.

4. Footwear used on site will be conducive to working conditions including while working on boats.
5. All PPE used on site will be decontaminated or disposed of at the end of the workday. The Safety Officer will be responsible for ensuring decontamination of personal protective equipment before reuse.
6. All project personnel shall have a vision or corrected vision to at least 20/40 in one eye.

Before daily site operations begin, a tailgate safety meeting will be held to review the Site Specific Health and Safety Plan (SSHASP) concerns for the work activities and emergency response procedures. The Daily Tailgate Safety Meeting Logs will be maintained as part of the SSHASP and subject to review by the Commonwealth's Representative. Please refer to Chapter 6 – Site Health and Safety in this CMP for more in-depth information regarding this topic.

12.3.2 Refueling and Lubricating Waste Management

The Contractor is required to conduct storage, fueling and lubrication of equipment and motor vehicles in a manner that affords the maximum protection against spill and evaporation. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. At all times, the Contractor must maintain MSDS sheets for all OHM used on site, which is expected to include gasoline, diesel fuel, #2 fuel oil, hydraulic oil, lubricating oils, and antifreeze (ethylene and/or propylene glycol).

The Contractor is prohibited from maintaining the storage of fuel on the project site. Fuel must be brought to the project site each day that work is performed. All spent or waste fuels and lubricants are considered to be Hazardous Wastes, and must be managed in compliance with the Massachusetts Hazardous Waste Regulations at 310 CMR 30.000 and other Federal, State and local laws and regulations as appropriate.

Guided by its Environmental Protection Plan (EPP), Spill Prevention Plan, and, if applicable, Oil Spill Prevention, Control, and Countermeasure (SPCC) Plan, the Contractor is required to implement sufficient measures to prevent spillage of oil and hazardous materials (OHM) during performance of the work. Adequate spill response materials must be available at all times in which OHM are being handled or transported, and to respond to a leak from vehicles or other mechanical devices. The spill response materials must be compatible with the type of OHM being handled and include, but are not limited to, the following: containers, adsorbents, shovels, and PPE. The Contractor must immediately report spills of OHM to the Commonwealth's Representative, and is responsible for all necessary cleanup activities and associated cleanup costs due to spills. Please refer to Chapter 9 – Environmental Management in this CMP for more in-depth information regarding this topic.

12.3.3 Trash

Trash or rubbish includes both combustible and noncombustible waste, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, clothing, and food waste, that can be disposed of at a landfill that accepts household, commercial, and industrial solid waste, which is by definition non-

hazardous according to RCRA regulations. The Contractor is required to participate in State and local government sponsored recycling programs, and is further encouraged to minimize the generation of solid waste associated with trash throughout the duration of the project to minimize offsite impacts to the local community.

The Contractor is required to affix legible and understandable labels prominently to all trash receptacles and containers indicating the type of materials they are designed to receive and with precautions that hazardous materials are prohibited. Signs and instructions should be clear, and easy to understand. All recycling containers should be clearly labeled and lists of acceptable and unacceptable materials will be posted throughout the site. The Contractor must transport and dispose of trash offsite in compliance with all applicable local, state, and federal regulations at an approved receiving facility. All containers must be moved only with the proper equipment and must be secured to prevent dropping or loss of control during transport.

13 ARCHAEOLOGICAL MANAGEMENT

The following is a summary of information that has previously been submitted to and reviewed by EPA, the SHPO, MBUAR, and THPOs within the course of previous investigations including:

- ***The Commonwealth's October 2010 Assessments of Prehistoric Archeological Site Potential for the Subtidal/Intertidal Portions of the Site.***
- ***The Commonwealth's January 18, 2012 restated application to EPA.***
- ***The Commonwealth's June 18, 2012 responses to questions posed by EPA.***
- ***The Commonwealth's June 26, 2012 responses to questions posed by EPA.***
- ***The July 16, 2012 Draft Determination issued by EPA.***
- ***The Commonwealth's Cultural Resources Background Study and Archeological Sensitivity Assessment dated September 2012. and***
- ***The Commonwealth's September 18, 2012 summary of previous archeological investigations and submissions to EPA, SHPO, MBUAR, and THPOs.***

No additional or new information is contained herein, and the summary of existing information on cultural resources and archaeological management is contained herein to guide the construction management process.

As a result of regulatory consultation requirements as per Section 106 of the National Historic Preservation Act (16 USC 470f as amended in 1976, 1980, 1992 and 1999) and the National Environmental Protection Act of 1969, this Construction Management Plan (CMP) will provide procedures and information for the proactive protection and mitigation of construction impacts to Cultural Resource Areas* identified in the project area. As per the Commonwealth of Massachusetts, BMUAR* and MHC* guidelines and applicable laws related to Unanticipated Archaeological Finds (MGL Chapter 9 s26 - 27C) and the unanticipated discovery of Human Remains (MGL Chapter 38, s6, etc.), the Project Management Team and the Contractor will be responsible for complying with all related requirements by Federal, State, Regional and local laws and regulations. These policies are attached to this document. The Commonwealth's Representative, the Contractor and associated personnel will be briefed on them and the protocol for protection of identified Cultural Resource Areas and in the event of an unanticipated find, prior to commencement of any construction activities. Additional information may be found within Section 02850 Cultural Resources of the Contract Documents.

Specifically, this section of the Construction Management Plan will address:

1. Identification of Commonwealth's Representative personnel to the Contractor and identification of Contractor personnel responsible for implementing Archaeological Management.
2. Procedures for accurately demarcating the location of Cultural Resource Areas physically, such that their location will be visible to Contractor's personnel during the course of the Work.
3. Procedures for completing the work in such a manner as to keep Contractor equipment and materials outside of any area defined as a Cultural Resource Area.
4. Procedures for completing the Work and arranging the sequence of the Work to prevent

Work completed outside of a Cultural Resource Area from impacting a Cultural Resource Area.

5. Procedures that the Contractor will follow upon the discovery of unanticipated cultural resources and/or human remains or underwater archaeological resources.
6. Procedures to provide monitoring of construction activities for cultural resource protection by the Commonwealth's Representative and Tribal Representatives.

13.1 Protection and Treatment of Identified Resources

The Contractor will confine all construction related activities to areas defined by the drawing to be outside of any defined Cultural Resource Area.

A. Work Area Limits

No work activities will occur within 100 feet of the area defined as a Cultural Resource Area without notification of the Commonwealth's Representative. If work is to occur within 100 feet of the Cultural Resource areas, the appropriate Commonwealth's Representative personnel will be notified and a Tribal Observer will be notified and shall have the opportunity to be present when work activities are occurring within 100 feet of the Cultural Resource Area. No equipment will be allowed within or floating over a Cultural Resource Area.

B. Cultural Resource Areas Demarcation

Prior to commencing construction activities, the Contractor will mark Cultural Resource Areas as shown on the Contract Drawings. Cultural Resource Areas will not be disturbed by the Contractor. Isolated areas, including all water areas, within the general work area which are not to be disturbed shall be marked, fenced, or otherwise visibly demarcated to prevent any disturbance of the area. The Contractor will develop avoidance measures to eliminate the potential effects to the Cultural Resources Areas for during construction activities and for construction materials and equipment storage and/or passage. The proposed avoidance measures will be submitted to the Commonwealth's Representative for review and approval. The Contractor is responsible for providing, installing and maintaining all monuments, markers, buoys, or other demarcation equipment through all construction operations. Where construction activities are to be conducted during darkness, any markers shall be visible in the dark. The Commonwealth's Representative will instruct Contractor's personnel so they will be knowledgeable of the applicable laws and procedures relative to the protection of the Cultural Resource Area.

C. Dredging

Prior to any excavation work or dredging within 100 feet of a Cultural Resource Area, the Contractor will be required to submit to the Owner's Representative a Temporary Excavation Support Plan for approval. The Temporary Excavation Support Plan shall ensure that that the Cultural Resource shall not be disturbed during dredging or other work activities.

D. Unanticipated Finds

Should the Contractor locate unanticipated archeological resources or unanticipated human remains during the course of the work in any location, the Contractor shall immediately notify the Commonwealth's Representative personnel responsible for project oversight and cultural resource protection oversight. The Contractor shall follow the following procedures: "Policy Guidance on the Discovery of Unanticipated Human Remains" and/or "Policy Guidance for the Discovery of Unanticipated Underwater Archaeological Resources", promulgated by the Commonwealth of Massachusetts Board of Underwater Archaeological Resources, Office of Coastal Zone Management, as applicable, which are attachments to Section 00800 of the Contract Documents. The Commonwealth's Representative personnel will contact the appropriate authorities and consulting parties to address the identification and mitigation of the unanticipated find (See Section 13.3).

Top of Dredge Footprint Obstruction Removal

As indicated on the Contract Drawings, the obstruction within the Top of Dredge Footprint has previously been identified as a submerged shipwreck. This shipwreck has been evaluated for potential historic value with an archaeological investigation overseen by the Massachusetts Board of Underwater Archeological Resources. It has been determined that the shipwreck does not meet state or federal eligibility criteria for inclusion on the National Register of Historic Places. This shipwreck may be removed and disposed of offsite as debris. Unanticipated archaeological finds located during removal of this shipwreck will be reported immediately (See Section 13.3).

13.2 Monitoring During Construction

The Commonwealth's Representative's Cultural Resource Specialist* will train Commonwealth's Representative field staff and Contractor personnel in the protocol related to the protection of Cultural Resource Areas and procedures in the event that unanticipated archaeological finds and/or human remains are discovered during construction activities. The Cultural Resource Specialist will also conduct regular unannounced monitoring of construction activities and procedural reviews relative to the protection of Cultural Resource Areas and unanticipated archaeological resources and/or human remains.

Both the Wampanoag Tribe of Gayhead (Aquinnah) and the Mashpee Wampanoag Tribe have requested cultural resource monitoring during construction phase of this project. As per Section 13.1 above, tribal representatives will be informed of the Paleosol Protection and Unanticipated Finds protocols established for the project. The Cultural Resource Specialist will coordinate tribal monitoring activities with the Commonwealth's Representative field staff and Contractor. The goal of this coordination is to provide tribal representatives the opportunity to have the best possible view of the construction area and so that monitoring activities are conducted safely for all parties and do not create a physical obstruction to construction activities.

The Cultural Resource Specialist will document monitoring activities during project construction.

13.3 Contacts, Reporting and Actions

13.3.1 Unanticipated Discovery of Human Remains:

If suspected human remains are located within the project area whether on land or underwater, the following procedures should be followed by the Contractor:

1. In the event that suspected human remains are encountered, activities that might affect those remains will be immediately halted.
2. The Commonwealth's Representative and the Cultural Resource Specialist will be informed and notified of the exact location of the remains.
3. The Commonwealth's Representative and Cultural Resource Specialist will be responsible for **immediately** notifying the State Police Detectives at the local District Attorney's Office, the Chief Medical Examiner, the State Archaeologist, the MBUAR, and the Environmental Police, and Tribal Representatives (contact information provided below). The Cultural Resource Specialist will also inform the Cultural Resource Management Consultant*.
4. If the Chief Medical Examiner determines that the human remains are less than 100 years old, a criminal investigation may be warranted. If the remains are determined to be older than 100 years, the Chief Medical Examiner will notify the State Archaeologist at the Massachusetts Historical Commission. The Commonwealth's Representative and the Cultural Resource Specialist will then work with the Contractor to determine which construction activities may continue during the process of investigation and mitigation of the site of the unanticipated discovery of human remains.

NOTE: Under state law, **the finder** is responsible to insure that the proper authority is notified when suspected human remains are encountered.

Contacts in the event of and Unanticipated Discovery of Human Remains:

District Attorney's Office State Police Detectives Unit
Contact: State Police Communications Section
(who will contact detectives at local district attorney's office)
(508) 820-2121

Massachusetts Environmental Police
251 Causeway Street, Suite 100
Boston, Massachusetts 02114
Contact: Communications Center (who will contact local EPO)
(800) 632-8075 or (617) 626-1665

State Office of the Chief Medical Examiner
720 Albany Street
Boston, Massachusetts 02118
Contact: Dr. Ann Marie Mires, Forensic Anthropologist
(617) 267-6767; Fax (617) 266-6763
AnnMarie.Mires@state.ma.us

State Archaeologist/Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, Massachusetts 02125
Contact: Brona Simon, State Archaeologist/Acting Executive Director
(617) 727-8470; FAX: (617) 727-5128
mhc@sec.state.ma.us; Brona.simon@state.ma.us

Massachusetts Board of Underwater Archaeological Resources
251 Causeway Street, Suite 800
Boston, Massachusetts 02114
Contact: Victor Mastone, Director
(617) 626-1141; FAX (617) 626-1240
Victor.mastone@state.ma.us

Commission on Indian Affairs
100 Cambridge Street, Suite 300
Boston, MA 02114
Contact: Jim Peters, Executive Director
(617) 573-1291; FAX: (617) 573-1515
Indian_Affairs@hotmail.com

Tribes:
Wampanoag Tribe of Gayhead (Aquinnah)
28 Black Brook Road
Aquinnah, MA 02535-1546
Contact: Ms. Bettina Washington, Tribal Historic Preservation Officer
(508) 645-9265; FAX (508) 645-3790

Mashpee Wampanoag Tribe
P.O. Box 1048
Mashpee, MA 02649
Contact: Ms. Ramona Peters, Tribal Historic Preservation Officer
(508) 419-6017; FAX (508) 477-0134
rpeters@mwtribe.com

13.3.2 Unanticipated Discovery of Underwater Archaeological Resources:

Below are steps that should be followed in the event that unrecorded shipwreck sites and/or other underwater archaeological resources are discovered during the project construction activities:

1. Construction activity shall immediately be halted in the area of the find until it can be determined whether the feature is an archaeological resource and if it represents a potentially significant feature or site.
2. The Commonwealth's Representative field staff will immediately notify the project Cultural Resource Specialist who will also notify the Cultural Resource Management Consultant* and

the lead agency (assumed at this time to be MBUAR) upon the suspension of work activities in the area of the find. Notification will include the specific location in which the potential feature or site is located.

3. The Cultural Resource Specialist will immediately contact its Cultural Resource Management Consultant to review the information. The Cultural Resource Specialist will provide information on the location and any discernible characteristics of the potential cultural resource (the target), and any survey data depicting the find.
4. If the Cultural Resource Management Consultant determines that the site, feature, or target is not potentially cultural, the project field staff through the lead agency will be notified by the Cultural Resource Management Consultant that work may resume. The Cultural Resource Management Consultant will also notify MBUAR and/or MHC of this determination.
5. If, based upon both previously acquired and current remote sensing survey data, or other indications (e.g., timbers, etc.), it is determined that the new target is possibly a shipwreck or other potential cultural resource, the Cultural Resource Management Consultant will inform the lead agency, who will inform the project field staff that work may not resume at the given location until notified in writing by the lead agency. The cognizant federal and state review agencies, MBUAR, SHPO (State Historic Preservation Officer), and Advisory Council (if applicable) will be notified of this determination within 2 working days.

Depending upon the outcome of the initial review of the unanticipated discovery, procedures outlined in MBUAR Policy on Unanticipated Archaeological Resources will be followed until it is determined that construction can resume in that area. The Project Management Team and the Cultural Resource Specialist will then work with the Contractor to determine which construction activities may continue during the process of investigation and mitigation of the site of the unanticipated archaeological discovery.

Contacts in the event of and Unanticipated Discovery of Archaeological Resources:

Massachusetts Board of Underwater Archaeological Resources
251 Causeway Street, Suite 800
Boston, Massachusetts 02114
Contact: Victor Mastone, Director
(617) 626-1141; FAX (617) 626-1240
Victor.mastone@state.ma.us

State Archaeologist/Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, Massachusetts 02125
Contact: Brona Simon, State Archaeologist/Acting Executive Director
(617) 727-8470; FAX: (617) 727-5128
mhc@sec.state.ma.us ; Brona.simon@state.ma.us

Commission on Indian Affairs
100 Cambridge Street, Suite 300

Boston, MA 02114
Contact: Jim Peters, Executive Director
(617) 573-1291; FAX: (617) 573-1515
Indian_Affairs@hotmail.com

Tribes:
Wampanoag Tribe of Gayhead (Aquinnah)
28 Black Brook Road
Aquinnah, MA 02535-1546
Contact: Ms. Bettina Washington, Tribal Historic Preservation Officer
(508) 645-9265; FAX (508) 645-3790

Mashpee Wampanoag Tribe
P.O. Box 1048
Mashpee, MA 02649
Contact: Ms. Ramona Peters, Tribal Historic Preservation Officer
(508) 419-6017; FAX (508) 477-0134
rpeters@mwtribe.com

*** DEFINITIONS:**

A. **Massachusetts Board of Underwater Archaeological Resources** (MBUAR) is the state agency charged with the identification and protection of the Commonwealth's underwater archaeological resources.
B. **Massachusetts Historical Commission** (MHC) is the state agency charged with the identification and protection of the Commonwealth's historic resources.
C. **Cultural Resource Area** – Areas identified and shown on Project Drawings as a cultural resource both on land or underwater.
D. **Cultural Resource Management Consultant –** The organization(s) that holds the permit(s) from MBUAR and MHC to investigate archaeological resources at the project site.
E. **Cultural Resource Specialist** – a member of the Project Management Team that meets the Secretary of the Interior Qualifications for Archaeology (the identification of cultural resources).

14 NOISE AND VIBRATION CONTROL AND MINIMIZATION

This section of the Construction Management Plan (CMP) has been developed to address mitigation measures to be implemented during construction of the New Bedford Marine Commerce Terminal (NBMCT) to manage noise and vibration issues in such a manner as to minimize the occurrence of noise complaints from nearby residents. The CMP provides details on the management procedures to be used to control noise and vibration levels during site Work. Through the duration of the construction project noise will be kept at levels set forth be the City of New Bedford regulations and the MassDEP regulations at 310 CMR 6.00 through 310 CMR 8.00, which states, "equipment that generally emits sound may be fitted with mufflers and/or enclosures to suppress sound or be operated in manner to mitigate the emission of high decibel noise into the surrounding environment during times of the day when it is adverse to the general public."

The noise criteria to be adopted for the site comprise the following:

- Airborne noise contribution from construction, measured at the construction fence line to be over 90dB(A) during standard demolition/construction works;
- No excess or un-necessary noise generation during site works;
- Noise complaints received from nearby receptors are promptly and appropriately responded to by the Contractor.

Vibration assessment criteria will be established as part of the geotechnical assessment of proposed construction works. These assessment criteria will be agreed with project managers in regard to the activities required to be completed, giving consideration to the location of the works, the levels produced and the proximity of existing buildings, infrastructure, and flora and fauna.

Where site monitoring identifies potential exceedances of acceptable noise/vibration levels, site practices shall be reviewed as per the contingency plan outlined below and may include implementation of additional mitigation measures as noted below:

- Staging of site works to maximize use of the existing site features/facilities as acoustic barriers where possible.
- Noise and vibration awareness training for all site staff including subcontractors as part of general site induction and tailgate talk activities.
- Strict adherence to approved works times. In the event that out of hours delivery activities are required, the approval process will be completed via consultation with the Project Managers, MassCEC, etc.
- Works will be scheduled, where practical, to avoid simultaneous noisy activities occurring on site.
- Vehicles will not be left turned on or idling at the site for longer than minimum amount of time required completing site activities.

Care will be taken by site personnel to ensure materials will not be dropped from a height either onto or from vehicles or from the roof, overhead bridge or other raised location. Additional information may be found within Section 01355, Environmental Protection, of the Contract Documents.

15 PARKING AND TRAFFIC MANAGEMENT

15.1 Parking Management

During the course of the demolition/construction activities, the scheduling of transport vehicles, such as waste material transport vehicles, equipment/material delivery vehicles, etc., entering and exiting the site will be coordinated to minimize, as reasonably practical, the number of trucks at the site. The access for abutting businesses, facilities, and parking spaces along Gifford Street and Blackmer Street will be maintained to the maximum extent possible. At all times during demolition work in these areas, the Contractor will provide staff and resources immediately adjacent to the work activities to coordinate traffic and access issues. In addition, the Commonwealth's Representative will coordinate work activities so that access for emergency response vehicles is maintained at all times. The Commonwealth's Representative anticipates that required work in these areas will be completed during late morning and early afternoon timeframes to allow for rush hour traffic to the maximum extent possible. If temporary access restriction along Gifford Street or Blackmer Street is necessary to complete demolition work activities, The Commonwealth's Representative will notify and obtain appropriate approvals from all potentially affected businesses, City of New Bedford, and the USEPA prior to starting the work activities. Notification to abutters will be in accordance with the access agreements. The work will be thoroughly planned and completed efficiently to provide for maximum access in these areas.

Construction parking at the site will be within the parameter of the security fence and/or at the Gifford street boat ramp. At present there is no plan in place that will impact any parking or roadways aforementioned. Additional information may be found within Section 01570, Traffic Regulation, of the Contract Documents.

15.2 Traffic Management

To expedite vehicular traffic flow on haul roads, at Site entrances, on Site access roads and at parking areas, the Contractor must furnish, install, operate and maintain equipment, services and personnel with traffic control and protective devices, as required by the various state and local agencies responsible for the roads. Prior to performing any work on public roads or highways, the Contractor will obtain a permit(s) from the City of New Bedford as required and is responsible for maintaining traffic control with police officers and/or deploying signs in accordance with the obtained permits. Traffic control including, but not restricted to, signing and devices shall be provided for all openings in roads in accordance with standards described in the latest edition of the Massachusetts Department of Highways Manual on Uniform Traffic Control Devices. The Contractor is required to notify all property owners at least 48 hours in advance of any work with the potential to interfere with access to their residence or place of business. No public roadway will be closed to traffic without the prior consent of the Commonwealth's Representative, the agency responsible for the road, and the local police department. If roadways are disturbed during construction, the Contractor must restore the road base and surface to the satisfaction of the City of New Bedford.

The Contractor will provide and operate traffic control and directional signals required to direct and maintain an orderly flow of traffic in all areas under the Contractor's control, or affected by the operations. These will be mounted on standard posts and barricades at each change of a roadway and each crossroad, at detours, and in parking areas. Existing permanent traffic control signing and devices, including guard rails, will not be removed without the prior consent of the agency responsible for the road.

16 CONSTRUCTION RISKS AND MITIGATION MEASURES

16.1 Project Approach

As an extension of the existing South Terminal in New Bedford, the main construction activities associated with the NBMCT Project involve the installation of sheet piling prior followed by dredging in front of the sheet piling and then filling behind it to create up to 1,200 linear feet of available berthing space. The main landside area of the Project, nearly 18 acres adjacent to the harbor, is designed to accommodate the heaviest loads at the facility to meet the weight-bearing requirements for supporting construction of off-shore renewable energy projects. Directly adjacent to the main operating area to the south, another 10 acres of land has been assembled from four separate parcels that will require relatively little Site Work during construction with the exception of a property containing a demolished mill building, which will need to have debris removed and/or covered, and then graded with clean dredge material.

In addition to minimizing risks onsite during the construction of the NBMCT project, every effort will be made to minimize risks to and impacts upon the larger community of New Bedford extending well beyond the boundaries of the Site. In this regard, success of the NBMCT project will be measured by the extent to which New Bedford's living standards and its commercial activities remain unaffected by operations related to the project from inception through to completion. This Construction Management Plan (CMP) provides steps for proactive minimization of construction risk and mitigation of construction impacts including dust, traffic, noise, vibration, and visual impacts, as well as other types of construction impacts. This Plan is based on information that is currently available and, if project conditions are encountered that necessitate changes to the planned approach, changes to the Plan will first be coordinated and approved by the Commonwealth's Representative.

The Contractor is required to perform the Work in strict accordance with the specifications and the contract drawings, and subject to the terms and conditions of the Contract and all applicable permits, certifications, codes and regulations, including OSHA safety requirements at 29 CFR 1910 and 29 CFR 1926. Well in advance of the start of construction, the Contractor must make its own investigation on the use of municipal, State and Federal highways, roads, bridges, railroads and water transport and, absent any objections, all such existing infrastructure will be deemed sufficient as is to accomplish the work without further improvements. The areas to be dredged in New Bedford Harbor are mainly used by fishing vessels, cargo-type ships and barges, and numerous small recreation and commercial craft, for which contract operations have the potential to interfere. The Contractor will remedy any such interference by moving its dredging equipment and any associated vessels if vessel traffic requires it, based on the determination of the Harbor Master and Marine Superintendent, at no additional charge to the City of New Bedford or the Owner.

16.2 Appropriate Standards

Given the very close proximity of residential, commercial and industrial abutters to the Work Site, the Contract specifications and this CMP establish mandatory performance standards for conducting on-land and over-water operations that must be adhered to at all times to avoid cessation of work and implantation of corrective actions. On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The goal of the Environmental Justice (EJ) program is to provide all U.S. citizens equivalent protection from environmental and health hazards, and equal access to the decision-making process to have a healthy environment. As the project site resides within an EJ community, this CMP addresses its obligations to the local community in a chapter on public Involvement that details the process for informing the public concerning the progress of construction and forthcoming construction-related activities, as well as identifying opportunities for continued community involvement in the project. Please refer to Chapter 3 – Public Involvement and Information Plan in this CMP for more in-depth information regarding this topic.

As the genesis and scope of this project is of great interest to the local population and community, it is anticipated that there will be robust community interest. The City of New Bedford has extensive experience in communicating with the public within the City and surrounding communities concerning public works projects, and a portion of the Public Involvement and Information Plan will incorporate City expertise, including utilizing in-place City assets such as the New Bedford Economic Development Commission, the Department of Public Infrastructure, and the EEO compliance expertise resident in the City Purchasing Department. This CMP also identifies the public point of contact for the Project during the construction phase, and the chain of responsibility for dealing with questions and/or public concerns.

16.3 Coordination with Community Stakeholders

As coordination with the various users of the harbor and waterfront is essential for timely completion of the Work, all harbor users should be informed of each others' potential activities to promote efficient interactions. Numerous businesses and government agencies have water-dependent activities within or near the project dredge area which could potentially be affected by the dredging operations and landside activities. The Contractor is required to reach out and coordinate its operations with the appropriate authorities and affected parties within New Bedford Harbor and the surrounding community.

Before beginning dredging operations and barge transport of dredged materials, the Contractor is required to coordinate with the Coast Guard and ensure appropriate issuance of "Notice to Mariners" regarding the Contractor's operations. With regard to aids to navigation have been placed by the Coast Guard, the Contractor will coordinate with the Coast Guard in advance of dredging and disposal work to provide for any necessary relocation or movement of aids to navigation (if necessary). The Contractor shall also contact the Coast Guard at the completion of the Work and the removal of all dredging plant from the Harbor.

The Contractor must also coordinate the Work with the Marine Superintendent, Assistant Port Director, or the Director of the New Bedford Harbor Development Commission (NBHDC) before

beginning dredging operations and barge transport of dredged materials. While dredge operations are underway, the Contractor is required maintain daily telephone contact with the Docking Pilot of the Northeast Marine Pilots Association and monitor VHF channel 16. Since vessel movements are apt to occur on a random basis, the Contractor must provide a positive means of communication between the dredge and the towing companies, such as a cell phone number.

The Contractor is required to coordinate the Work with existing stakeholders and property owners, and to schedule work activities at active berth areas, which may require working around anticipated ship docking and waying schedules. In addition, the Contractor must prepare a weekly schedule of dredging and disposal activities and forward it to the US Coast Guard Officer of the Day and the NBHDC Marine Superintendent.

16.4 Mitigation Measures

To expedite movement of vehicular traffic and promote safe driving on haul roads, at site entrances, on Site access roads and at parking areas, the Contractor must furnish, install, operate and maintain equipment, services and personnel with traffic control and protective devices, as required by the various state and local agencies responsible for the roads. Prior to performing any work on public roads or thoroughfares, the Contractor will obtain a permit(s) from the City of New Bedford as required and is responsible for maintaining traffic control with police officers and/or deploying signs in accordance with the obtained permits. Please refer to Chapter 15 – Traffic and Parking Management in this CMP for more in-depth information regarding this topic.

Prior to the start of demolition activities, on-Site utilities including, but not necessarily limited to, gas, oil electric, water, sanitary/storm sewers, telephone, and communications must be properly and safely decommissioned while avoiding utility service disruption to abutters. The Contractor will verify the locations of all underground and overhead utilities that service the Site and other existing conditions prior to performing decommissioning and/or demolition work at the site. Utilities encountered by the Contractor that were not previously shown or otherwise located shall not be disturbed without written approval from the Commonwealth's Representative. The Contractor must take necessary precautions to ensure no damage occurs to existing utilities without previous written approval. Damage to existing utilities resulting from the Contractor's operations will be repaired by the Contractor at no additional cost to the Owner. Before terminating any utility, the Contractor must coordinate and secure any required approvals from all appropriate utility companies and City departments as necessary. If the Contractor can demonstrate that the construction of the NBMCT can progress most effectively by using a portion of existing utilities, the Contractor may pursue partial decommissioning during construction with final decommissioning after the Project is complete.

The Contractor will be required to develop procedures to control impacts to air quality by minimizing dust emissions, particularly as soil and dredge materials are being handled during construction. Dust suppression and control measures will be implemented as needed depending upon fence-line air quality monitoring results and the weather. Best management practices must be developed and followed to meet standards established by the specifications and contract documents, which could include practices such as keeping exposed soil surfaces treated or wet, covering soil piles, and providing enclosed areas for fine materials that could easily be entrained

into the air. Please refer to Chapter 11 – Dust Management and Air Quality Monitoring in this CMP for more in-depth information regarding this topic.

All construction and demolition equipment emitting sounds will be operated in compliance with State and local regulations, in a manner that will limit noise and vibrations, and at times of the day when it will not be disruptive to the public. The Contractor will be required to prepare a Sound Management Plan to minimize offsite impacts from equipment that emit sounds. The Contractor will deploy mufflers and enclosures on and around equipment to suppress sounds to the maximum practicable extent. The Contractor will be allowed to perform upland cofferdam installation, grading, earthwork, and dredge disposal/capping operations from 7 AM to 6 PM, 7 days per week, including holidays. The Contractor may request written permission from the Owner to expand these operations to 24 hours per day, 7 days per week. As the remaining over-water operations are removed from populated areas, the Contractor will be allowed to perform around-the-clock dredging operations and offshore disposal operations at the Cape Cod Bay Disposal Site and/or Rhode Island Sound Disposal Site for 24 hours per day, 7 days per week, including holidays, for the entire performance period, except where limited by permit provisions or applicable regulations. Please refer to Chapter 14 – Noise and Vibration Control and Minimization in this CMP for more in-depth information regarding this topic.