US Army Corps
of Engineers ®
New England District

Solicitation No.:
W912WJ21B0015

MAINTENANCE AND IMPROVEMENT DREDGING

Portsmouth Harbor and Piscataqua River
Newington, New Hampshire and Eliot, Maine

Construction Solicitation and Specifications

August 2021

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SECTION 00 32 00

GEOTECHNICAL DATA

PART 1 GENERAL

1.1 SUMMARY

The surface conditions indicated in the contract drawings and in the specifications are the result of site surveys, probes, borings, laboratory tests. Logs of explorations, laboratory test results, and locations at the site where subsurface investigations were performed can be found at the link provided below under subpart "Geotechnical Reports". Boring locations are shown on Contract Drawing sheet G-002 for reference only.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referenced to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D2113	(2014) Rock Core Drilling and Sampling of Rock for Site Investigation
ASTM D2487	(2011) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2488	(2009a) Description and Identification of Soils (Visual-Manual Procedure)
ASTM D2845	(2008) Pulse Velocities and Ultrasonic Elastic Constants of Rock
ASTM D3967	(2016) Standard Test Method for Splitting Tensile Strength of Intact Rock Core Specimens
ASTM D422	(1963; R 2007; E 2014; E 2014) Particle-Size Analysis of Soils
ASTM D4318	(2017) Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D5731	(2016) Standard Test Method for Determination of the Point Load Strength Index of Rock and Application of Rock Strength Classifications
ASTM D7012	(2014) Standard Test Methods for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures

ASTM D7625	(2010) Standard Test Method for Laboratory Determination of Abrasiveness of Rock Using the CERCHAR Method

1.3 GEOTECHNICAL SUBSURFACE INVESTIGATIONS

1.3.1 General

The U.S. Army Corps of Engineers, New England District (USACE-NAE) and its contractor's Ocean Survey, Inc. (OSI) and GZA GeoEnvironmental, Inc. (GZA) conducted geotechnical investigations in 2006 and 2007, and 2016, respectively, within the proposed footprint of the turning basin expansion area. Results of the geotechnical investigations can be found in geotechnical reports by OSI and GZA (refer to subpart below titled "Geotechnical Reports" for OSI and GZA report titles and how to obtain the reports). Bathymetry data were collected by USACE-NAE.

An independent geotechnical investigation was conducted by the Massachusetts Department of Conservation and Recreation (DCR) and its contractor Louis Berger in 2017 (refer to subpart below titled "Geotechnical Reports" for Louis Berger report title and how to obtain the report). USACE-NAE was not party to the Louis Berger work and had no input to the scoping, execution, review, or conclusions of the report.

1.3.2 Sample Testing

The following tests were performed on the recovered samples (see GZA GeoEnvironmental report)

- Sediment and Rock Core Logging ASTM D2488, ASTM D2487, and ASTM D2113

- Rock Quality Designation and Core Recovery and the following rock mechanics laboratory tests:

  Elastic Moduli in Uniaxial Compression (ASTM D7012)
  Axial Point Load Index (ASTM D5731)
  Diametral Point Load Index (ASTM D5731)
  Splitting Tensile Strength (ASTM D3967)
  Hardness (Tarkoy)
  CERCHAR Abrasivity (ASTM D7625)
  Average Dry Unit Weights (ISRM 3 Method)
  Average Bulk Specific Gravity (ISRM 3 Method)
  Average Porosity (ISRM 3 Method)
  Petrographic Analysis (ISRM procedures)
  Pulse Velocity and Ultrasonic Elastic Constants (ASTM D2845)

1.3.3 Geotechnical Reports

In addition to basic data referenced in Section 35 20 23 MECHANICAL DREDGING under part "MATERIALS TO BE DREDGED", the geotechnical reports listed below are available for viewing. Bidders may obtain a copy of the geotechnical reports at the following public website:

https://www.nae.usace.army.mil/Missions/Projects-Topics/Portsmouth-Harbor/

- OSI's "Final Report, Marine Geophysical Investigation, Navigation Channel Improvement Project, Piscataqua River, Portsmouth, New Hampshire, OSI Report No. 06ES102-NH", September 2008.

- GZA's "Report of Geotechnical Explorations, Portsmouth Harbor Turning Basin and Piscataqua River Subsurface Investigation, Newington, NH and Eliot, ME", October 2016

- Louis Berger's "Suitability Assessment of Piscataqua River Sand Source for Nourishment of Nantasket Beach", February 2018.

1.3.4 Examination of Samples

Soil and rock samples of OSI and GZA geotechnical investigations are available for examination by the Contractor at U.S. Army Garrison Fort Devens, Massachusetts. Arrangements to see the samples shall be made at least 7 days in advance by contacting the U.S. Army Corps of Engineers, New England District. Contact is as follows:

Mr. Stephen Potts, Ph.D., P.G.(Telephone 978-318-8311).

1.4 SOIL AND ROCK CLASSIFICATION

Soil classification was performed in accordance with ASTM D2488 in the field and ASTM D2487 in the laboratory.

The generalized Portsmouth Harbor stratigraphy is presented in Section 5.0, Table 2, and Figures 4 and 5 of the 2016 GZA GeoEnvironmental Report of Geotechnical Explorations.

For dredging purposes the materials listed below are defined as "Ordinary Material".

From youngest to oldest these materials include: Shoaled material, Glaciomarine Clay; Glaciofluvial/Glaciomarine Outwash; and Glacial Till.

Glaciomarine Clay is of Pleistocene age and is a lean clay with sand or gravel with low N values indicative of very soft to soft clay. The glaciomarine clay is equivalent to the Presumpscot Formation which is a gray and blue-gray (weathering brown) silt, clay, and sand deposited on the sea floor, and ranges from massive to laminated silt and clay that occurs as a blanket deposit over bedrock and older glacial sediments. The Presumpscot Formation may locally contain boulders, sand, and gravel.

Glaciofluvial/Glaciomarine Outwash is of Pleistocene age and is a stratified sand and gravel deposit consisting of fine to coarse sand with fine gravel and silt ranging from loose to very dense. The glaciofluvial/glaciomarine outwash is equivalent to on-shore units mapped in Maine as Marine Regressive Sand Deposits and is described as massive to stratified and cross-stratified, well-sorted, brown to gray-brown sand.

Glacial Till is of Pleistocene age and consists of dense silty gravel and sand. The material has been describes as a poorly sorted mixture of silt, sand, clay, cobbles and boulders, typically not stratified.

For dredging purposes the rock materials listed below are defined as "Hard Material".

From youngest to oldest these materials include Basalt and Phyllite of the Eliot Formation.

Basalt consists of isolated, intrusive, dikes and/or sills of altered basalt. Basalt dikes have been mapped nearby on-shore within the Eliot Formation.

Phyllite consists of altered carbonate-sericite-quartz schist. The phyllite was described as gray, hard, fresh to slightly weathered, and fine grained. Discontinuities were closely to very closely spaced, ranging from low to high angle with some vertical joints. Joint surfaces ranged from planar and smooth to stepped and rough. Joint surface weathering ranged from fresh to discolored and apertures ranged from tight to open. The Eliot Formation consists of gray to green phyllite, calcareous quartzite, quartz-mica schist, and well bedded calc-silicate.

1.5 INTERPRETATION

Subsurface investigation data are provided only for information purposes and for the convenience of the Contractor. The data shown on the boring logs are for the specific locations indicated only and no assurance is given that these conditions are representative of conditions between borings or areas adjacent thereto. The responsibility lies with the Contractor to interpret subsurface conditions that may affect the work.

1.6 LABORATORY SOIL TESTS

Laboratory tests of soils were generally performed in accordance with the following test methods:

a. Particle-Size Analysis: ASTM D422.
b. Atterberg Limits: ASTM D4318.
c. Classification of Soils for Engineering Purposes (Unified Soil Classification System): ASTM D2487.
d. Classification: AASHTO (Standard test methods pertaining to soils and aggregate)

Note: Not all samples were tested in the laboratory using all the methods described above.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 PROJECT LOCATION

The Piscataqua River forms a portion of the state boundary between Maine and New Hampshire. Formed by the confluence of the Salmon Falls and Cocheco rivers, the Piscataqua River originates at the boundary of Dover, New Hampshire, and Eliot, Maine, and flows southeasterly for 13 miles to Portsmouth Harbor, comprising a partial border between the two states. The last 8.8 miles of the Piscataqua River constitute Portsmouth Harbor, which stretches across New Castle, Portsmouth, and Newington, and the Maine communities of Kittery and Eliot.

Portsmouth Harbor, located at the mouth of the Piscataqua River, is about 45 miles northeast of Boston Harbor, Massachusetts, and 37 miles southwest of Portland Harbor, Maine.

1.2 PILOT AND PILOTAGE

a. All vessels, except pleasure or fishing vessels or vessels of 150 gross tons or under, are required to be piloted by a pilot appointed by the Pease Development Authority (PDA) into and out of the Piscataqua River and harbor.

b. PDA Appointed Pilots for Vessels Over 150 Gross Tons

(1) Each vessel of over 10,000 gross tons shall be piloted by a class I pilot as described in PDA 305.01(c).

(2) Each vessel from 150 to 10,000 gross tons shall be piloted by a class I or class II pilot as described in pilot and pilotage rules PDA 305.01(c).

(3) Pilot and pilotage rules can be found under "PDA 300 PILOT AND PILOTAGE RULES" at the following website:

https://peasedev.org/division-of-ports-harbors/#pilotPilotage

c. The pilot may also be licensed through the U.S. Coast Guard with endorsement for class I Pilotage for the Piscataqua River.

1.3 MARINE TRAFFIC CONTROL AND COMMUNICATION

a. This project requires that all movements of the Contractor's plant and equipment and set-up within the confines of the channel and turning basin areas, and approaches to and from the harbor entrance, be continually coordinated with the Pease Development Authority (PDA), Division of Ports and Harbors and the U.S. Coast Guard. Points of contact are listed below.

b. The Contractor shall continually monitor the harbor's radio communications and shall establish and maintain radio communication with PDA's traffic control dispatcher(s) and the U.S. Coast Guard for

the duration of the project.

c. The Contractor will be required at times to stop work and move its plant and equipment to provide clearance within the channel or turning basin for marine traffic. Such movements shall be accomplished by the Contractor as quickly as possible in the interest of marine safety.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

1.4.1 General

a. The Base Bid work involves the dredging of ordinary shoaled material at the upper end of Portsmouth Harbor Federal Navigation Project (FNP) which includes the existing turning basin and a short portion of existing channel just prior to the existing turning basin; the dredging of ordinary and hard (rock) materials to expand the area of the aforementioned existing turning basin; and the disposal of dredged ordinary material and hard (rock) material at the Isles of Shoals North (IOS-N) Disposal Site. Refer to Contract Drawing sheet G-002 for location of dredging work at the upper end of the FNP.

(1) The Contractor shall be aware that the fast currents in the channel, typically 5 knots or greater, could potentially make the work difficult. Prior to the start of construction, the Contractor shall become familiar with the project site.

b. The project also includes Optional Bid work, that if awarded, will involve taking a specified volume from the total volume of the dredged ordinary material that was to be disposed of at the Isles of Shoals North (IOS-N) Disposal Site under the Base Bid and disposing of the specified volume amongst three separate disposal sites: Nantasket Beach in Hull, Massachusetts; Salisbury Nearshore Disposal Site just offshore of Salisbury Beach in Massachusetts; and Newbury Nearshore Disposal Site just offshore of Plum Island in Massachusetts.

c. Due to environmental windows and the relatively long haul from the dredge site to Nantasket Beach and back, the time needed to complete the work may require two dredge seasons (2021/2022 and 2022/2023). Whether one or two dredge seasons will be necessary shall be left at the discretion of the Contractor and his means and methods chosen to complete the work. If the low bidder's price includes a second dredge season, the contract will be modified to extend the performance period an additional 364 days.

(1) If Optional Bid Items 0004 and 0005 are awarded and the Contractor chooses to complete the work in two dredge seasons, all work to transport, and place and grade ordinary material on Nantasket Beach shall be completed within the first dredge season (2021/2022).

(2) The additional 364 days includes 196 calendar days of non-dredge days due to the environmental time of year restriction (No Dredge Season) of 2 April 2022 through 14 October 2022, and 168 calendar days of dredging and disposal from 15 October 2022 to 1 April 2023.

d. The description of the work as follows is general in nature and is only given to indicate the approximate scope of work under this contract. The general description below neither provides the work sequence (refer below to subparagraph titled "Work Sequence") nor the complete contract work as required under the Contract Drawings and

Specifications. Location and description for each disposal site can be found in Section 35 20 23 MECHANICAL DREDGING.

e. The project description is further defined in the Contract Drawings and Specifications.

1.4.2 Work Restrictions

a. The work described below must commence and be completed within specified environmental windows in order to minimize interference with, disturbance to, and damage to particular species of fish, marine mammals, birds, and other aquatic wildlife.

b. Refer to subparagraph titled "Environmental Windows" in Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for designated environmental windows pertaining to dredging, drilling, blasting, and disposal work.

1.4.3 General Description of Work

1.4.3.1 **BASE BID ITEMS**

Refer to Section 01 22 00 for a description and breakdown of what is part of the pricing for each Base Bid Item.

a. Mobilization and Demobilization (**See Base Bid Item 0001 on Bid Schedule**)

(1) Perform mobilization and demobilization as necessary to complete all base bid contract work in accordance with the contract documents.

(2) If the Contractor elects to include a second dredge season to complete the work, the costs associated with the second mobilization and demobilization will be included so that the total price for Base Bid Item 0001 is for two mobilizations and two demobilizations. Refer above to subpart c under subpart "General".

b. Dredging of Ordinary Material and Ocean Disposal Work (**See Base Bid Item 0002 on Bid Schedule**)

(1) Perform maintenance dredging work in the existing 35-foot federal navigation channel (from approximately Station 285+00 to Station 309+67) and the existing 35-foot turning basin (from Station 309+67 northwesterly), to the required depth of -35 feet Mean Lower Low Water (MLLW) with an allowable overdepth of two feet to -37 feet MLLW to remove approximately 2,300 cubic yards of shoaled material as indicated on the Contract Drawings and Section 35 20 23 MECHANICAL DREDGING. Shoaled material removed shall be loaded into scows, and transported to and disposed of at the Isles of Shoals North (IOS-N) Disposal Site. Disposal at the IOS-N shall be within the designated disposal target site titled "PORTSMOUTH/PISCATAQUA DISPOSAL TARGET 500 FT RADIUS" as shown on the sketch attached at the end of this specification section. The target site coordinates for this disposal location can be found on Contract Drawing sheet C-103.

(2) Perform improvement dredging to remove approximately 674,800 cubic yards of ordinary material within the lines of the specified expanded footprint to the required depth of -35 feet MLLW with an allowable overdepth of two feet to -37 feet MLLW and dispose of

dredged ordinary material at the Isles of Shoals North (IOS-N) as indicated on the Contract Drawings and as specified in Section 35 20 23 MECHANICAL DREDGING. Disposal at the IOS-N shall be within the designated disposal target site titled "PORTSMOUTH/PISCATAQUA DISPOSAL TARGET 500 FT RADIUS" as shown on the sketch attached at the end of this specification section. The target site coordinates for this disposal location can be found on Contract Drawing sheet C-103. Refer to Section 00 32 00 GEOTECHNICAL DATA for soil classification and definition for the types of ordinary material to be encountered during dredging operations.

(3) Perform progress survey(s) in accordance with Section 01 71 23 FIELD ENGINEERING FOR DREDGING.

(4) Quantity of ordinary material noted above under subparts (1) and (2) includes both the required depth and overdepth quantities.

c. Dredging of Hard (Rock) Material and Ocean Disposal Work (**See Base Bid Item 0003 on Bid Schedule**)

(1) Perform dredging and pre-treatment, if necessary, to remove approximately 14,700 cubic yards of hard (rock) material to a depth of -37 feet MLLW with an allowable overdepth of two feet to -39 feet MLLW by using mechanical means (such as hoe-ramming, ripping, or splitting) or drilling and blasting, or a combination of methods to the specified depths. The Contractor is encouraged to utilize rock removal techniques that will limit the amount of blasting required for this project. The Contractor shall be aware that drilling and confined blasting of the hard (rock) material may require underwater diving; refer to Section 35 25 00 UNDERWATER DIVING WORK. Before commencing with any underwater blasting, all pre-construction submittals including pre-rock removal surveys shall be submitted and approved, all necessary permits and licenses shall be obtained and submitted, all vibration monitoring equipment and hydroacoustic and underwater pressure monitoring equipment shall be installed, and any other necessary documents, coordination, or inspections that needs to take place prior to blasting shall be completed. The Contractor shall coordinate all pre-blasting and blasting work with the Contracting Officer and the Pease Development Authority Harbormaster. Quantity of hard (rock) material noted above includes both the required depth and overdepth quantities.

(2) Once hard (rock) material has been pre-treated using mechanical methods and/or drilling and blasting, the Contractor shall use mechanical equipment to remove and load the rock material onto scows/barges, and transport it to and dispose of it at the Isles of Shoals North (IOS-N) Disposal Site. Disposal at the IOS-N shall be within the designated disposal target site titled "ROCK PLACEMENT AREA 500 FT RADIUS" as shown on the sketch attached at the end of this specification section. The target site coordinates for this disposal location can be found on Contract Drawing sheet C-103.

(3) Perform progress survey(s) in accordance with Section 01 71 23 FIELD ENGINEERING FOR DREDGING.

d. If Optional Bid Items 0004 and 0005 ARE NOT AWARDED, the general

description of the work stops here and the total volume of 674,800 cubic yards of dredged ordinary material removed from the turning basin expansion area shall be transported to and disposed of at Isles of Shoals North (IOS-N).

e. If Optional Bid Items 0004 and 0005 ARE AWARDED, the general description of the work is continued below under subparagraph titled "Optional Bid Items" and becomes part of this contract. With the award of Optional Bid Item 0005, the turning basin expansion area will be broken up into five Regions, R1 through R5 (see Detail C7 on Contract Drawing sheet C-101 for location of each region within the turning basin expansion area). Of the total volume of 674,800 cubic yards of dredged ordinary material from the turning basin expansion area, 492,500 cubic yards of the dredged ordinary material will be divided up and transported to and disposed of at three separate disposal site locations: Nantasket Beach in Hull, Massachusetts; Salisbury Nearshore Disposal Site just offshore of Salisbury Beach in Massachusetts; and Newbury Nearshore Disposal Site just offshore of Plum Island in Massachusetts (refer below under subpart titled "Transportation and Disposal of Dredged Ordinary Material"). The remaining volume of 182,300 cubic yards of dredged ordinary material will be transported and disposed of at the Isles of Shoals North (IOS-N) Disposal Site under Base Bid Item 0002. Note to Bidder: all dredging work will be under Base Bid Item 0002.

1.4.3.2 **OPTIONAL BID ITEMS**

Refer to Section 01 22 00 for a description and breakdown of what is part of the pricing for Optional Bid Items.

a. Mobilization and Demobilization (**See Optional Bid Item 0004 on Bid Schedule**)

(1) Perform mobilization and demobilization as necessary to complete the following work: transport a specified volume of ordinary material as measured in place at the dredge site to Nantasket Beach, and the Salisbury and Newbury Nearshore Disposal Sites; placement and grading of ordinary material on Nantasket Beach; and the disposal of ordinary material at the Salisbury and Newbury Nearshore Disposal Sites.

b. Transportation and Disposal of Dredged Ordinary Material (**See Optional Bid Item 0005 on Bid Schedule**)

(1) General:

(a) All dredging work to remove ordinary material will be paid for under Base Bid Item 0002.

(b) The quantity of ordinary material to be placed at each disposal site, as specified below, shall be ordinary material that is measured in place at the dredge site from within the turning basin expansion area (see Detail C7 on Contract Drawing sheet C-101). Refer below to subpart "Base Bid Items with Optional Items 0004 and 0005 AWARDED" under subpart "Work Sequence" for the regions that make up the quantities noted below.

(c) Refer below to subpart "Base Bid Items with Optional Items 0004 and 0005 AWARDED" under subpart "Work Sequence" for required

sequence of work.

(2) Transport and Placement at Nantasket Beach

(a) Transport 300,000 cubic yards of ordinary material from the dredge site to Nantasket Beach. Hydraulically place, spread, and grade 300,000 cubic yards of ordinary material on Nantasket Beach within the designated limits and location along the beach to the lines, grades, and slopes as indicated on Contract Drawings C-102, C-103, and C-303, and as specified in Section 35 20 26 BEACH FILL PLACEMENT. Perform field engineering and survey work in accordance with Section 01 71 24 FIELD ENGINEERING FOR BEACH FILL PLACEMENT.

(b) Refer to general notes on sheet C-102 for Contractor's responsibility for loss of ordinary material following Contracting Officer's acceptance of material placement along beach.

(3) Transport and Disposal at Salisbury and Newbury Nearshore Disposal Sites

(a) Transport 192,500 cubic yards of ordinary material from the dredge site to the Salisbury and Newbury Nearshore Disposal Sites and dispose of the 192,500 cubic yards of ordinary material at the Salisbury and Newbury Nearshore Disposal Sites. Of the 192,500 cubic yards, dispose approximately 50 percent of it at the Salisbury Nearshore Disposal Site (Salisbury, Massachusetts) and approximately 50 percent of it at the Newbury Nearshore Disposal Sites (Newbury, Massachusetts).

(b) Refer to sketch titled "Nearshore Disposal Site Locations" attached at the end of this specification section. Target site coordinates can be found on Contract Drawing sheet C-103. Disposal requirements for each nearshore disposal site can be found in Section 35 20 23 MECHANICAL DREDGING under subparagraph titled "Nearshore Disposal Sites".

c. Geotechnical Field Technician (**See Optional Bid Item 0006 on Bid Schedule**)

Refer to Section 35 20 23 MECHANICAL DREDGING for details.

1.5 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 117.11	Unnecessary Opening of The Draw
33 CFR 117.531	Piscataqua River

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Initial Project Schedule; G, RO

In accordance with the contract clauses, the Contractor shall, within 5 days after receipt of Notice to Proceed (NTP) or as otherwise determined by the Contracting Officer, submit for approval a practicable project schedule. When changes are authorized that result in contract time extensions, the Contractor shall submit a revised project schedule for approval by the Contracting Officer.

Pre-Dredging Photographic Survey; G, RO

The Contractor shall submit a pre-dredging photographic survey as described in this section.

Public Notice; G, RO

Submit a copy of the proposed wording of the Public Notice to the Contracting Officer for approval.

Notice to Mariners

Submit a copy of Notice to Mariners to the Contracting Officer.

Aids to Navigation

Submit proof of coordination with the USCG for any necessary relocation or movement of aids to navigation.

Safe Harbor Plan; G, RO

The Contractor shall submit a Safe Harbor Plan to the Contracting Officer for approval prior to the start of on-site work. The Safe Harbor Plan shall include a written description of the Contractor's plan to provide for the safety and security of floating plant, equipment, and personnel in the event of a storm or other site emergency. The location for the docking of floating plant and the off-loading of equipment and crews shall be clearly indicated.

Utility Plan

SD-07 Certificates

Periodic Schedule Updates; G, RO

1.7 PROJECT SITE CONDITIONS

1.7.1 Physical Data

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

a. Site Conditions: The indications of physical conditions on the drawings and in the specifications are the result of site investigations and surveys. The conditions represented prevailed at the time the investigations and surveys were made. A pre-dredge survey may be performed by the Government prior to the start of Contractor dredging operations at the site. Before commencing work at the site, the Contractor shall verify the existing conditions indicated on the drawings and in the specifications. See CONTRACT CLAUSE entitled "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK".

b. Weather Conditions: Weather conditions for the site may be obtained by the Contractor from the National Oceanic and Atmospheric Administration's National Weather Service; www.NOAA.gov.

c. Tide Conditions: The mean tidal range in the project area is 6.4 feet mean higher high water (MHHW) to mean lower low water (MLLW). Tidal currents in the dredging areas are extremely strong and are typically 5 knots or greater. The site of the work is sheltered from the worst effects of coastal storms. Predicted times and heights of tides for each day of the year can be obtained from the National Oceanic and Atmospheric Administration, National Ocean Service, "Tidal Current Tables, Atlantic Coast of North America."

d. Transportation facilities: The Contractor shall make its own investigations on the use of local, State and Federal highways, roads, streets, bridges, and waterways.

e. Conditions of Channel: The Federal Navigation Channel was last maintained in 2013. Soundings shown on the Contract Drawings are the results of surveys conducted during the time period indicated on the Contract Drawings and are believed to indicate existing conditions.

f. Channel Traffic:

(1) Portsmouth Harbor is used extensively by deep draft vessels including petroleum tankers with drafts of 30 to 36 feet, a large lobstering fleet, charter fishing vessels, commercial fishermen, excursion boats to the Isles of Shoals situated nine miles offshore, and local and transient boats based at or visiting the nearly 20 boating facilities in the area. The harbor is also used by submarines from the Portsmouth Naval Shipyard in Kittery and for fuel deliveries to Pease International Tradeport in Newington.

(2) The Government will not undertake to keep the channel free from vessels or other obstructions, except to the extent of applicable regulations. The Contractor shall conduct the work in such a manner as to obstruct navigation as little as possible, and in the event the Contractor's plant so obstructs the channel as to make difficult or endanger the passage of any vessels, the plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to

afford a practicable passage.

(3) Daily channel traffic and vessel movements shall be coordinated with the Pease Development Authority (PDA), Division of Ports and Harbors and the US Coast Guard as specified above under part "MARINE TRAFFIC CONTROL AND COMMUNICATION".

g. Utilities:

(1) A 30-inch diameter steel natural gas pipeline exists within the work area between stations 286+00 and 288+00; depth of pipeline ranges between 120 to 135 feet below Mean Lower Low Water (MLLW).

(2) The Contractor shall also make its own investigation and conduct utility research concerning other utility lines crossing the channel along the route from the harbor entrance to the turning basin and in areas to be dredged. Submit to the Contracting Officer a Utility Plan showing all utilities found as a result of investigation and utility research.

h. Bridges: The Contractor's plant and equipment will be required to pass under bridges, two of which are lift bridges, along the channel enroute to the project work site. Refer below to paragraph titled "LIFT BRIDGE OPERATIONS".

1.8 WORK COMMENCEMENT AND COMPLETION REQUIREMENTS

a. To ensure immediate readiness to commence with dredging under this contract within 30 calendar days after the date the Contractor receives the Notice to Proceed (NTP), the Contractor shall commence on preliminary contract administrative work by promptly placing all orders, awarding subcontracts, and preparing, processing, and submitting a project schedule and all other required submittals and details.

b. Complete the entire work ready for use on or before 1 April 2022 (if contract is set up for one dredge season) or 1 April 2023 (if contract is set up for two dredge seasons). Refer above to subpart "General" under part "WORK COVERED BY CONTRACT DOCUMENTS" for information pertaining to number of dredge seasons. The time stated for completion shall include final cleanup of the premises and demobilization.

1.9 WORK SEQUENCING AND SCHEDULING

1.9.1 Work Sequence

There are certain essential criteria relative to the preparation of a work sequence and time schedule which the Contractor will be required to implement and follow during the prosecution of the work. Minor variations in the sequence of the items of work as approved may be made by the Contractor, provided such variations do not conflict with critical elements of the schedule. Proposed minor variations shall be noted on the progress charts submittal required by CONTRACT CLAUSE, entitled "SCHEDULES FOR CONSTRUCTION CONTRACTS." Variations shall be approved by the Contracting Officer prior to implementation.

1.9.1.1 Base Bid Items (Optional Items 0004 and 0005 NOT AWARDED)

If Optional Items 0004 and 0005 ARE NOT AWARDED, the work sequence to complete the dredging and disposal work shall be as follows:

(1) Remove ordinary material (overburden) to expose top and sides of rock to -39 feet MLLW. Transport to and dispose of dredged ordinary material at the Isles of Shoals North (IOS-N) Disposal Site. Removal of ordinary material around and beyond the rock footprint shall be such that it allows for enough exposure of rock to survey from the top of rock elevation to at least -39 feet MLLW (refer to cross-sections C and D on sheet C-301).

(2) Upon completing the removal of overburden and enough ordinary material from around footprint of rock, and prior to the removal of rock, perform a pre-rock removal progress Contractor Quality Control Survey of the exposed top and sides of rock. Perform survey as specified in Section 01 71 23 FIELD ENGINEERING FOR DREDGING and submit results of survey to the Contracting Officer.

(a) Prior to any rock removal the Government will also perform an independent pre-rock removal survey. The Contractor shall not proceed with any rock removal until the Government's pre-rock removal survey has been completed and the notice to proceed with the rock removal has been given by the Contracting Officer.

(b) The Contractor shall provide the Government with at least 72 hours notice that exposed rock is ready to be surveyed.

(3) The sequence of work at this point shall be at the Contractor's discretion with acceptance by the Contracting Officer.

1.9.1.2 Base Bid Items (Optional Items 0004 and 0005 AWARDED)

a. If Optional Items 0004 and 0005 ARE AWARDED, the work sequence to complete the dredging and disposal work shall be as follows. All quantities for ordinary material noted below includes both the required depth and overdepth quantities.

(1) Remove ordinary material (overburden) from Region R1 to expose top and sides of rock to -39 feet MLLW. Transport dredged ordinary material removed from Region R1 and dispose of it at Nantasket Beach. See Sequence Notes (1) and (2) below. Removal of ordinary material around and beyond the rock footprint shall be such that it allows for enough exposure of rock to survey from the top of rock elevation to at least -39 feet MLLW (refer to cross-sections C and D on sheet C-303).

(2) Upon completing the removal of overburden and enough ordinary material from around footprint of rock, and prior to the removal of rock, perform a pre-rock removal progress Contractor Quality Control Survey of the exposed top and sides of rock. Perform survey as specified in Section 01 71 23 FIELD ENGINEERING FOR DREDGING and submit results of survey to the Contracting Officer. See Sequence Note (3) below.

(3) After survey of rock is complete and accepted by the Contracting Officer, continue transporting and disposing of ordinary material at Nantasket Beach by using ordinary material removed from either Region R2 or Region R3, or from a combination of Regions R2 and R3 until the

total required volume of 300,000 cubic yards has been placed at Nantasket Beach. See Sequence Notes (1) and (2) below.

(4) After completing the placement of at least 300,000 cubic yards of ordinary material at Nantasket Beach, remove the remaining volume of ordinary material from Regions R2 and R3 (approximately 170,600 cubic yards of which includes both the required depth and overdepth quantities) and transport and dispose of it at the Salisbury and Newbury Nearshore Disposal Sites. Of the 170,600 cubic yards, dispose approximately 50 percent of it at the Salisbury Nearshore Disposal Site (Salisbury, Massachusetts) and approximately 50 percent of it at the Newbury Nearshore Disposal Sites (Newbury, Massachusetts). The disposal quantity at each nearshore disposal site shall be kept approximately equal throughout the project.

(5) Remove all of the ordinary material from Region R4 (approximately 21,900 cubic yards which includes both the required depth and overdepth quantities) and transport and dispose of it at the Salisbury and Newbury Nearshore Disposal Sites. Of the 21,900 cubic yards, dispose approximately 50 percent of it at the Salisbury Nearshore Disposal Site (Salisbury, Massachusetts) and approximately 50 percent of it at the Newbury Nearshore Disposal Sites (Newbury, Massachusetts). Material dredged from Region R4 MUST NOT be disposed of at Nantasket Beach.

(6) After all ordinary material has been removed from Regions R1 through R4 to the lines and depths as indicated in the Contract Documents and prior to removing the ordinary material from Region R5, perform a progress Contractor Quality Control Survey of Regions R1 through R4. Perform progress survey as specified in Section 01 71 23 FIELD ENGINEERING FOR DREDGING and submit results of survey to the Contracting Officer.

(7) After progress survey of Regions R1 through R4 is complete and accepted by the Contracting Officer, remove ordinary material from Region R5 (approximately 182,300 cubic yards) and ordinary material from the existing channel and existing turning basin (approximately 2,300 cubic yards), and transport material to and dispose of it at the Isles of Shoals North (IOS-N) Disposal Site. See Sequence Note (4).

(8) Request after dredge survey, perform clean-up, any remaining close-out requirements in accordance with the Contract Documents, and demobilization.

b. Sequence Notes:

(1) Ordinary material removed from Regions R1, R2, and R3 is considered acceptable for beach placement. The Contractor is not responsible for determining if material is suitable for beach placement. The Contractor is responsible for assessing the material before the scow/barge leaves the dredge site to make sure that the material is suitable for hydraulic pumping onto the beach through a hydraulic pipeline.

(2) If the Contractor determines that the material is found not suitable for being hydraulically pumped through an offloader the scow/barge shall be sent from the dredge site to either the Salisbury Nearshore Disposal Site or the Newbury Nearshore Disposal Site for disposal. Alternate disposals at each nearshore disposal site once

the disposal location for the first load has been selected.

(3) After pre-rock removal progress survey is complete, the sequencing order to prep and remove the hard (rock) material to the specified depths and transport it to and dispose of it at the Isles of Shoals North (IOS-N) Disposal Site is at the discretion of the Contractor. The order of which the removal and disposal fits into the schedule must comply with and be completed within the environmental windows. The schedule should take into account the sequencing for removal of the rock so that it is completed prior to the progress survey of Regions R1 through R4.

(4) Material dredged from Region R5 is considered glaciomarine clays and glacial till and shall not be disposed of at either Nantasket Beach or the Nearshore Disposal Sites.

1.9.2 Hours of Operations

a. The Contractor will be allowed under this contract to perform non-blasting work 24 hours per day, 7 days per week, including holidays.

b. The Contractor will be allowed to perform blasting work 7 days per week, including holidays. Blasting shall be confined to daylight hours during the period from 2 hours after sunrise to 1 hour before sunset but shall not be conducted before 9:00 A.M. or after 6:00 P.M. on the day of blasting. Blasting shall not be conducted when temperature inversions or heavy, low-level cloud cover exists.

c. Dredging, blasting, and transportation and disposal work shall be performed within the allowable environmental windows as specified in Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS, part "SPECIAL ENVIRONMENTAL REQUIREMENTS".

1.9.3 Scheduling

a. The Contractor shall fully and continually coordinate all work with the Pease Development Authority Harbormaster.

1.9.3.1 Initial Project Schedule

The initial project schedule shall be in the form of a chart graphically indicating the sequence proposed to accomplish each work feature or operation pursuant to FAR Clause 52.236-15 "Schedules for Construction Contracts". The chart shall be prepared to show the starting and completion dates of all work features on a linear horizontal time scale beginning with date of Notice to Proceed and indicating calendar days to completion. The Contractor shall indicate on the chart the important work features or operations that are critical to the timely overall completion of the project. Key dates for such important work features and portions of work features are milestone dates and shall be so indicated on the chart. This schedule will be the medium through which the timeliness of the Contractor's construction effort is appraised. Anticipated adverse weather delay days shall be included and clearly indicated in the schedule. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval.

All work shall be carefully scheduled to prevent delays and any excessive interruptions with channel traffic.

Periodic Schedule Updates

An updated schedule showing actual progress shall be submitted monthly and with each pay request. Changes to the base-line schedule shall be outlined in a narrative describing the reason for the change.

1.9.4 Rate of Progress

a. Employ ample personnel and sufficient equipment to accomplish the work of this contract in the least amount of time, within the prosecution period specified in the Special Contract Requirements.

b. Prosecute the work diligently, and maintain a dredge production rate, based on working 24 hours a day, 7 days a week, of not less than 176,000 cubic yards for each 30 calendar day period of actual dredging work at the site.

c. Should the Contractor fail to maintain the required rate of progress, the Contracting Officer may require that additional personnel and equipment be placed on the work, in order that the work be brought up to schedule and maintained at no additional cost to the Government. See Subpart WORK COVERED BY CONTRACT DOCUMENTS for additional information.

1.10 PRE-DREDGING PHOTOGRAPHIC SURVEY

The Contractor shall perform a pre-dredging photographic survey at the project site with the Contracting Officer. This pre-dredging photographic survey shall include still photographs and videos in sufficient quantity to fully document the existing condition of all, as applicable, bulkheads, piers, piles, fenders, and other shorefront structures and features within and adjacent to areas to be dredged as part of this contract. A written narrative shall be prepared by the Contractor which organizes and summarizes the findings of the pre-dredging survey photographs and videos. The narrative shall separately organize all items by individual owners. The condition of each item shall also be documented in writing. The written narrative, together with the photographs and videos, shall constitute a "Pre-Dredging Photographic Survey Report", which shall be submitted to the Contracting Officer for approval. No on-site dredging work shall be performed until this "Pre-Dredging Photographic Survey Report" has been approved. Damage to features caused by the Contractor's operations shall be repaired by the Contractor at no additional expense to the Government.

1.11 SUPERINTENDENCE BY THE CONTRACTOR

a. At all times during the performance of the contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent project superintendent who is satisfactory to the Contracting Officer and has the authority to act for the Contractor.

b. The qualified superintendent, and competent alternate, shall be capable of reading, writing, and conversing fluently in the English language.

c. The project superintendent must have a minimum of 10 years experience in marine work with at least 5 of those years as a superintendent on

projects similar in size and complexity. The individual must be familiar with the requirements of EM 385-1-1 and have experience in the areas of hazard identification and safety compliance. The individual must be capable of interpreting a critical path schedule and construction drawings. The qualification requirements for the alternate superintendent are the same as for the project superintendent. The Contracting Officer may request proof of the superintendent's qualifications at any point in the project if the performance of the superintendent is in question.

d. The project superintendent is primarily responsible for managing and coordinating day-to-day production and schedule adherence on the project. The superintendent is required to attend all partnering meetings and quality control meetings.

e. The project superintendent shall maintain a physical presence at the site at all times and be responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

f. The Project Superintendent is subject to removal by the Contracting Officer for non-compliance with requirements specified in the contract and for failure to manage the project to insure timely completion. Furthermore, the Contracting Officer 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 is acceptable as the subject of claim for extension of time for excess costs or damages by the Contractor.

g. The project superintendent may neither serve as the Site Safety and Health Officer (SSHO) nor the Contractor Quality Control (CQC) System Manager.

1.12 WORK SITE AND CONTRACTOR'S USE OF PREMISES

1.12.1 General

All rules, regulations, and requirements covering such items as, but not limited to, general safety, security, sanitary requirements, environmental protection, pollution control, and traffic regulations shall be observed by the Contractor.

1.12.2 Staging and Storage Areas

Refer to Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS for dredging and disposal work at IOS-N and the nearshore disposal sites. Refer to Section 01 50 01 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS for disposal and placement work at Nantasket Beach.

1.12.3 Work Limits

The limits of work are the Federal Channel and Turning Basin and the limits of the turning basin expansion. Specific dredging areas and side slope areas within these limits shall be dredged to obtain the required depths and side slopes as shown on the Contract Drawings and as specified in Section 35 20 23 MECHANICAL DREDGING.

1.12.4 Access to Work Site

Prior to the start of work, the Contractor shall ensure that the Government has access to the project site. Access to the project site will be discussed at the Preconstruction Conference.

1.12.5 Protection and Security

a. Protection to Contractor personnel or their equipment cannot be provided at the worksite by the Government.

b. The Contractor shall protect all its personnel, Government personnel, and the general public from injury.

c. The Contractor shall conduct all its work so as to prevent injury or unsafe conditions during construction.

d. The Contractor shall report any vandalism, suspicious activities, or devices to the Contracting Officer and local police as soon as possible.

1.12.6 Work By Other Contractors

Work by other contractors is not anticipated to occur during the performance period of this contract. However, the Contractor must be aware that the Portsmouth Harbor will maintain full operations during construction and usage of channel and turning basin must be coordinated with the harbor master at all times. Refer above to subparagraph "Channel Traffic".

1.12.7 Emergency Contacts

The Contractor shall provide a list of emergency contacts in the event of an emergency. The list shall include the contact names, addresses, and telephone numbers. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.12.8 Damaged Property

Work shall proceed in a manner which will minimize disturbance or risk of damage to boats, structures, and surrounding lands. The Contractor shall repair such items damaged in the course of carrying out the work at no additional cost to the Government. All repairs shall match similar existing items in all aspects. All replacements shall be in kind.

1.12.9 Contractor's Receipt of Supplies

The Contractor shall be responsible for all arrangements for the receipt of materials and supplies at the job site. Government personnel are not permitted to receive or sign for items delivered to the site.

1.12.10 Daily Clean Up

The Contractor shall at all times keep rubbish from entering surrounding lands and water. Rubbish accumulated at the temporary facilities shall be removed from the premises daily.

1.12.11 Government Sanitary Facilities

Toilet facilities are not available on site for Contractor's use. The Contractor shall provide portable toilets for its personnel and subcontractors as specified in EM 385-1-1 under Section 2, Sanitation.

1.13 CONTRACTOR'S USE OF UPLAND FACILITIES AND HAULING ROUTES

a. Unless obtained by the Government or specified otherwise in the contract documents, the Contractor shall be responsible for the following:

(1) Locating, coordinating, and obtaining permission to use any land-based water access (docks, piers, ramps, etc.) that the Contractor deems necessary to complete the work.

(2) Determining, if necessary, the trucking and hauling routes and associated restrictions to and from the work, to include the coordination for the use of such routes with local, state, and federal authorities.

(3) Complying with all local, state, and federal regulations and restrictions when using any upland facilities or hauling routes.

b. The Government and its representatives will be allowed the use of the same land-based water access obtained by the Contractor.

1.14 QUALITY ASSURANCE

a. All items of work not addressed in the contract documents shall be completed in strict accordance with the manufacturers’ specifications.

b. The Government is not obligated to inspect the Contractor’s work, or to protect the Contractor from the consequences of its work. Government inspections are a general examination of the Contractor’s conduct and workmanship and are solely for the purpose of the Government. Government-designated Quality Assurance Representatives (QARs) do not have the authority to accept work, nor is a Government inspection to be construed as conclusive.

c. Government agents including QARs and project engineers are not authorized to change the contract without the written approval of the Contracting Officer; this lack of authority extends to all situations in which the action of these agents could be construed as constituting a change.

d. The quality of workmanship is subject to audit by Government or Government-designated QARs at any time during the contract. The Contractor shall cooperate fully and provide all information necessary for this audit.

e. The Contractor shall submit all requests for changes in writing to the Contracting Officer. Do not proceed with changes without possession of written authorization of the Contracting Officer.

f. The Contractor shall not conceal any work unless the Contracting Officer has approved all items of work which are to be concealed. The Contractor shall notify the Contracting Officer of its intention to conceal work at least 24 hours in advance of concealment.

1.15 LIFT BRIDGE OPERATIONS

1.15.1 General

a. The Contractor shall determine how the clearance, tide range, and the lift bridge operational practices will impact its work and reflect this on the Project Schedule.

b. It is the Contractor's responsibility before submitting a bid and during the work to confirm the latest bridge opening schedule.

c. In accordance with 33 CFR 117.531, the following requirements shall apply to all bridges across the Piscataqua River:

(1) Public vessels of the United States, commercial vessels over 100 gross tons, inbound ferry service vessels and inbound commercial fishing vessels must be passed through the drawspan of each drawbridge as soon as possible. The opening signal from these vessels is four or more short blasts of a whistle, horn or a radio request.

(2) Trains and locomotives will be controlled so that any delay in opening the draw shall not exceed five minutes. However, if a train moving toward the bridge has crossed the home signal for the bridge before the signal requesting opening of the bridge is given, that train may continue across the bridge and must clear the bridge interlocks before stopping.

(3) Except as provided below under subparagraphs "Memorial Bridge" and "Sarah Mildred Long Bridge" the draws shall open on signal.

(4) In accordance with 33 CFR 117.11, no vessel owner or operator shall:

(a) Signal a drawbridge to open if the vertical clearance is sufficient to allow the vessel, after all lowerable nonstructural vessel appurtenances that are not essential to navigation have been lowered, to safely pass under the drawbridge in the closed position; or

(b) Signal a drawbridge to open for any purpose other than to pass through the drawbridge opening.

1.15.2 Memorial Bridge

a. The Memorial Bridge (US Route 1), which passes over the Piscataqua River, between Portsmouth, New Hampshire and Kittery, Maine, is in the work area of this project. The work of the project will require that Contractor plant and equipment pass under this bridge. At Mean High Water (MHW) the bridge has a 21 foot vertical clearance when draw is seated at vehicular level and a 150 foot vertical clearance when draw is open.

b. The Memorial Bridge is owned and operated by the New Hampshire Department of Transportation (NHDOT). The draw of the Memorial bridge will open on signal; except that from 15 May through 31 October, from 7 am to 7 pm, the draw need be opened only on the hour and half hour for recreational vessels and commercial vessels less than 100 gross tons except as provided under subparagraph "General", subpart c(1)

above.

1.15.3 Sarah Mildred Long Bridge

a. The Sarah Mildred Long Bridge (US Route 1 Bypass), which passes over the Piscataqua River connecting New Hampshire and Maine, is in the work area of this project. The work of the project will require that Contractor plant and equipment pass under this bridge. At Mean High Water (MHW) the bridge has a 16 foot vertical clearance when draw is lowered to railroad level to allow for train passage and a 56 foot vertical clearance when draw is seated at vehicular level. Ninety-nine percent of the time the draw will most likely be seated at the vehicular level.

b. The Sarah Mildred Long Bridge is owned and operated by the Maine and New Hampshire Department of Transportation (NHDOT). The draw of the Sarah Mildred Long Bridge operates as follows:

(1) The main ship channel draw will open on signal; except that from 15 May through 31 October, from 7 am to 7 pm, the draw need be opened only at quarter of and quarter after the hour for recreational vessels and commercial vessels less than 100 gross tons except as provided under subparagraph "General", subpart c(1) above. The draw will always open on call for commercial vessels over 100 gross tons.

(2) The secondary recreation draw will be left in the fully open position from 15 May through 31 October except for the crossing of a train in accordance with subparagraph "General", subpart c(2) above.

1.16 COORDINATION

1.16.1 Daily Dredge Operations Location Map (DOLM)

The Contractor shall prepare a Dredge Operations Location Map (DOLM) for each day that dredging activities are planned for this project. The DOLM shall indicate the locations where dredge(s) shall be working during a specific 24 hour period, planned scow activity, and other significant activities planned. The DOLM shall be prepared in PDF format and forwarded to the parties indicated on a distribution list that will be provided to the Contractor after receipt of the Notice to Proceed. An example of a DOLM is attached at the end of this specification section. All information shown on the example is required for each DOLM prepared, including vessel information, location, maps, channel stations, etc. The DOLM's shall be prepared and distributed a minimum of 24 hours prior to the start of the period addressed in the specific DOLM.

1.16.2 Public Notice

The public shall be notified of this dredging project approximately two weeks before commencement of dredging operations at the site. A brief description of the work to be performed and the intended schedule of dredging and disposal operations shall be published in a newspaper of general circulation in the area adjacent to the dredging. The notice shall include the locations where the work is to be performed, the time sequence of events, a map of the haul route to be followed between the dredging areas and the disposal site with reference to the width of the haul lane, the location and limits of the disposal site, and the procedure the Contractor will use to respond to claims of loss of fishing gear during the hauling work. The notice shall include the Contractor's point

of contact and telephone number.

1.16.3 Coast Guard

All work conducted in areas in or adjacent to the ship channel and turning basin shall be coordinated with the U.S. Coast Guard.

1.16.4 Notice to Mariners

Prior to the start of dredging operations, the Contractor shall coordinate with the U.S. Coast Guard (USCG) to issue a "Notice to Mariners" regarding the work to be performed and the Contractor's proposed operations.

The Corps of Engineers and the USCG have agreed to phraseology when issuing navigational bulletins and notices. The information furnished shall be consistent with USCG Broadcast Notice to Mariners and Local Notice to Mariners. When requesting local USCG offices to issue navigational information for Corps of Engineers work involving marine construction, the following terminology shall be used, as applicable:

For cautionary areas: "Mariners are urged to use extreme caution in the area."

For dredging and work operations: "Mariners are urged to transit at their slowest safe speed to minimize wake and proceed with caution after passing arrangements have been made."

1.16.5 Aids to Navigation

Aids to navigation (beacons, buoys, markers, etc.) have been placed by the USCG in the vicinity of the project area. The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with these aids to navigation. If the work of this project requires the temporary movement or relocation of any aid to navigation, the Contractor shall notify the USCG and the Contracting Officer in writing of the requirement 30 days in advance. USCG personnel will then move or relocate the aid to navigation as appropriate for the progress of the work. Under no circumstances shall the Contractor move or relocate an aid to navigation under his own authority with his own personnel. The Contractor shall also contact the USCG at the completion of all work and the removal of all marine plant.

1.16.6 Points of Contact

a. Coast Guard:

(1) Aids to Navigation:

Mr. John Mauro
Office Telephone: 617-223-8355
email: john.j.mauro@uscg.mil

Mr. Matthew Stuck
Office Telephone: 617-223-8365
email: matthew.b.stuck@uscg.mil

(2) Notice to Mariners:

Ms. Mary F. Swanson

Office Telephone: 617-223-8356
email: mary.f.swanson@uscg.mil

b. Pease Development Authority, Division of Ports and Harbors
555 Market Street, Portsmouth, NH 03801
Office Telephone: 603-436-8500

(1) Mr. Tracy Shattuck (Primary Contact)
Chief Harbor Master
Telephone (mobile): 603-365-0505
email: t.shattuck@peasedev.org

(2) Mr. Grant Nichols (Secondary Contact)
Deputy Chief Harbor Master
Telephone (mobile): 603-817-0433
email: g.nichols@peasedev.org

(3) Del Record
Portsmouth Harbor Master
Telephone (mobile): 603-944-0569

c. Police Departments

(1) Town of Newington Police Department
71 Fox Point Road
Newington, New Hampshire 03801
Telephone (office): 603-431-5461
24-Hour Phone Dispatch Coverage: 603-436-7033
Police Chief: 603-431-5461

(2) Town of Eliot Police Department
27 Dixon Road
Eliot, Maine 03903
Telephone (office): 207-439-1179
Police Chief: 207-439-1179

d. Fire Departments

(1) Town of Newington Fire Department
80 Fox Point Road
Newington, New Hampshire 03801
Telephone (office): 603-436-9441
Fire Chief: 603-436-9441

(2) Town of Eliot Fire Department
1323 State Road
Eliot, Maine 03903
Telephone (office): 207-439-1253
Fire Chief: 207-451-0124

e. Memorial Bridge and Sarah Mildred Long Bridge

(1) New Hampshire Department of Transportation (NHDOT)
NHDOT Bridge Maintenance Superintendent
Mr. Jeffrey Farwell
10 Ranger Way
Portsmouth, New Hampshire 03801
Office Telephone: 603-436-1099
email: jeffrey.s.farwell@dot.nh.gov

(2) Memorial Bridge Operators House
Telephone: 603-436-3830

(3) Sarah Mildred Long Bridge Operators House
Telephone: 603-436-2432

1.17 GENERAL SAFETY REQUIREMENTS

1.17.1 General

a. The Contractor shall take all necessary precautions in observing safety regulations in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS, and shall assume the responsibility to guard against causing of fires and/or explosions and to protect Government property. The Contractor shall perform the work in a manner consistent with security and with fire safety regulations especially with regards to ingress and egress. Temporary closures shall not compromise life safety, security or fire safety.

b. Protect and keep safe the public by prohibiting them from all work areas, access ways to work areas, and staging and storage areas.

1.17.2 Contractor's Project Superintendent

The Contractor's project superintendent shall take an active role in enforcing the safety requirements by participation in safety conferences, hazard analysis, tool box meetings, walk-through inspections, correction of violations, etc., and including that of any subcontractor's work.

1.18 ENVIRONMENTAL PROTECTION

To provide for control of all environmental pollution arising from construction activities, the Contractor and its subcontractors, in the performance of this contract, shall comply with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS, and all applicable federal, state, and local laws and regulations concerning environmental protection pollution control and abatement.

1.19 COORDINATION AND DIRECTION DURING CONSTRUCTION

a. The Contractor shall not take or accept any direction or instructions issued by any person, employed by the Government or otherwise, other than the Contracting Officer that changes the terms and conditions of contract actions, the scope, or any change that impacts the cost, price, or schedule. Changes authorized by the Contracting Officer will be in the form of a written, official, signed modification to the contract action received by the Contractor before the Contractor will act upon those changes. The Contractor will comply with the changes clause of this contract when the Contractor believes direction has been given from persons other than the Government Contracting Officer that equate to a change by notifying the Contracting Officer as directed by the clause. Any direction given by any Government employee or any other person outside their authority must be reported to the Contracting Officer.

b. The Contracting Officer Representative (COR) is limited to the authorities stated in the COR appointment letter. If a COR is appointed under this contract, they will be appointed by written

letter from the Contracting Officer to the Contractor and COR specific to this contract only. COR appointment letters from previous contracts are not valid for this contract. See the Contracting Officer’s Representative clause of this contract.

1.20 PRECONSTRUCTION CONFERENCE

The Contracting Officer will conduct a preconstruction conference with key Contractor personnel. The purpose of the conference is to review contract requirements and to establish a working relationship between the Contractor's Staff and the U.S. Army Corps of Engineers (USACE) personnel who will be closely associated with the project. During the conference, the Contracting Officer will inform the Contractor concerning topics such as, but not limited to, job safety, quality control, temporary facilities and storage areas, labor relations, and environmental protection. The Contractor's Project Superintendent, Quality Control Representative, and Site Safety and Health Officer (SSHO) shall attend this conference.

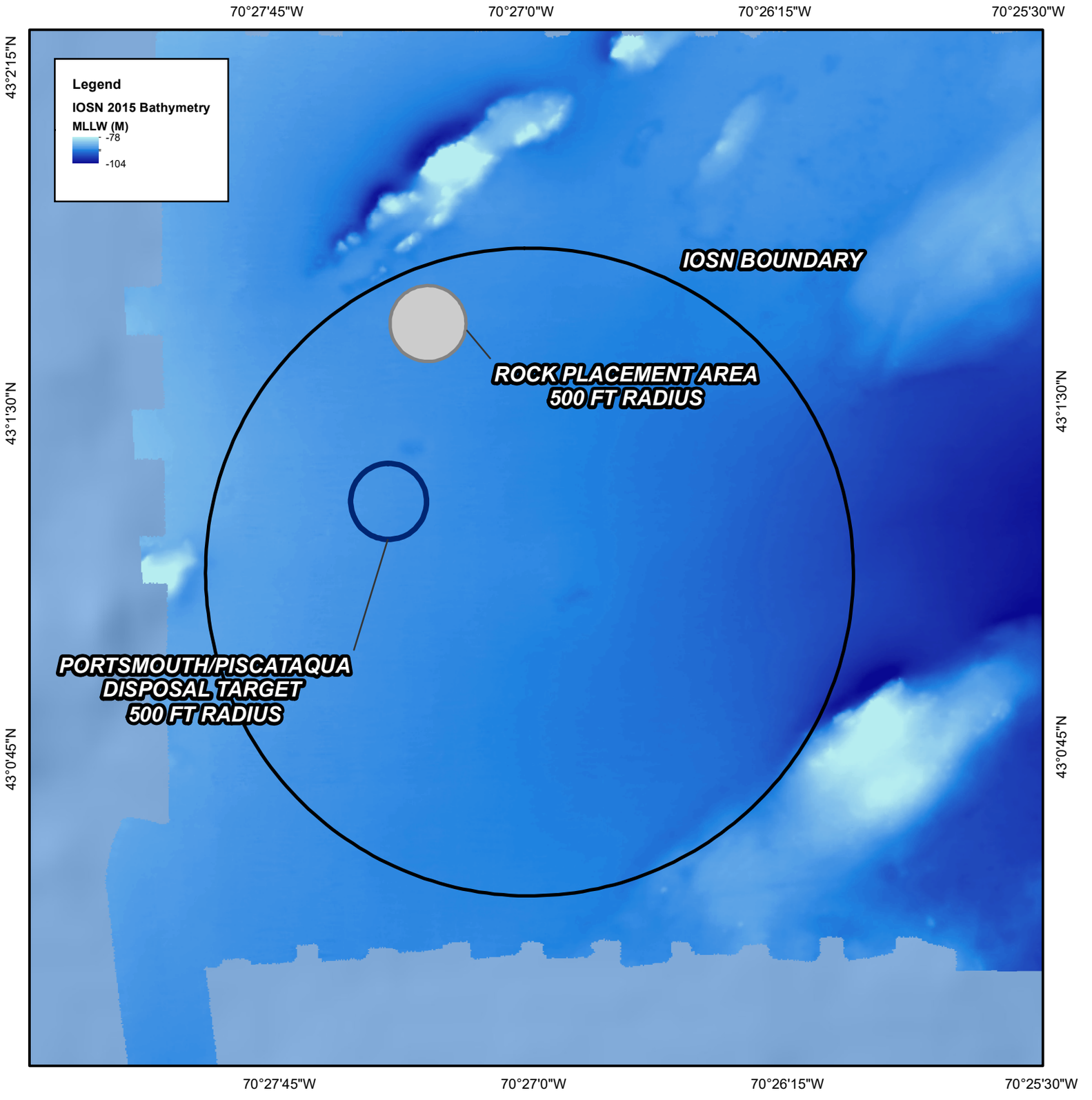
PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --



US Army Corps
of Engineers
New England District

DRAFT
ISLES OF SHOALS NORTH
PORTSMOUTH/PISCATAQUA
DISPOSAL TARGETS

N

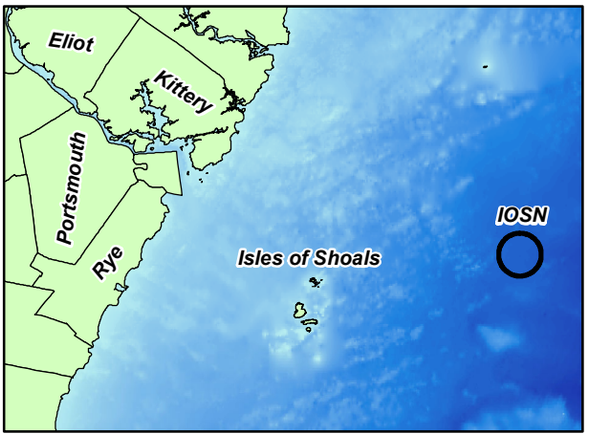
0 0.5 1 Miles

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Bathymetry:2015 USACE
Coordinate System: NAD 83

D A M O S
DISPOSAL AREA MONITORING SYSTEM





NOTE:
ALSO REFER TO PERMIT FILE NO. NAE-2017-01590, DATED APRIL 27, 2018 ATTACHED AT THE END OF SECTION 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS

NOTES:
1. BASE IMAGERY DOWNLOADED FROM BING ONLINE WEBMAP SERVICES ON FEBRUARY 16, 2018.
2. DISPOSAL BOUNDARIES SCALED FROM FIGURE 1 OF THE NEWBURYPORT HARBOR - ENVIRONMENTAL ASSESSMENT 2008, FINAL REPORT, FROM THE USACE, DATED JUNE 20, 2008.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

NO.	ISSUE/DESCRIPTION	BY	DATE

NEARSHORE PLACEMENT OF PISCATAQUA & MERRIMACK RIVER SEDIMENTS

NEARSHORE DISPOSAL SITE LOCATIONS

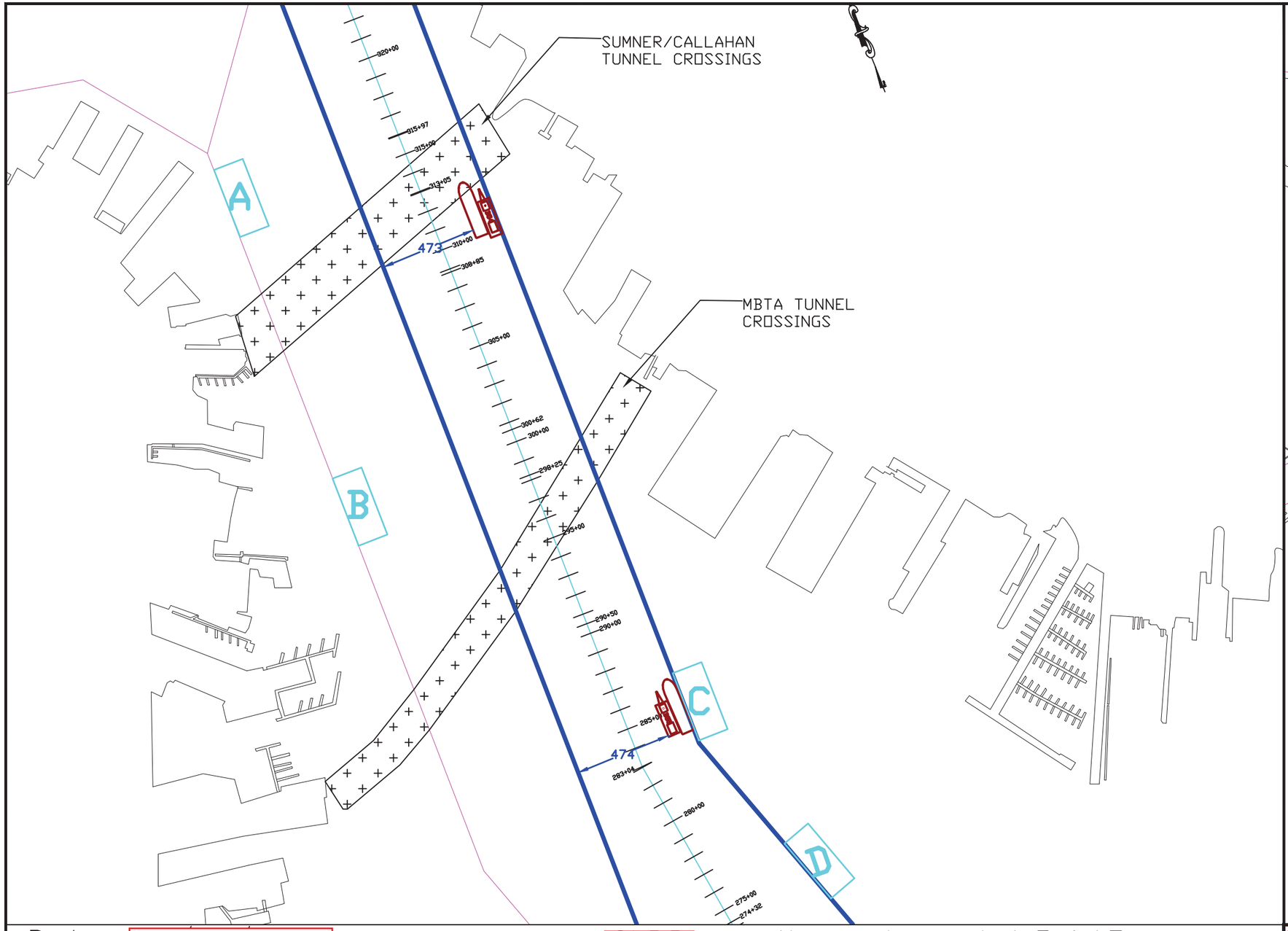
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

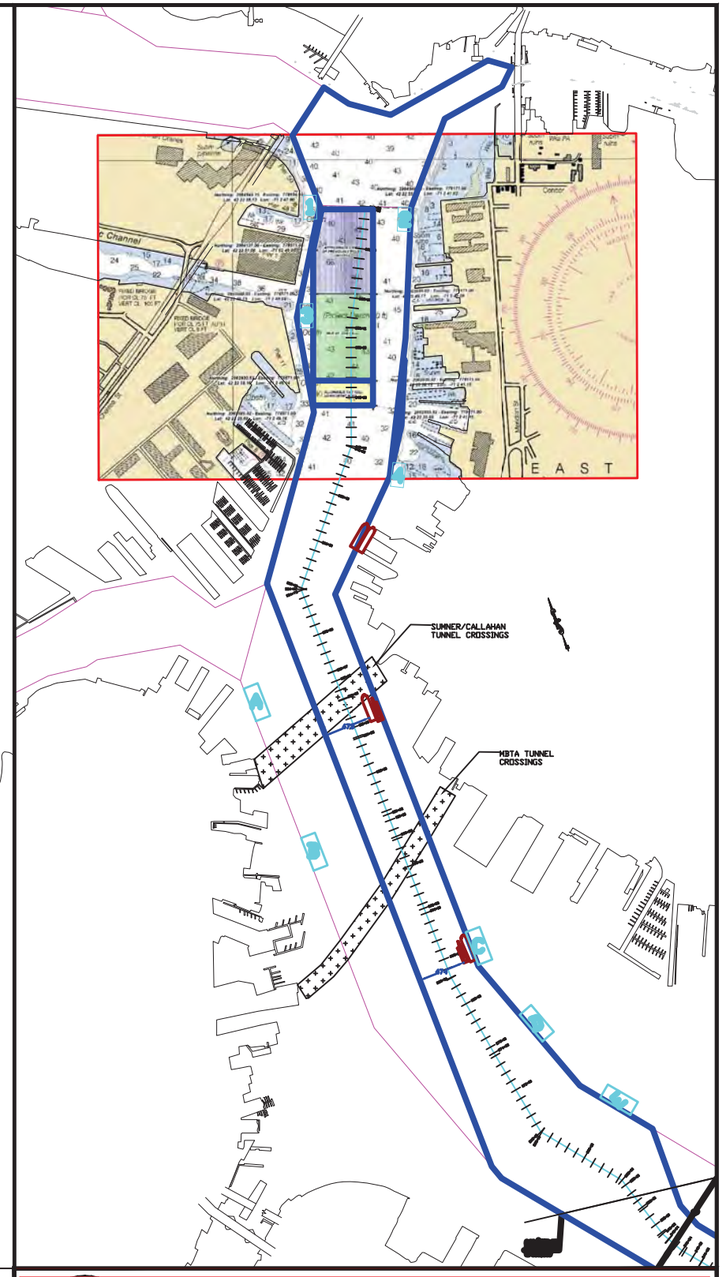
PREPARED FOR:
TOWN OF NEWBURY

PROJ MGR:	DAS	REVIEWED BY:	ABB	CHECKED BY:	DAS
DESIGNED BY:	DAS	DRAWN BY:	JJZ	SCALE:	AS SHOWN
DATE:	MARCH 2018	PROJECT NO.	18.0173620.00	REVISION NO.	

SHEET 1

© 2018 - GZA GeoEnvironmental, Inc. GZA-J:\173600's\18.0173620.00 - Newbury Nearshore Permitting\Figures-CAD\Newburyport-Salisbury Sand Disposal.dwg [MEPA-CHAP91-USACE] February 28, 2018 - 1:24pm rebecc





Date: [ ] [ ] monitors channel 1,5,&13

UPDATE: The Dredges [ ] are working along the red side of the 40' main channel near Sumner & Callahan Tunnel crossings. Tug [ ] is tender for both dredges. The tug [ ] is towing scows for material placement in CAD Cell in-between Charlestown and East Boston. S/V [ ] is assisting operations as a survey and crew boat. Dredge will move for traffic with notice, suggested traffic locations highlighted in cyan. If preferred relocation for passing traffic please contact dredges and/or [ ] on the radio. All dimensions in feet.

To be added to the [ ] Traffic Notification E-mail distribution, contact [ ]

Daily Dredge Operations Location Map Example

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1.2 UNIT PRICE PAYMENT ITEMS
1.3 BIDDING SCHEDULE - PAYMENT ITEMS

PART 2 PRODUCTS

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 01 22 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 JOB PAYMENT ITEMS

Payment items for the work of this contract for which contract job payments will be made are listed in the BIDDING SCHEDULE and described below. The job price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.2 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items. In the event there is a difference between a unit price and the extended total, the unit price will be held to be the intended bid. If the bidder shows only the total price but fails to enter a unit price, the total divided by the estimated quantity will be held to be the intended unit price.

1.3 BIDDING SCHEDULE - PAYMENT ITEMS

Payment items for the work of this contract on which the contract progress payments will be based are listed in the BIDDING SCHEDULE and are described below. All costs for items of work, which are not specifically mentioned to be included in a particular Bidding Schedule job or unit price payment item, shall be included in the listed job or unit price item most closely associated with the work involved. Any bid price for items indicated in the BIDDING SCHEDULE which are unbalanced as to price may be rejected as non-responsive. An unbalanced bid is one which is based on price significantly less than cost for some work and price which is significantly overstated for other work.

BASE BID ITEMS:

a. Item No. 0001, "Mobilization and Demobilization for Dredging and Disposal at Isles of Shoals North (IOS-N) Disposal Site."

Payment for the contract job price will be made for all costs associated with the mobilization and demobilization (as defined in Special Contract Requirements clause "PAYMENT FOR MOBILIZATION AND DEMOBILIZATION") for all dredging work to remove ordinary and hard (rock) material, drilling and confined blasting work required to

remove hard (rock) material, and the transportation to and disposal of all dredged ordinary and hard (rock) materials at the Isles of Shoals North (IOS-N) Disposal Site.

BIDDER NOTE 1 REGARDING PAYMENT ITEM NO. 0001: THE BIDDER'S JOB PRICE FOR MOBILIZATION AND DEMOBILIZATION SHALL BE THE TOTAL PRICE FOR EITHER ONE DREDGE SEASON OR TWO DREDGE SEASONS (REFER TO SUBPART "BASE BID ITEMS" IN SECTION 01 11 00 SUMMARY OF WORK).

BIDDER NOTE 2 REGARDING PAYMENT ITEM NO. 0001: THE BIDDER SHALL PREPARE A JOB PRICE FOR MOBILIZATION AND DEMOBILIZATION THAT DOES NOT INCLUDE ANY COSTS ASSOCIATED WITH ANY OF THE OPTIONAL BID ITEMS. THAT IS, THE BIDDER SHALL PREPARE A JOB PRICE FOR THIS PAYMENT ITEM FOR THE MOB AND DEMOB NECESSARY TO DREDGE ALL ORDINARY AND HARD (ROCK) MATERIALS, AND THE TRANSPORTATION AND DISPOSAL OF ALL ORDINARY AND HARD (ROCK) MATERIALS AT THE ISLES OF SHOALS NORTH (IOS-N) DISPOSAL SITE.

Unit of measure: JOB.

b. Item No. 0002, "Dredging of 35-Foot Federal Navigation Channel and Turning Basin, and the Turning Basin Expansion Area with Disposal of Ordinary Material at the Isles of Shoals North (IOS-N)."

(1) The contract price per cubic yard for Bidding Schedule Payment Item No. 0002 shall include all cost associated with the removal of dredged ordinary material encountered from dredging the Federal Navigation channel and turning basin, and the turning basin expansion area to the specified depths, and the transportation to and the disposal dredge ordinary material at the Isles of Shoals North (IOS-N) Disposal Site as indicated on the Contract Drawings and as specified in Section 01 11 00 SUMMARY OF WORK and Section 35 20 23 MECHANICAL DREDGING.

BIDDER NOTE REGARDING PAYMENT ITEM NO. 0002: THE BIDDER SHALL PREPARE A PER CUBIC YARD PRICE FOR ALL DREDGING AND DISPOSAL WORK THAT DOES NOT INCLUDE ANY COSTS ASSOCIATED WITH ANY OF THE OPTIONAL BID ITEMS. THAT IS, THE BIDDER SHALL PREPARE A PER CUBIC YARD PRICE FOR THIS PAYMENT ITEM FOR THE WORK NECESSARY TO DREDGE ALL OF THE ORDINARY MATERIAL, AND THE TRANSPORTATION AND DISPOSAL OF ALL ORDINARY MATERIAL AT THE ISLES OF SHOALS NORTH (IOS-N) DISPOSAL SITE.

(2) The total amount of material removed and paid for under the contract for Bidding Schedule Payment Item 0002 will be measured by the cubic yard in place by computing the volume between the bottom surface shown by soundings of the last pre-dredge survey made before dredging begins and the bottom surface shown by the soundings of a post-dredge survey made as soon as practicable after the removal of the material. Dredged material will be included that is within the limits of the side slopes and allowable overdepth as described in Section 35 20 23 MECHANICAL DREDGING, paragraph "DREDGING LIMITS", less any deductions that may be required for misplaced material described in subparagraph "Disposal In Non-Approved Areas".

(3) The Contract Drawings are believed to accurately represent conditions existing on the date of the survey shown on the drawings, but the depths and the specific areas to be dredged shown thereon may be verified and corrected by soundings taken by the Government before

dredging begins. Determination of quantities removed and the deductions made to determine quantities after having once been made by the Contracting Officer, will not be reopened, except on evidence of collusion, fraud, or obvious error. Refer to Special Contract Requirements, subparagraph "CONTRACT DRAWINGS AND SPECIFICATIONS" for additional information and requirements regarding contract drawings.

(4) Monthly partial payments will be based on approximate quantities determined by Contractor quality control surveys. The pre-dredge survey made immediately before dredging, and the after dredge survey made as soon as practicable after the removal of the material, will be performed by the Government at no cost to the Contractor.

(5) No separate measurement or payment will be made for the removal of debris during dredging operations as specified in Section 35 20 23 MECHANICAL DREDGING, paragraph "DEBRIS MANAGEMENT".

Unit of measure: Cubic Yard (CD).

c. Item No. 0003, "Removal of Hard (Rock) Material within the 35-Foot Turning Basin Expansion Area with Disposal of Rock at the Isles of Shoals North (IOS-N) Disposal Site."

(1) The contract price per cubic yard for Bidding Schedule Payment Item 0003 shall include all costs associated with the removal of hard (rock) material by mechanical means and/or drilling and blasting to the specified depths as indicated on the Contract Drawings, the loading of removed rock material into scows/barges, and the transportation to and disposal at the Isles of Shoals North (IOS-N) Disposal Site as specified in Section 01 11 00 SUMMARY OF WORK, Section 35 20 23 MECHANICAL DREDGING, and Section 35 30 00 UNDERWATER DRILLING AND BLASTING.

(2) The total amount of hard (rock) material removed and paid for under the contract for Bidding Schedule Payment Item 0003 will be measured by the cubic yard by computing the volume between the top surface of the hard (rock) material, prior to removal, and the bottom surface after removal. This volume will be computed by utilizing soundings of the Contractor's quality control survey made after the removal of all of the ordinary material overburden (pre-rock removal Contractor's quality control survey) and comparing that to the soundings of a post-rock removal Contractor's quality control survey made as soon as practicable after the removal of the hard (rock) material. Hard (rock) material will be included that is within allowable overdepth as described in Section 35 20 23 MECHANICAL DREDGING, paragraph "DREDGING LIMITS", less any deductions that may be required for misplaced material described in subparagraph "Disposal In Non-Approved Areas". The Government recognizes that the Contractor's means and methods may require the Contractor to remove material outside of the Government Pay Limit shown on the Contract Drawings and described in Section 35 20 23 MECHANICAL DREDGING, paragraph "DREDGING LIMITS" in order to achieve the required grade, however, this additional volume of material will not be included in the payment of the line item.

(3) No separate measurement or payment will be made for the removal of debris during dredging operations as specified in Section 35 20 23 MECHANICAL DREDGING, paragraph "DEBRIS MANAGEMENT".

Unit of Measure: Cubic Yard (CD).

OPTIONAL BID ITEMS:

d. Item No. 0004, "Mobilization and Demobilization for Disposal at Nantasket Beach and Nearshore Disposal Sites."

Payment for the contract job price will be made for all costs associated with mobilization and demobilization (as defined in Special Contract Requirements clause "PAYMENT FOR MOBILIZATION AND DEMOBILIZATION") necessary to complete the work to transport dredged ordinary material to Nantasket Beach and the Salisbury and Newbury Nearshore Disposal Sites and the disposal of the dredged ordinary material at Nantasket Beach and the Salisbury and Newbury Nearshore Disposal Sites.

BIDDER NOTE REGARDING PAYMENT ITEM NO. 0004: THE BIDDER SHALL PREPARE A JOB PRICE FOR MOBILIZATION AND DEMOBILIZATION THAT ONLY INCLUDES THE ADDITIONAL COSTS NEEDED FOR THE TRANSPORTATION AND DISPOSAL OF DREDGED ORDINARY MATERIAL AT NANTASKET BEACH AND THE SALISBURY AND NEWBURY NEARSHORE DISPOSAL SITES THAT ARE ABOVE THE COSTS ALREADY INCLUDED IN PAYMENT ITEM NO. 0001.

Unit of measure: JOB.

e. Item No. 0005, "Disposal of Dredged Ordinary Material at Nantasket Beach and Nearshore Disposal Sites."

The contract price per cubic yard for Bidding Schedule Payment Item 0005 shall include all costs associated with the transportation of ordinary material from the dredge site to the disposal sites and the disposal of the ordinary material on Nantasket Beach, and at the Salisbury and Newbury Nearshore Disposal Sites as specified in Section 01 11 00 SUMMARY OF WORK, Section 35 20 23 MECHANICAL DREDGING, and as indicated on the Contract Documents.

The price per cubic yard for disposal of ordinary material on Nantasket Beach under Bidding Schedule Payment Item 0005 shall also include providing field engineering and survey work, transferring the ordinary material from scows/barges to the beach via hydraulic pipeline, placing the ordinary material as beach fill within the designated limits and location on the beach, and spreading and grading the beach fill to the lines and grades as indicated on Contract Drawings C-102, C-103, and C-303, and as specified in Section 01 71 24 FIELD ENGINEERING FOR BEACH FILL PLACEMENT, and Section 35 20 26 BEACH FILL PLACEMENT.

NOTE TO BIDDER REGARDING PAYMENT ITEM NO. 0005: THE BIDDER SHALL PREPARE A PER CUBIC YARD PRICE THAT ONLY INCLUDES THE ADDITIONAL COSTS NEEDED TO TRANSPORT TO AND DISPOSE OF DREDGED ORDINARY MATERIAL ON NANTASKET BEACH AND AT THE SALISBURY AND NEWBURY NEARSHORE DISPOSAL SITES THAT ARE ABOVE THE COSTS ALREADY INCLUDED IN PAYMENT ITEM NO. 0002.

Unit of measure: Cubic Yard (CD).

f. Item No. 0006, "Geotechnical Field Technician."

The work for Bidding Schedule Payment Item 0006 will be paid for at the contract job price for costs associated with having a full-time

Geotechnical Field Technician onboard the dredge plant to provide observation during dredging operations of dredged materials slated for disposal at Nantasket Beach. Costs shall be for one technician to be present at all times during the dredging of ordinary material for Nantasket Beach to observe and take photos of dredged material being loaded into scows/barges headed for Nantasket Beach and as specified in Section 35 20 23 MECHANICAL DREDGING.

Unit of measure: JOB.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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1.4.1 Initial Partnering Session
1.5 ELECTRONIC MAIL (E-MAIL) ADDRESS

PART 2 PRODUCTS

PART 3 EXECUTION

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SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 MINIMUM INSURANCE REQUIREMENTS

Provide the minimum insurance coverage required by FAR 28.307-2 Liability, during the entire period of performance under this contract. Provide other insurance coverage as required by State law.

1.2 SUPERVISION

See Section 01 11 00 SUMMARY OF WORK, Subpart SUPERINTENDENCE BY THE CONTRACTOR.

1.3 PRECONSTRUCTION CONFERENCE

See Section 01 11 00 SUMMARY OF WORK, Subpart PRECONSTRUCTION CONFERENCE.

1.4 PARTNERING

To most effectively accomplish this contract, the Government requires the formation of a cohesive partnership within the Project Team whose members are from USACE, the prime contractor, sub-contractors, the non-federal Sponsor(s), and any other stakeholders that have a vested interest in and can potentially impact the successful completion of the project. The Partnership will draw on the strength of each organization in an effort to achieve a project that is without any safety mishaps, conforms to the Contract, and stays within budget and on schedule.

The Contracting Officer will provide Information on the Partnering Process and a list of key and optional personnel who should attend the Partnering meeting.

1.4.1 Initial Partnering Session

The Initial Partnering session shall take place prior to the start of work and timely to the Preconstruction Conference. The Contractor shall hire a neutral third party facilitator to manage the process of the Partnering Meetings and shall plan to conduct the meeting at a space that will accommodate all attendees and is located at a location to be approved by the Contracting Officer. An agenda for the meeting shall be developed with and agreed upon by the Contracting Officer or their representative, which shall cover topics including but not limited to: Vessel Traffic Coordination, Safety Precautions and Considerations, the Contractor’s Operational Plan and Schedule, roles and responsibilities of all team members, etc. The Contractor is responsible for all costs associated with the Partnering Meeting.

1.5 ELECTRONIC MAIL (E-MAIL) ADDRESS

Establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments as text files, pdf files, and other similar formats. Within 10 days after contract award,

provide the Contracting Officer a single (only one) e-mail address for electronic communications from the Contracting Officer related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes or terrorist threats. Multiple email addresses are not allowed.

It is the Contractor's responsibility to make timely distribution of all Contracting Officer initiated e-mail with its own organization including field office(s). Promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

a. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

b. Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

c. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

d. Submittals requiring Government approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.1.2 Project Type

The Contractor's Quality Control (CQC) System Manager are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submission of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Examples and descriptions of submittals identified by the Submittal Description (SD) numbers and titles follow:

SD-01 Preconstruction Submittals

Submittals that are required prior to or at the start of construction (work) or the next major phase of the construction on a multiphase contract.

Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates Of Insurance

Surety Bonds

List Of Proposed Subcontractors

List Of Proposed Products

Baseline Network Analysis Schedule (NAS)

Submittal Register

Schedule Of Prices Or Earned Value Report

Accident Prevention Plan

Work Plan

Quality Control (QC) plan

Environmental Protection Plan

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

Design submittals, design substantiation submittals and extensions of design submittals.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an

actual portion of the work or prototype prepared for the project before shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and state the test results; and indicate whether the material, product, or system has passed or failed the test.

Factory test reports.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals, except those SD-01 Pre-Construction Submittals noted above, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register; G

1.4 SUBMITTAL CLASSIFICATION

1.4.1 Government Approved (G)

a. Government approval is required for extensions of design, critical materials, variations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Government.

b. Government approval is required for any variations from the Solicitation or the Accepted Proposal and for other items as designated by the Government.

c. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, submittals are considered to be "shop drawings."

1.4.1.1 Approval Codes

a. Construction Division {"AO" (Area Office), "RO" (Resident Office), or "PO" (Project Office) Reviewer}: An "AO", "RO", or "PO" in column "f" indicates that the submittal review action is by New England District Construction Division. Send all such submittals to the project Resident or Area Engineer, as applicable.

b. Engineering Division {"DO" (District Office) Reviewer): A "DO" on the attached submittal register, column "f" indicates that the submittal review action is by the New England District, Engineering Division, or other organization in the District Office. Send all such submittals to the project Resident or Area Engineer for distribution to the appropriate approving authority.

c. Architect-Engineer Firm {"AE" reviewer): An "AE" on the attached submittal register, column "f" indicates that the submittal review action is by the Architect-Engineer firm associated with the project.

d. Government acceptance is required for submittals with a "G, A" designation.

e. A "G" followed by "SJ" on the attached submittal register, column "f" indicates that the submittal review action is by the South Atlantic Division, Mobile District, 109 Saint Joseph Street, Mobile, Alabama 03668.

1.4.2 For Information Only

Submittals not requiring Government approval will be for information only. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are not considered to be "shop drawings."

1.5 PREPARATION

1.5.1 Transmittal Form

Use the ENG Form 4025-R transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. These forms are attached at the end of this section and are included in the RMS CM software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.2 Submittal Format

1.5.2.1 Format of SD-01 Preconstruction Submittals

When the submittal includes a document that is to be used in the project, or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.2.2 Format for SD-02 Shop Drawings

a. Provide shop drawings not less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full-size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless another form is required. Ensure drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

(1) Include the nameplate data, size, and capacity on drawings. Also include applicable federal, military, industry, and technical society publication references.

(2) Dimension drawings, except diagrams and schematic drawings. Prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

b. Submit an electronic copy of drawings in PDF format.

1.5.2.2.1 Drawing Identification

a. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

b. Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

c. Reserve a blank space, no smaller than inches on the right-hand side of each sheet for the Government disposition stamp.

1.5.2.3 Format of SD-03 Product Data

a. Present product data submittals for each section as a complete, bound volume. Include a table of contents, listing the page and catalog item numbers for product data.

b. Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.5.2.3.1 Product Information

a. Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

b. Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.5.2.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.3.3 Data Submission

a. Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of the construction effort.

b. Submit the manufacturer's instructions before installation.

1.5.2.4 Format of SD-04 Samples

1.5.2.4.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.5.2.4.2 Sample Incorporation

a. Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

b. Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation, but remove the notation at the final clean-up of the project.

1.5.2.4.3 Comparison Sample

a. Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

b. When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.2.5 Format of SD-05 Design Data

Provide design data and certificates on 8 1/2 by 11 inch paper. Provide a bound volume for submittals containing numerous pages.

1.5.2.6 Format of SD-06 Test Reports

a. Provide reports on 8 1/2 by 11 inch paper in a complete bound volume.

b. By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.7 Format of SD-07 Certificates

Provide design data and certificates on 8 1/2 by 11 inch paper. Provide a bound volume for submittals containing numerous pages.

1.5.2.8 Format of SD-08 Manufacturer's Instructions

a. Present manufacturer's instructions submittals for each section as a complete, bound volume. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

b. Submit the manufacturer's instructions before installation.

1.5.2.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.9 Format of SD-09 Manufacturer's Field Reports

a. Provide reports on 8 1/2 by 11 inch paper in a complete bound volume.

b. By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.10 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with requirements specified for O&M Data format.

1.5.2.11 Format of SD-11 Closeout Submittals

a. When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

b. Provide data in the unit of measure used in the contract documents.

1.5.3 Source Drawings for Shop Drawings

1.5.3.1 Source Drawings

The entire set of source drawing files (DWG) will not be provided to the Contractor. Request the specific Drawing Number for the preparation of shop drawings. Only those drawings requested to prepare shop drawings will be provided. These drawings are provided only after award.

1.5.3.2 Terms and Conditions

a. Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim, and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its subconsultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

b. These electronic source drawing files are not construction documents. Differences may exist between the source drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished source drawing files, the signed and sealed construction documents govern. Use of these source drawing files does not relieve the Contractor of the duty to fully comply with the contract documents, including and without limitation the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic source drawing files for use in producing construction data related to this contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.5.4 Electronic File Format

a. Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file

specifically according to its contents, and coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature.

b. E-mail electronic submittal documents smaller than 10MB to an e-mail address as directed by the Contracting Officer. Provide electronic documents over 10 MB on an optical disc or through an electronic file sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/safe/.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of SD-01 Preconstruction Submittal Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.6.2 Number of SD-02 Shop Drawing Copies

In addition to providing submittals in electronic format, submit two copies of submittals of shop drawings requiring review and approval by a QC organization and two copies of shop drawings requiring review and approval by the Contracting Officer.

1.6.3 Number of SD-03 Product Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.6.4 Number of SD-04 Samples

a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of nonsolid materials.

1.7 INFORMATION ONLY SUBMITTALS

Submittals without a "G" designation must be certified by the QC manager and submitted to the Contracting Officer for information-only. Approval of the Contracting Officer is not required on information only submittals. The Contracting Officer will mark "receipt acknowledged" on submittals for information and will return only the transmittal cover sheet to the Contractor. Normally, submittals for information only will

not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.8 PROJECT SUBMITTAL REGISTER

1.8.1 Submittal Management

a. Prepare and maintain a submittal register, as the work progresses. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials for which submittals are required by the specifications is provided as an attachment. This list may not be all-inclusive and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 01 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM). The Government will provide the initial submittal register in electronic format.

(1) Column (c): Lists specification section in which submittal is required.

(2) Column (d): Lists each submittal description (SD Number. and type, e.g., SD-02 Shop Drawings) required in each specification section.

(3) Column (e): Lists one principal paragraph in each specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting the project requirements.

b. Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.8.2 Preconstruction Use of Submittal Register

Submit the submittal register. Include the QC plan and the project schedule. Verify that all submittals required for the project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for the approving authority to receive submittals.

Column (h) Contractor Approval Date: Date that Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs

material delivered to Contractor control.

1.8.3 Contractor Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in the program used by the Contractor with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.8.4 Approving Authority Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in program used by the Contractor with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (l) Date submittal was received.

Column (m) through (p) Dates of review actions.

Column (q) Date of return to Contractor.

1.8.5 Action Codes

1.8.5.1 Contractor Action Codes

DESIGN BID BUILD SUBMITTALS			
Submittal Classifications shown in UFGS Sections	Submittal Classification	Corresponding SpecsIntact Submittal Register Code which is populated in the SI Submittal Register. Software Limitations: (The software shows one character delineation in the SpecsIntact Submittal Register)	RMS – The following Submittal Classifications are populated in RMS when the SpecsIntact Submittal Data File is pulled into RMS)

DESIGN BID BUILD SUBMITTALS			
G	Submittal requires Government Approval	G	GA
BLANK	Submittal is For Information Only (FIO)	BLANK	FIO
S	Submittal is for documentation of Sustainable requirements	S	S/FIO

1.8.6 Delivery of Copies

Submit an updated electronic copy of the submittal register to the Contracting Officer with each invoice request. Provide an updated Submittal Register monthly regardless of whether an invoice is submitted.

1.9 VARIATIONS

Variations from contract requirements require Contracting Officer approval pursuant to contract Clause FAR 52.236-21 Specifications and Drawings for Construction, and will be considered where advantageous to the Government.

1.9.1 Considering Variations

a. Discussion of variations with the Contracting Officer before submission will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. When contemplating a variation that results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

b. Specifically point out variations from contract requirements in transmittal letters. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

Check the column "variation" of ENG Form 4025 for submittals that include variations proposed by the Contractor. Set forth in writing the reason for any variations and note such variations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule Extension

In addition to the normal submittal review period, a period of 14 calendar days will be allowed for the Government to consider submittals with variations.

1.10 SCHEDULING

a. Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. When applicable, an additional 21 calendar days for review and approval of submittals for pertinent equipment and control systems will be required by the Government.

(1) Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.

(2) Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."

(3) Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required.

b. Contracting Officer review will be completed within 21 calendar days after date of submission.

1.11 GOVERNMENT APPROVING AUTHORITY

a. When the approving authority is the Contracting Officer, the Government will:

(1) Note the date on which the submittal was received.

(2) Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

(3) Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

b. Upon completion of review of submittals requiring Government approval, the Government will update RMS with the submittal's review notation and the date it was reviewed.

1.11.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.12 DISAPPROVED SUBMITTALS

a. Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contracting Officer as required under the FAR clause titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

b. If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.13 APPROVED SUBMITTALS

a. The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory.

b. Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained with in each submittal accurately conforms with the requirements of the contract documents.

c. After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

a. Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

b. Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to the Contractor at its expense, if so requested.

c. Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material. The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

d. Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

e. Approval of the Contractor's samples by the Contracting Officer does not relieve the Contractor of his responsibilities under the contract.

1.15 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.16 STAMPS

Certify the submittal data as follows on Form ENG 4025: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

_____NAME OF CONTRACTOR _____ SIGNATURE OF CONTRACTOR

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (*This section will be initiated by the contractor*)

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____

SPECIFICATION SEC. NO. (*Cover only one section with each transmittal*)	PROJECT TITLE AND LOCATION	THIS TRANSMITTAL IS FOR: (*Check one*) ☐ FIO ☐ GA ☐ DA ☐ CR ☐ DA/CR ☐ DA/GA

ITEM NO. (*See Note 3*) a.	DESCRIPTION OF SUBMITTAL ITEM (*Type size, model number/etc.*) b.	SUBMITTAL TYPE CODE (*See Note 8*) c.	NO. OF COPIES d.	CONTRACT DOCUMENT REFERENCE SPEC. PARA. NO. e.	CONTRACT DOCUMENT REFERENCE DRAWING SHEET NO. f.	CONTRACTOR REVIEW CODE g.	VARIATION Enter "Y" if requesting a variation (*See Note 6*) h.	USACE ACTION CODE (*Note 9*) i.

REMARKS	I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.	
	NAME OF CONTRACTOR	SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (*List by item No.*)	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.

3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.

4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.

5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.

6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing he detailed reason for the variation.

7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.

8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
   Submittal types are the following:
   SD-01 - Preconstruction SD-02 - Shop Drawings SD-03 - Product Data SD-04 - Samples SD-05 - Design Data SD-06 - Test Reports
   SD-07 - Certificates SD-08 - Manufacturer's Instructions SD-09 - Manufacturer's Field Reports SD-10 - O&M Data SD-11 - Closeout

9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

   A -- Approved as submitted.
   B -- Approved, except as noted on drawings. Resubmission not required.
   C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required.
   D -- Will be returned by separate correspondence.
   E -- Disapproved. Refer to attached comments.
   F -- Receipt acknowledged.
   X -- Receipt acknowledged, does not comply with contract requirements, as noted.
   G -- Other action required *(Specify)*
   K -- Government concurs with intermediate design. (*For D-B contracts*)
   R -- Design submittal is acceptable for release for construction. (*For D-B contracts*)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Maintenance & Improvement Dredging, Portsmouth Harbor, NH/ME

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 11 00	SD-01 Preconstruction Submittals															
			Initial Project Schedule	1.9.3.1	G	RO												
			Pre-Dredging Photographic	1.10	G	RO												
			Survey															
			Public Notice	1.16.2	G	RO												
			Notice to Mariners	1.16.4														
			Aids to Navigation	1.16.5														
			Safe Harbor Plan		G	RO												
			Utility Plan	1.7.1														
			SD-07 Certificates															
			Periodic Schedule Updates	1.9.3.1	G	RO												
		01 33 00	SD-01 Preconstruction Submittals															
			Submittal Register	1.8	G													
		01 33 29	SD-01 Preconstruction Submittals															
			Documentation Requirements	1.5	G	RO												
		01 35 26	SD-01 Preconstruction Submittals															
			Accident Prevention Plan (APP)	1.7	G	RO												
			Proof of Qualifications for the	1.6.1.1	G	RO												
			SSHO															
			SD-06 Test Reports															
			Monthly Exposure Reports	1.4														
			Notifications and Reports	1.12														
			Accident Reports	1.12.2	G	RO												
			LHE Inspection Reports	1.12.3														
			SD-07 Certificates															
			Crane Operators/Riggers	1.6.1.6	G	RO												

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		01 35 26	Standard Lift Plan	1.7.2.2	G	RO												
			Critical Lift Plan	1.7.2.3	G	RO												
			Naval Architecture Analysis	1.7.2.4	G	RO												
			Activity Hazard Analysis (AHA)	1.8														
			Confined Space Entry Permit	1.9.1														
			Hot Work Permit	1.9.1														
			Certificate of Compliance	1.12.4														
			License Certificates															
		01 45 00	SD-01 Preconstruction Submittals															
			Contractor Quality Control (CQC)	3.2	G	RO												
			Plan															
			SD-06 Test Reports															
			Verification Statement	3.9.2														
		01 50 01	SD-01 Preconstruction Submittals															
			Construction Site Plan	1.4	G	RO												
			Temporary Electrical System	3.6.9	G	RO												
			SD-03 Product Data															
			Temporary Fencing	2.2.2														
			Temporary Wiring	2.3														
		01 54 50	SD-01 Preconstruction Submittals															
			Plant and Equipment	1.3														
		01 57 19	SD-01 Preconstruction Submittals															
			Environmental Protection Plan	1.7	G	RO												
			Sonar and Fish Detecting and	1.9.2.2	G	DO												
			Startle System Equipment															
			Fisheries Observer	1.9.2	G	DO												

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		01 57 19	Endangered Species and Marine	1.9.3	G	DO													
			Mammal Observer																
		01 71 23	SD-01 Preconstruction Submittals																
			Contractor Quality Control Survey		G	DO													
			Plan																
			Layout Plan	1.6	G	DO													
			Charts																
			Survey Personnel	1.1.2															
			Pre-Dredge Survey	3.1.2	G	DO													
			SD-05 Design Data																
			Contractor Quality Control	3.1.1	G	DO													
			Surveys																
			Contractor After Dredge Survey	3.1.1	G	DO													
		01 71 24	SD-11 Closeout Submittals																
			Beach Fill As-Built Surveys	3.1.3	G	DO													
			Beach Fill Placement Records	3.1.4	G	DO													
			and Survey Data																
			Beach Fill Placement	3.1.5															
			Photographs																
		01 74 19	SD-01 Preconstruction Submittals																
			Construction Waste Management	1.7	G	RO													
			Plan																
			SD-11 Closeout Submittals																
			Final Construction Waste	1.9	S														
			Diversion Report																
		35 20 23	SD-01 Preconstruction Submittals																

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		35 20 23	Dredging Operation Plan	3.2.2	G	RO												
			Debris Management Plan	1.8														
			Scows	3.1.3.2														
			Geotechnical Field Technician	1.17														
			SD-05 Design Data															
			Equipment and Performance															
			Data															
			Report of Operations	3.6														
			Report of Operations	3.6														
			Report of Operations	3.6														
			Report of Operations	3.6														
		35 20 24	SD-01 Preconstruction Submittals															
			Dredge Plant Instrumentation		G	SJ												
			Plan															
			SD-06 Test Reports															
			Data Appropriately Archived		G	RO												
			e-mail															
			SD-07 Certificates															
			Letter of National Dredging		G	RO												
			Quality Management Program															
			Certification															
		35 20 25	SD-07 Certificates															
			Letter of National Dredging		G	RO												
			Quality Management Program															
			Certification															
		35 20 26	SD-01 Preconstruction Submittals															

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		35 20 26	Beach Fill Placement Plan	1.11	G	RO												
			Debris Prevention Plan	1.10	G	RO												
			Pumpout Plan		G	RO												
			Discharge Outfall and Pipe Support Detail		G	RO												
			Temporary Berms	3.1.1														
			SD-05 Design Data															
			Baffle Plate	3.1.1	G	RO												
		35 25 00	SD-01 Preconstruction Submittals															
			Contractor Safe Practices Manual	1.4	G	DO												
			Diving Operations Plan	1.5.1	G	DO												
			Activity Hazard Analysis	1.5.2	G	DO												
			Emergency Management Plan	1.5.3	G	DO												
			Dive Personnel Qualifications	1.5.4	G	DO												
		35 30 00	SD-01 Preconstruction Submittals															
			Pre-Blast Structural Condition Survey Report	1.7.1	G	DO												
			Blasting Safety Plan	1.7.2	G	DO												
			Operational Blasting Plan	1.7.4	G	DO												
			Test Blast Plan	1.7.3.1	G	DO												
			Contingency Plan	1.10.6														
			Shot Plan	1.7.5	G	DO												
			Undersea Noise and Pressure Monitoring Plan	1.7.6	G	DO												
			Licenses	1.8.5														
			Permits	1.4.5.2														

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		35 30 00	Seismic Specialist/Blasting	1.4.4.2															
			Vibration Consultant																
			Seismic Specialist/Blasting	3.1.5															
			Vibration Consultant																
			Undersea Noise and Pressure	1.4.4.3															
			Monitoring Consultant																
			SD-03 Product Data																
			Blasting Product Specification	2.1															
			Sheets																
			SD-06 Test Reports																
			Post Test Blast Evaluation Report	1.7.3.1	G	DO													
			Daily Explosive Material	1.8.3	G	DO													
			Summary																
			Daily Blasting Log	1.8.6	G	DO													
			Blast Report	1.8.7	G	DO													
			Blast Monitoring Report	1.8.8	G	DO													
			Underwater Overpressure	1.8.9	G	DO													
			Monitoring Report																
			Vibration Monitoring Report	1.8.10															
			SD-07 Certificates																
			Blaster(s)	1.4.4.1	G	RO													
			Protection Plan																
			SD-09 Manufacturer's Field																
			Reports																
			Post Blasting Surveys	1.9															

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SECTION 01 33 29

SUSTAINABILITY REPORTING

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PART 3 EXECUTION

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-- End of Section Table of Contents --

SECTION 01 33 29

SUSTAINABILITY REPORTING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. DEPARTMENT OF ENERGY (DOE)

ISWG Guiding Principles	(2008) High Performance and Sustainable Buildings Guidance

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials
48 CFR 23	Environment, Energy and Water Efficiency, Renewable Energy Technologies, Occupational Safety, and Drug-Free Workplace

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Documentation Requirements; G, RO

Submit documentation that proves compliance with the listed requirement of this section.

1.3 SUMMARY

This specification includes general requirements and procedures for this project to be constructed and documented per the federally mandated "Guiding Principles" (GP) and other requirements identified in this specification.

1.4 LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

Many products listed in 40 CFR 247 and 48 CFR 23 have been designated or proposed by EPA and USDA to include recycled, recovered and biobased materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office

products, temporary traffic control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of recycled, recovered and biobased materials and that these products be recycled when no longer needed.

1.5 DOCUMENTATION REQUIREMENTS

Incorporate the following ISWG Guiding Principles Requirements into project construction and provide documentation that proves compliance with the listed requirements. The items below are organized according to the ISWG Guiding Principles.

1.5.1 Regional Materials

Select materials so that a minimum of 15 percent of building materials or products used, based on cost, shall be extracted, harvested, recovered, or manufactured within a 500-mile radius of the project site.

1.5.2 Landfill Disposal

Divert construction debris from landfill disposal in accordance with Section 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT. Provide the following documentation:

a. Monthly documentation showing total amount, by weight, of construction debris diverted from landfill as a percentage of all construction debris on the project. The Contractor shall divert a minimum of 60 percent of waste and construction debris from landfill disposal as specified in Section 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT.

b. Include in documentation the total solid waste generated in tons, the total solid waste diverted from landfill in tons, and the total cost of the solid waste generated.

c. Include project's Construction Waste Management Plan (see Section 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT) and all dumpster haul tickets.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 SUSTAINABILITY COORDINATION

Provide sustainability focus and coordination at the following meetings to achieve sustainability goals. Contractor's designated sustainability professional responsible for GP documentation shall participate in the following meetings to coordinate documentation completion.

a. Pre-Construction Conference: Discuss the following: sustainability actions and documentation requirements, construction submittal requirements and schedule, and individuals responsible for achieving each Guiding Principle Requirement.

b. Construction Progress Meetings: Review GP sustainability

requirements with project team including contractor and sub-contractor representatives.

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS

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1.7.2.3.1 Critical Lift Plan Planning and Schedule
1.7.2.3.2 Lifts of Personnel
1.7.2.4 Barge Mounted Mobile Crane Lift Plan
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1.13.1 Permit and Personnel Requirements
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GOVERNMENTAL SAFETY REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.5	(2018) Mobile and Locomotive Cranes
ASME B30.7	(2016) Winches
ASME B30.8	(2015) Floating Cranes and Floating Derricks
ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.23	(2016) Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
ASME B30.26	(2015; R 2020) Rigging Hardware

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.22	(2007; R 2017) Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists
ASSP A10.34	(2001; R 2012) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2020) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.0	(2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2016) The Fall Protection Code
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program

ASSP Z359.3	(2019) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2019) Qualification and Verification Testing of Fall Protection Products
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2019) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems

ASTM INTERNATIONAL (ASTM)

ASTM F855	(2019) Standard Specifications for Temporary Protective Grounds to Be Used on De-energized Electric Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048	(2016) Guide for Protective Grounding of Power Lines
IEEE C2	(2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2018; ERTA 1-2 2018) Standard for Portable Fire Extinguishers
NFPA 51B	(2019) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code

NFPA 70E	(2018; TIA 18-1; TIA 18-2) Standard for Electrical Safety in the Workplace
NFPA 241	(2019) Standard for Safeguarding Construction, Alteration, and Demolition Operations
NFPA 306	(2019) Standard for the Control of Gas Hazards on Vessels

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-222	(2018H; Add 1 2019) Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures
TIA-1019	(2012; R 2016) Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.333	Selection and Use of Work Practices
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1915.89	Control of Hazardous Energy (Lockout/Tags-Plus)
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.16	Rules of Construction
29 CFR 1926.450	Scaffolds
29 CFR 1926.500	Fall Protection
29 CFR 1926.552	Material Hoists, Personal Hoists, and Elevators
29 CFR 1926.553	Base-Mounted Drum Hoists
29 CFR 1926.1400	Cranes and Derricks in Construction

CPL 02-01-056	(2014) Inspection Procedures for Accessing Communication Towers by Hoist
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

1.2.2 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined EM 385-1-1 Appendix Q, with thorough knowledge of OSHA's Confined Space Standard, 29 CFR 1910.146, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.3 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.4 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.5 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSP Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of

identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.2.6 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented including experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

1.2.7 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.2.8 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

1.2.9 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

1.2.10 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

1.2.11 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

1.2.12 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

1.2.13 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.

1.2.14 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

1.2.15 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the requirements of EM 385-1-1 Appendix Q, and ASSP Z359.0, with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.2.16 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

a. Death, regardless of the time between the injury and death, or the length of the illness;

b. Days away from work (any time lost after day of injury/illness onset);

c. Restricted work;

d. Transfer to another job;

e. Medical treatment beyond first aid;

f. Loss of consciousness; or

g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above.

1.2.17 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

1.2.18 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document any mishap that meets the criteria described in the Contractor Significant Incident Report (CSIR) using the Crane/Rigging Mishap Investigation Form (submit within 24 hours of occurrence) and ENG Form 3394 (submit within 5 days of the occurrence) to the Contracting Officer.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, RO

Proof of Qualifications for the SSHO; G, RO

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G, RO

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers; G, RO

Standard Lift Plan; G, RO

Critical Lift Plan ; G, RO

Naval Architecture Analysis; G, RO

Activity Hazard Analysis (AHA)

Confined Space Entry Permit

Hot Work Permit

Certificate of Compliance

License Certificates

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1, and Federal, State, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one (1) person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs. The SSHO shall have no other duties.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

Proof of qualifications for the SSHO shall be submitted.

1.6.1.2 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO many neither serve as the Contractor Quality Control (CQC) System Manager nor the Project Superintendent.

1.6.1.3 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the the Contracting Officer for information in consultation with the Safety Office.

1.6.1.3.1 Competent Person for Confined Space Entry

Provide a Confined Space (CP) Competent Person who meets the requirements of EM 385-1-1, Appendix Q, and herein. The CP for Confined Space Entry must supervise the entry into each confined space.

Since this work involves marine operations that handle combustible or hazardous materials, this person must have the ability to understand and follow through on the air sampling, Personal Protective Equipment (PPE), and instructions of a Marine Chemist, Coast Guard authorized persons, or Certified Industrial Hygienist. Confined space and enclosed space work must comply with NFPA 306, OSHA 29 CFR 1915, Subpart B, "Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment," or as applicable, 29 CFR 1910.147 for general industry.

1.6.1.3.2 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of EM 385-1-1, Section 21.C.04 and herein.

1.6.1.4 Qualified Trainer Requirements

Individuals qualified to instruct must meet the definition of Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards,Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of the EM 385-1-1 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.6.1.5 Dredging Contract Requirements

1.6.1.5.1 Dredging Safety Personnel Requirements

a. Provide a minimum of one full time SSHO assigned per project site for the primary working shift.

b. For a project involving multiple work shifts, provide one full-time or collateral duty SSHO for each additional shift.

c. For individual dredging projects or sites with a dredge crew and fill crew on watch of 8 employees or less, a CDSO must be appointed, instead of an SSHO. The CDSO assumes the same responsibilities as a full-time SSHO.

d. An example of one dredging project site is reflected in each of the following:

(1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or

(2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,

(3) a hopper dredge (include land-based material placement site - if applicable.)

e. If Optional Items 0004 and 0005 ARE AWARDED, provide a minimum of one full time SSHO for the primary working shift for the Nantasket Beach work and other work required under these optional items.

1.6.1.5.2 SSHO Requirements for Dredging

a. In addition to requirements stated elsewhere in this specification, an individual serving as a SSHO must be present at the project site, located so that they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being performed. The SSHO must be available during their shift for immediate verbal consultation and notification, either by phone or radio.

b. The SSHO is a full-time, dedicated position, except as noted above, who must report to a senior project (or corporate) official. When the SSHO is permitted to be a collateral duty, the SSHO is not permitted to be in another position requiring continuous mechanical or equipment operations, such as equipment operators.

c. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

d. If the SSHO is off-site for a period longer than 24 hours, another qualified SSHO must be provided and fulfill the same roles and responsibilities as the SSHO during their absence.

1.6.1.5.3 Collateral Duty Safety Officer (CDSO) Requirements for Dredging

a. A CDSO is an individual who is assigned collateral duty safety responsibilities in addition to their full-time occupation, and who supports and supplements the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. The assigned CDSO must be an individual(s) with work oversight responsibilities, such as master, mate, fill foreman, or superintendent. A CDSO must not be an employee responsible for continuous mechanical or equipment operations, such as an equipment operator.

b. A CDSO performs safety program tasks as assigned by the SSHO and must report safety findings to the SSHO. The SSHO must document results of safety findings and provide information for inclusion in the CQC reports to the Contracting Officer.

1.6.1.5.4 Safety Personnel Training Requirements for Dredging

A SSHO and a CDSO for dredging contracts must take either a formal classroom or online OSHA 30-hour Construction Safety Course, or an equivalent 30 hours of formal classroom or online safety and health training covering the subjects of the OSHA 30-hour Course in accordance with EM 385-1-1 Appendix A, paragraph 3.d.(3), applicable to dredging work, and given by qualified instructors. In exception to EM 385-1-1, Section 01.A.17, comply with the following:

a. The SSHO must maintain competency through having taken 8 hours of formal classroom or online safety and health related coursework every year. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (for example, instructing a 1-hour asbestos awareness course 5 times in a year provides one hour credit for training).

b. The SSHO and a CDSO must have a minimum of three years of experience within the past five years in one of the following:

(1) Supervising/managing dredging activities

(2) Supervising/managing marine construction activities

(3) Supervising/managing land-based construction activities

(4) Work managing safety programs or processes

(5) Conducting hazard analyses and developing controls in activities or environments with similar hazards

1.6.1.6 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators

(i.e., union, a government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

1.6.2 Personnel Duties

1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors. Post and maintain the Form 300 on the site Safety Bulletin Board.

d. Maintain applicable safety reference material on the job site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above duties are not being effectively carried out. If Superintendent, QC Manager, or SSHO are dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant

role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin work until an APP is established that is acceptable to the Contracting Officer.

1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors on the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance. A copy of a suggested weekly safety meeting form is attached at the end of this section.

1.7 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior

person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

1.7.1 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.7.2 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

1.7.2.1 Confined Space Entry Plan

Develop a confined or enclosed space entry plan in accordance with EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the

qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

1.7.2.2 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of 3 months.

1.7.2.3 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.

b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.

c. For lifts with anticipated binding conditions.

d. When erecting cranes.

1.7.2.3.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

1.7.2.3.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

1.7.2.4 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

1.7.2.5 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval

from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.

1.7.2.6 Fall Protection and Prevention (FP&P) Plan

The plan must comply with the requirements of EM 385-1-1, Section 21.D and ASSP Z359.2, be site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.7.2.7 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.7.2.8 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to

effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.9 DISPLAY OF SAFETY INFORMATION

1.9.1 Safety Bulletin Board

Within one calendar day after commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.06. Additional items required to be posted include:

a. Confined space entry permit.

b. Hot work permit.

1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.12 NOTIFICATIONS and REPORTS

1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1, Appendix Q, any report of injury, illness, or any property damage. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

1.12.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Conduct an accident investigation for any load handling equipment accident (including rigging gear accidents) to establish the root cause(s) of the accident. Complete the Accident Report form and provide the report to the Contracting Officer within TEN calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section 16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13 HOT WORK

1.13.1 Permit and Personnel Requirements

Submit and obtain a written permit prior to performing "Hot Work" (i.e. welding or cutting) or operating other flame-producing/spark producing devices. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of one hour after completion of the task or as specified on the hot work permit.

When starting work, require personnel to familiarize themselves with the location of the nearest fire extinguishers and place in memory the emergency Fire Department phone number. REPORT ANY FIRE, NO MATTER HOW SMALL, TO THE RESPONSIBLE AUTHORITY IMMEDIATELY.

1.13.2 Work Around Flammable Materials

Obtain services from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1, Section 06.H

1.14 CONFINED SPACE ENTRY REQUIREMENTS.

Confined space entry must comply with Section 34 of EM 385-1-1, OSHA 29 CFR 1926, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, and OSHA Directive CPL 2.100. Any potential for a hazard in the confined space requires a permit system to be used.

1.14.1 Entry Procedures

Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. Comply with EM 385-1-1, Section 34 for entry procedures. Hazards pertaining to the space must be reviewed with each employee during review of the AHA.

1.14.2 Forced Air Ventilation

Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.

1.14.3 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures. The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.15 DIVE SAFETY REQUIREMENTS

In accordance with EM 385-1-1, Section 30, and Section 35 25 00 UNDERWATER DIVING WORK develop a Dive Operations Plan, AHA, emergency management plan, and personnel list that includes qualifications, for each separate diving operation. Submit these documents to the District Dive Coordinator (DDC) for review and acceptance at least 30 working days prior to commencement of diving operations. These documents must be at the diving location at all times. Provide each of these documents as a part of the project file. Refer to Section 35 25 00 UNDERWATER DIVING WORK for submittal requirements.

1.16 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 DREDGING AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, USCG regulations, and other related submittals and activity fire and safety regulations. The most stringent

standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

e. Personal Flotation Device

3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. An employee check-in/check-out communication procedure must be developed to ensure employee safety.

3.1.2 Safe Harbor

Plant utilized on the project shall be able to navigate waters adjacent to the project without significant modification to seek refuge from severe weather in protected waters.

3.1.3 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought to the project.

3.1.4 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work and notify the Contracting Officer immediately. Within 14

calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4, "Changes" and FAR 52.236-2, "Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Apply for utility outages at least 15 days in advance. As a minimum, the request must include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, attend a pre-outage coordination meeting with the Contracting Officer to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1 Section 12, 29 CFR 1910.333, 29 CFR 1915.89, ASSP A10.44, NFPA 70E, and paragraph HAZARDOUS ENERGY CONTROL PROGRAM (HECP).

3.4 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSP Z359.2 and EM 385-1-1, Sections 21.A and 21.D.

3.4.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with EM 385-1-1, Section 21.C. Document training and practical application of the competent person in accordance with EM 385-1-1, Section 21.C.04 and ASSP Z359.2 in the AHA.

3.4.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 Section 21.I, 29 CFR 1926.500 Subpart M,ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, and ASSP Z359.15.

3.4.2.1 Additional Personal Fall Protection

In addition to the required fall protection systems, other protection such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1, Sections 21.O through 21.O.06. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.4.2.2 Personal Fall Protection Harnesses

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabiners must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet, unless the proper energy absorbing lanyard is used. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. All full body harnesses must be equipped with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1, Section 21.I.06.

3.4.3 Horizontal Lifelines (HLL)

Provide HLL in accordance with EM 385-1-1, Section 21.I.08.d.2. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.4.4 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1, Section 21.F.01 and 29 CFR 1926 Subpart M.

3.4.5 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the

rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must comply with the requirements of EM 385-1-1, ASSP Z359.2, and ASSP Z359.4.

3.5 EQUIPMENT

3.5.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

3.5.2 Load Handling Equipment (LHE)

a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated.Contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, ASME B30.9 Standards safety standards.

c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. Under no circumstance shall the Contractor make a lift at or above 90 percent of the cranes rated capacity in any configuration.

f. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

g. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally,

submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

h. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

i. All employees must keep clear of loads about to be lifted and of suspended loads.

j. Use cribbing when performing lifts on outriggers.

k. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

l. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

m. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

n. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

o. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

p. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

3.5.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

3.5.4 Base Mounted Drum Hoists

a. Operation of base mounted drum hoists must comply with EM 385-1-1 and ASSP A10.22.

b. Rigging gear must comply with applicable ASME/OSHA standards

c. When used on telecommunication towers, base mounted drum hoists must comply with TIA-1019, TIA-222, ASME B30.7, 29 CFR 1926.552, and 29 CFR 1926.553.

d. When used to hoist personnel, the AHA must include a written standard operating procedure. Operators must have a physical examination in accordance with EM 385-1-1 Section 16.B.05 and trained, at a minimum, in accordance with EM 385-1-1 Section 16.U and 16.T. The base mounted drum hoist must also comply with OSHA Instruction CPL 02-01-056 and ASME B30.23.

e. Material and personnel must not be hoisted simultaneously.

f. Personnel cage must be marked with the capacity (in number of persons) and load limit in pounds.

g. Construction equipment must not be used for hoisting material or personnel or with trolley/tag lines. Construction equipment may be used for towing and assisting with anchoring guy lines.

3.5.5 BLASTERS AND USE OF EXPLOSIVES

a. Explosives shall be handled by qualified licensed blasters. Blaster's qualifications and submission of proof of qualifications, and use of explosives must be in accordance with Section 35 30 00 UNDERWATER DRILLING AND CONFINED BLASTING.

b. Explosives must not be brought to the project site without written approval from the Contracting Officer. Such approval does not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.

c. Storage of explosives must comply with the requirements specified in Section 35 30 00 UNDERWATER DRILLING AND CONFINED BLASTING. Explosives must be stored in approved storage facilities. Storage facilities must be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.6 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1, Appendix A, Sections 11 and 12.

3.6.1 Conduct of Electrical Work

As delineated in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is

minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves and electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910.147.

3.6.2 Qualifications

Electrical work must be performed by QP personnel with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State and local requirements applicable to where work is being performed.

3.6.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.6.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.6.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained for each temporary electrical distribution system, and signed by the electrical CP or QP.

-- End of Section --

WEEKLY SAFETY MEETING FORM

Date Held: _____ Time: _____ Contract No.: W912WJ-___-___-_____

PROJECT TITLE & LOCATION: _____

CONTRACTOR: _____

PERSONNEL PRESENT (check): Contractor (__) Sub (__) Gov't (__)

SUBJECTS DISCUSSED (List sections and check items that were discussed during meeting):

USACE EM385-1-1, Sections _____

(__) Accident Prevention Plan (APP)
(__) Individual protection equipment
(__) Hand tools
(__) Back injury
(__) Prevention of slips/falls
(__) Ropes, hooks, chains, and slings
(__) HAZMAT, toxic hazards, MSDS
(__) Staging, ladders, concrete forms
(__) Vehicle operation safety
(__) Fire prevention
(__) Excavation hazards, rescue
(__) Sanitation and waste disposal
(__) Water safety
(__) Power tools, machinery, chain saws
(__) Hoisting equipment, winch, and crane safety
(__) Electrical grounding, temporary wiring, GFCI
(__) Lockouts/safe clearance procedures (electrical, pressure, moving parts)
(__) _____
(__) _____
(__) _____

(__) Site Safety and Health Plan
(__) Explosives
(__) First aid
(__) Safe lifting techniques
(__) Tripping hazards
(__) Equipment inspection/maintenance
(__) Respiratory and ventilation
(__) Safety nets and handrails
(__) Explosives
(__) Welding, cutting, brazing
(__) Loose rock/steep slopes
(__) Clean-up, trash, house keeping
(__) Boat Safety
(__) _____
(__) _____
(__) _____

Other safety issues of concern specific to contract that was discussed during this safety meeting:

_____
_____
_____
_____
_____

In addition to signatures below, all other persons attending this meeting must sign on the back of this form.

Contractor Representative Signature: _____ Date: _____

QA Inspector (if present at meeting): _____ Date: _____

***** Backside of WEEKLY SAFETY MEETING FORM *****

All attendees must sign and print their company name below:

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

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Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

Signature: _____ Company Name: _____

FORM 16-1

Certificate of Compliance for LHE and Rigging

This form is applicable to all Contractor Load Handling Equipment (LHE) and Rigging Gear being brought onto the project site and applies to all cranes, derricks and any other hoisting equipment used to lift suspended loads.

This certificate shall be signed by an official of the company that provides LHE/cranes and rigging gear for any application under this contract.

Contracting Officer's Point of Contact: (Government Designated Representative)	Phone #:
Prime Contractor/Phone #:	Contract Number:
SSHO/QC:	Phone #:

LHE Manufacturer/Type/Capacity:

LHE Operator(s) Name(s):

I certify that:

1. The above noted LHE and all rigging gear conform to the EM 385-1-1, applicable OSHA regulations (host country regulations in foreign countries) and applicable ASME standards.
2. The operator(s) noted above has been trained, qualified and designated in accordance with the requirements in Section 16, EM 385-1-1 for the operation of the above noted LHE.
3. The operator(s) noted above has been trained not to bypass safety devices during LHE operations.
4. The operator(s), rigger(s) and company official (staff) are aware that immediate notification to the GDA of any incident or accident involving this equipment is required.

Company Official Signature:	Date:

Company Official Name/Title:

Post on Crane/LHE.

(In Cab and Contractor's Office for each LHE brought onto USACE Project/Property)

FORM 16-2

Standard Pre-Lift Plan (LHE)/Checklist

Date: _____ Job #: _____ Location: _____

Time: _____ Completed By (Competent Person): _____

Note: Applies to Cranes, Derricks, Hoists and Power-Operated equipment that can be used to hoist, lower and/or horizontally move a suspended load (includes excavators, forklifts, Rough Terrain equipment, etc., when used with rigging).

Crane Considerations		Yes	No
1	Are the lifts within the crane's rated capacities? (based on boom height, radius)		
2	Boom deflections considered?		
3	Have all potential crane boom obstructions been identified?		
4	Have environmental considerations been addressed? (wind, weather, lightning)		
5	Have electrical hazards been addressed (overhead /underground)		
	- Clearance distances established?		
	- Is a spotter required?		
	- Public Utility contact required?		
6	Crane swing radius properly barricaded and personnel advised of hazards?		
	Comments:		

Crane Considerations		Yes	No
1	Weights and Centers of Gravity (COG) have been determined?		
2	Anything inside/outside the loads that could shift during the lift?		
3	Does rigging need protection from the loads?		
4	All anchor bolts, hold-downs, or fasteners have been removed?		
5	Potential for binding: are load cells required to verify the loads are free?		
6	Attachment points rated to take load weight?		
7	Are the loads structurally capable of being lifted? (bending/twisting issues)		
8	Is a Critical Lift Plan required per EM 385-1-1, Section 16.H?		
	Comments:		

Rigging		Yes	No
1	All rigging has been inspected by a Qualified Rigger?		
2	Have sling angles been calculated?		
3	Are shackles correctly sized for the sling eyes?		
4	Are softeners needed?		
	Comments:		

Personnel		Yes	No
1	The roles, responsibilities and qualifications for personnel have been defined? (Operator, Lift Supervisor, Rigger, Signal Person)		
2	A Pre-Lift meeting has been conducted?		
3	Personnel trained per the EM?		
	Comments:		

Area Preparation		Yes	No
1	The locations for the load landings has been selected and prepared?		
2	Blocking and/or cribbing available to set the loads on?		
3	Travel paths have been determined and cordoned off?		
4	Other personnel in the area have been notified of the lifts?		
5	Have ground bearing support questions been addressed?		
	Comments:		

Crane Operator: _____ Date: _____

Rigger(s): _____ Date: _____

Signal Person: _____ Date: _____

Other: _____ Date: _____

Form 16-3

CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent is Crane HHWG.

Date:	Prepared By:
Location:	USACE District:

A "critical lift" is defined as any non-routine crane lift requiring detailed planning and additional or unusual safety precautions. Critical lifts include: lifts made where the load weight is greater than 75% of the rated capacity of the crane; lifts which require load to be lifted, swung or placed out of the operator's view ; lifts made with more than one crane; lifts involving non-routine/technically difficult rigging arrangement; hoisting personnel with a crane or derrick; or any lift which the crane operator believes should be critical.

A. TOTAL LOAD

1. Load Weight		lbs
2. Wt. of Aux. Block		lbs
3. Wt. of Main Block		lbs
4. Wt. of Lifting Beam		lbs
5. Wt. of Sling/Shackles		lbs
6. Wt. of Jib/Ext. (erected/stowed)		lbs
7. Wt. of Hoist Rope		lbs
8. Other:		lbs
TOTAL WEIGHT		

Note: Source of load weight (Drawings, Calcs, etc.) must be attached on Page 2.

B. CRANE

1. Type of Crane: Mobile Hydraulic Truck
2. Maximum Crane Capacity _____ lbs.
3. Radius (Maximum) _____ ft.
4. Radius (Minimum) _____ ft.
5. Boom Length (Maximum) _____ ft.
6. Boom Length (Minimum) _____ ft.
7. Crane Capacity (Max Radius) _____ lbs.
8. Crane Capacity (Min Radius) _____ lbs.
9. Boom Angle (Maximum) _____ deg.
10. Boom Angle (Minimum) _____ deg.
11. Gross Load of Crane _____ lbs.
12. Lift is _____ % of the Crane's rated capacity
13. If Jib/Ext. is to be used:
    - Length _____ ft.
    - Offset _____ ft.
14. Rated Capacity of Jib/Ext. _____ lbs

C. HOIST ROPE

	Main	Aux 1	Aux 2	
1. # of Parts				
2. Rope Diameter				
3. Capacity				

D. RIGGING

1. Hitch Type(s) _____
2. No. of Slings: _____ Size: _____
3. Sling Type: _____
4. Sling Assembly Capacity: _____ lbs.
5. Shackle Size(s): _____
6. Shackle Rated Capacity(s) _____ lbs.

E. CRANE PLACEMENT *(Mobile Cranes Only)*

1. Maximum Bearing Pressure _____ PSF
   Note: Bearing Pressure Calculations must be attached on Page 3.
2. Ground Conditions Suitable for Load? _____ YES / NO
   Note: Ground Condition Calculations must be attached on Page 3.
3. High Voltage or Electrical Hazards? _____ YES / NO
   Note: If Electrical Hazards are present they must be shown on Page 4.
4. Obstructions to Lift or Swing? _____ YES / NO
   Note: If Obstructions are present they must be shown on Page 4.
5. Travel with Load Required? _____ YES / NO
6. Other? _____

F. OPERATOR QUALIFICATIONS

1. Certified Operator? _____ YES / NO
2. Option? _____
3. Certified for Type, Class & Capacity? _____ YES / NO
4. Designated in writing by employer: YES / NO

G. PRE-LIFT CHECKLIST

G. PRE-LIFT CHECKLIST	(YES)	N/A	(NO)
1. Crane Inspected			
2. Rigging Inspected			
3. Crane Set-up			
4. Overhead Hazard Check			
5. Swing Check			
6. Counterweight Check			
7. Operator Qualifications			
8. Signal Person Qualifications			
9. Rigger Qualifications			
10. Load Chart in Crane			
11. Load Test			
12. Tag Lines			
13. Wind Conditions			
14. Traffic Hazard Check			
15. Site Control			
16. Signatures			

H. SIGNATURES

1. Crane Operator _____
2. Rigger _____
3. Signal Person _____
4. Lift Supervisor _____
5. Other _____
6. Other _____

Form 16-3

CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent agency is Crane HHWG.

LOAD CALCULATIONS

Show here or attach calculations, drawings, etc.

Form 16-3

CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent agency is Crane HHWG.

BEARING PRESSURES & GROUND CONDITIONS

Show here or attach calculations, drawings, etc.

Form 16-3

CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent agency is Crane HHWG.

LOAD CHART

Show here or attach load chart

Form 16-3

CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent agency is Crane HHWG.

OPERATOR, RIGGER, SIGNAL PERSON QUALIFICATIONS

Show here or attach operator qualifications

Form 16-3
CRITICAL LIFT PLAN

For use of this form, see EM 385-1-1, Section 16. Proponent agency is Crane HHWG.

SITE PLAN

Show here or attach site plan and sequencing

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SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g. ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 877-909-2786
Internet: http://www.astm.org

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-562-9667
E-mail: onlinesupport@ieee.org
Internet: http://www.ieee.org

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 617-770-3000
Fax: 617-770-0700
Internet: http://www.nfpa.org

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)
1320 N. Courthouse Rd., Suite 200
Arlington, VA 22201
Ph: 703-907-7700
Fax: 703-907-7727
Internet: http://www.tiaonline.org

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ccb/browse_cat.php?c=68
Order Other Documents from:
USACE Publications Depot
Attn: CEHEC-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
E-mail: pubs-army@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
http://www.hnc.usace.army.mil/Missions/Engineering/TECHINFO.aspx

U.S. DEPARTMENT OF ENERGY (DOE)
1000 Independence Avenue Southwest
Washington, D.C. 20585
Internet: www.eere.energy.gov

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
Internet: http://www.archives.gov
Order documents from:
Superintendent of Documents
U.S.Government Printing Office (GPO)
710 North Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800
Fax: 202-512-2104
E-mail: contactcenter@gpo.gov
Internet: http://www.gpoaccess.gov

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

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SECTION 01 45 00

QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D3740	(2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	(2018) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G, RO

SD-06 Test Reports

Verification Statement

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of

plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all construction operations, both onsite and offsite, and be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent maintains a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 14 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all construction-operations, both onsite and offsite, including work by subcontractors fabricators, suppliers and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified. Include a CQC System Manager that reports to the project superintendent.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the Contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control (CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 14 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations,, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager,

CQC System Manager, and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also serve as a member of the CQC Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization who is responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of five years in related work. This CQC System Manager must be on the site at all times during construction and be employed by the prime Contractor. The CQC System Manager shall have fluent English communication skills. Identify in the CQC plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

The CQC System Manager may neither serve as the Project Superintendent nor the Site Safety and Health Officer (SSHO).

3.4.2.1 Award of Optional Items 0004 and 0005

If Optional Items 0004 and 0005 ARE AWARDED, the Contractor shall add a CQC System Manager to be responsible for the Nantasket Beach work. The CQC System Manager shall meet the requirements specified above.

3.4.3 Additional Requirement

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered at the U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA. Contact the Contracting Officer for information on the next scheduled class.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

3.4.4 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

CQC is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.

b. Review of the Contract drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

f. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. Review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government needs to be notified at least 24 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government needs to be notified at least 24 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.

g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable

features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.

3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at:

https://mtc.erdc.dren.mil/.

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel are required to meet criteria detailed in ASTM D3740 and ASTM E329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in the SPECIAL CONTRACT REQUIREMENTS Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to 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.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer are required to be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands can also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all

contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

3.9.1 Quality Control Activities

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

a. The name and area of responsibility of the Contractor/Subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and specifications.

3.9.2 Verification Statement

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily 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. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control(CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

3.10 SAMPLE FORMS

A sample blank "Daily Construction Quality Control Report" generated from RMS 3.0 Contractor Mode software package is attached at the end of this section. This form should be completed daily in RMS 3.0 Contractor Mode as required by Section 01 45 01 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM) of these specifications.

The Contractor shall also prepare and submit two (2) copies of the Control Report - Bucket/Pipeline Dredge" (RMS Form 4267) for material going to the Disposal Site(s). A sample form is attached at the end of this section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can 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 will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

CONTRACTORS QUALITY CONTROL REPORT (QCR) DAILY LOG OF CONSTRUCTION - CIVIL	REPORT NUMBER Page 1 of 1
	DATE
PROJECT	CONTRACT NUMBER
CONTRACTOR	WEATHER
QC NARRATIVES	
PREP/INITIAL DATES (Preparatory and initial dates held and advance notice)	
ACTIVITY START/FINISH	
QC REQUIREMENTS	
QA/QC PUNCH LIST (Describe QC Punch List items issued, Report QC and QA Punch List items corrected)	
CONTRACTORS ON SITE (Report first and/or last day contractors were on site)	
LABOR HOURS	
EQUIPMENT HOURS	
ACCIDENT REPORTING (Describe accidents)	

CONTRACTOR CERTIFICATION	**On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.**		
QC REPRESENTATIVE'S SIGNATURE	DATE	SUPERINTENDENT'S INITIALS	DATE

QUALITY CONTROL REPORT- BUCKET/PIPELINE DREDGE

CONTRACT NO.	CONTRACT TITLE	PAGE NO. OF
	CONTRACTOR	REPORT NO.
CHARACTER OF WORK/REPORT	☐ MAINTENANCE ☐ NEW WORK ☐ ENVIRONMENTAL	DATE

DREDGE	NAME AND TYPE			SHIFTS PER DAY	DAYS PER WEEK			
	SIZE		HORSEPOWER			NO. OF CREW MEMBERS			
	PIPELINE	DIPPER OR BUCKET	DREDGE PUMP	SUCTION PIPE JET	CUTTER OR BUCKET	DREDGE	SHORE	OTHER	TOTAL

LOCATION/CHANNEL OF WORK

LOCATION OF WORK	REACHED DREDGED: STATION TO STATION	DISPOSAL AREA USED	QTY DEPOSITED GROSS (CY)	CUMULATIVE AND QTY DEPOSIT FOR DA (CY)

CHARACTER OF MATERIAL (%)	GRAVEL	SAND	CLAY	MUD	SILT	HARDPAN	STONE	SHELL	OTHER

CHANNEL CONDITION	AVERAGE DEPTH	BEFORE DREDGING _____	AFTER DREDGING _____

RIVER/TIDE STAGE	MIN	TIME	MAX	TIME	GAGE LOCATION
	MIN	TIME	MAX	TIME	GAGE DATUM

WEATHER CONDITION	WEATHER	TEMP (MIN/MAX) °F/ °F	VISIBILITY	WIND

WORK PERFORMED

ITEM	UNIT	QUANTITY
AVERAGE WIDTH OF CUT	FT	
TOTAL ADVANCE THIS PERIOD	FT	
TOTAL ADVANCE PREVIOUSLY	FT	
TOTAL ADVANCE TO DATE	FT	

LENGTH OF FLOATING PIPE _____ FT	LENGTH OF SHORE PIPE _____ FT	LENGTH OF SUB-MERGED PIPE _____ FT

TOTAL LENGTH OF DISCHARGE PIPE: FT

_____ H.P. BOOSTER ADDED @ _____ FT TO DA _____
_____ H.P. BOOSTER ADDED @ _____ FT TO DA _____

CUBIC YARDS REMOVED	GROSS	CREDITED
AMOUNT DREDGED THIS DATE		
AMOUNT PREVIOUSLY REPORTED		
TOTAL AMOUNT DREDGED TO DATE		
AMOUNT DREDGED PER PUMPING/CUTTING HR		

OPERATING SUPPLIES

COMMODITY		CONSUMED	CREDITED
ITEM	UNIT	QUANTITY	QUANTITY
FUEL	BBL		
ELECTRICITY	KW		
LUBRICANTS	GAL		

MOB DATE	DREDGE START	DEMOB DATE

DISTRIBUTION OF WORK

EFFECTIVE WORKING TIME (CHARGEABLE TO COST OF WORK)	HR.	MIN.
PUMPING OR DREDGING		
PERCENT OF EFFECTIVE TIME %		
BOOSTER (IN LINE)		

NON-EFFECTIVE WORKING TIME (CHARGEABLE COST OF WORK)	HR.	MIN.
HANDLING PIPE LINES		
HANDLING ANCHOR LINES		
CLEARING PUMP AND PUMP LINES		
CLEARING CUTTER OR SUCTION HEAD		
WAITING FOR SCOWS		
TO AND FROM WHARF OR ANCHORAGE		
CHANGING LOCATION OF PLANT ON JOB		
LOSS DUE TO OPPOSING NATURAL ELEMENTS		
SHORE LINE AND SHORE WORK		
WAITING FOR BOOSTER		
MINOR OPERATING REPAIRS (EXPLAIN IN REMARKS)		
WAITING FOR ATTENDANT PLANT		
PREPARATION AND MAKING UP TOW		
TRANSFERRING PLANT BETWEEN WORKS		
LAY TIME OFF SHIFT AND SATURDAYS		
SUNDAYS AND HOLIDAYS		
FIRE DRILL		
MOVING OUT OF WAY OF TRAFFIC		
MISCELLANEOUS (EXPLAIN IN REMARKS)		
TOTAL NON-EFFECTIVE TIME		
PERCENT OF NON-EFFECTIVE %		
TOTAL EFFECTIVE AND NON-EFFECTIVE TIME (CHARGEABLE TO COST OF WORK)		

RMS FORM 4267

QUALITY CONTROL REPORT- BUCKET/PIPELINE DREDGE

CONTRACT NO.	CONTRACT TITLE	PAGE NO. OF
	CONTRACTOR	REPORT NO.
DREDGE	NAME AND TYPE	DATE

ATTENDANT PLANT

ITEM	NAME OR NUMBER	H.P.	HOURS

LOST TIME
(NOT CHARGEABLE TO COST OF WORK)

		HR.	MIN.
MAJOR REPAIRS			
CESSATION			
COLLISIONS			
MISCELLANEOUS			
TOTAL LOST TIME			
PERCENTAGE OF TOTAL TIME	%		
TOTAL TIME IN PERIOD			

NARRATIVE(S)

CONTRACTOR CERTIFICATION

On behalf of the contractor, I certify that this Report is complete and correct and all equipment and material used and work performed during this Reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as noted above.

QC REPRESENTATIVE'S SIGNATURE	DATE	SUPERINTENDENT'S SIGNATURE	DATE

RMS FORM 4267

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SECTION 01 45 01

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.2 MEASUREMENT AND PAYMENT

The work of this section is not measured for payment. The Contractor is responsible for the work of this section, without any direct compensation other than the payment received for contract items.

1.3 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

1.3.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will govern, in the event of discrepancy with the electronic version.

1.3.2 Other Factors

Other portions of this document have a direct relationship to the

reporting accomplished through RMS. Particular attention is directed to FAR 52.236-15 Schedules for Construction Contracts; FAR 52.232-27 Prompt Payment for Construction Contracts; FAR 52.232-5 Payments Under Fixed-Priced Construction Contracts; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00 QUALITY CONTROL.

1.4 RMS SOFTWARE

RMS is a web based application. Download, install and be able to utilize the latest version of RMS within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (https://rms.usace.army.mil). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.5 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance(QA)comments, as well as other miscellaneous administrative information.

1.6 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.6.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.6.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office

with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.6.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

1.6.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response. The Government has up to 14 calendar days to respond to routine RFIs and up to 21 calendar days for more complex RFI's.

1.6.2 Finances

1.6.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.6.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.

1.6.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

1.6.3.2 Deficiency Tracking.

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

1.6.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

1.6.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.6.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

1.6.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.6.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.6.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification

Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

1.6.5 Schedule

Develop a construction schedule consisting of pay activities, in accordance with Section 01 11 00 SUMMARY OF WORK. Enter and update the contract project schedule in RMS manually.

1.6.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

1.7 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.8 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS
FOR DREDGING WORK AND OPEN WATER DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

This specification section identifies the minimum requirements for temporary construction facilities and controls necessary to complete dredging operations, drilling and blasting, and disposal at unconfined open water disposal site(s). This specification section does not apply to any work as required to complete work for placement of dredged ordinary material at Nantasket Beach in Hull, Massachusetts.

1.2 DEFINITION

Open Water Disposal: The term "Open Water Disposal" as used in this specification section refers to both unconfined ocean disposal site and nearshore disposal sites.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

The Contractor shall be responsible for finding and obtaining parking space for its employees' and subcontractors' privately owned vehicles (POVs). Contractor employee parking shall not interfere with existing and established parking requirements of the parking area or the neighborhood.

3.2 CONTRACTOR'S TEMPORARY FACILITIES

3.2.1 Location of Temporary Facilities

a. The Contractor shall be responsible for finding and obtaining its own facilities (docks, piers, ramps, wharves, etc.), including temporary office space, and parking for its employees.

b. The Contractor's temporary facilities shall be a distance from the work area that is no greater than five miles.

c. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance and use of non-government facilities.

3.2.2 Usage of Fuels and Lubricants

Refer to Section 01 57 19 ENVIRONMENTAL PROTECTION, subpart "Chemical Materials Management and Waste Disposal," subparagraph "Fuel and Lubricants."

3.3 GOVERNMENT FIELD OFFICE

3.3.1 Resident Engineer's Office

a. The Contractor shall be responsible for finding and obtaining space to provide temporary office space and parking for five vehicles for the Government. The location shall be a distance from the project work area that is no greater than 2 miles.

b. Provide the Government Resident Engineer with an office, approximately 300 square feet in floor area (not including hallways, conference rooms, closets, and toilet facilities), located where directed and providing space heat, air conditioning, electric light and power, and toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains. Field-type portable sanitary facilities are prohibited and may not substituted for the water closet. The office shall include, as a minimum, two overhead shelves, two double desks with pedestals, a 36 inch by 72 inch plan table, two single movable desks, chairs for all desks, toilet paper, hand soap, paper towels, and color printer that can print 8.5x11 and 11x17 sheets . The conference area shall have a minimum 16 feet long conference table and 10 chairs. Provide one high speed data Internet connection (DSL or Broadband). Provide a mail slot in the door or a lockable mail box mounted on the surface of the door. The office shall be alarmed with door and motion sensors and wired to a central station. All windows shall have security grates. The Contractor is responsible for janitorial services, snow removal, and the maintenance of this office. At completion of the project, the office will remain the property of the Contractor and be removed from the site. Utilities shall be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer.

3.3.2 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer and providing as a minimum the facilities specified above. Securely anchor the trailer to the ground at all four corners to guard against movement during high winds.

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3.10 RESTORATION OF STAGING AND STORAGE, AND WORK AREAS

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SECTION 01 50 01

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS
FOR BEACH FILL PLACEMENT WORK
(OPTIONAL BID ITEMS 0004 AND 0005)

PART 1 GENERAL

This specification section is part of this contract only if Optional Bid Items 0004 and 0005 are awarded.

1.1 SUMMARY

This specification section identifies the minimum requirements for temporary construction facilities and controls necessary to complete the beach fill disposal work at Nantasket Beach in Hull, Massachusetts. This specification section does not apply to any other work as required under this contract.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 70E	(2018; TIA 18-1; TIA 18-2) Standard for Electrical Safety in the Workplace
NFPA 241	(2019) Standard for Safeguarding Construction, Alteration, and Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Site Plan; G, RO

Temporary Electrical System; G, RO

SD-03 Product Data

Temporary Fencing

Temporary Wiring

1.4 CONSTRUCTION SITE PLAN

Prior to the start of work, submit a site plan showing the locations and dimensions of temporary facilities including layouts and details, equipment and material storage areas both onsite and offsite, access and haul routes, avenues of ingress/egress to fenced areas (e.g., the assigned staging and storage area), details of temporary safety and construction fencing, temporary barricades, construction entrances, trash dumpsters, temporary sanitary facilities, worker parking areas, and the location and number of site trailers to be used. The site plan shall also identify any areas which may have to be graveled to prevent the tracking of mud as well as show where temporary utility hook-ups are to be located, if required, and how grounding of equipment and trailers will be achieved. Indicate if the use of a supplemental or other staging area is desired.

1.5 EASEMENT AGREEMENTS

Easement agreements where private, local, and state property owners have provided temporary use of land to facilitate construction and to allow use for temporary staging and storage areas are attached at the end of this specification section.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Within one calendar day of mobilization to the site and prior to the commencement of work activities, provide a clear weatherproof covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, Safety and Health Information as required by EM 385-1-1 Section 01, and other information approved by the Contracting Officer. Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer.

2.1.2 Project Identification and Safety Signs

Project identification and safety signs are not required for this project.

2.1.3 Warning Signs

Post temporary signs to give warning and caution to the public of the presence of construction hazards and as well as notify the public that the access road is closed due to construction. Signs shall also require unauthorized persons to keep out of the construction site.

2.2 TEMPORARY SAFETY AND CONSTRUCTION CONTROLS

2.2.1 Barricades

a. Erect and maintain temporary barricades to exclude public access to limits of work and hazardous areas. Whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic barricades shall be required. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

b. Also refer to parapgraph titled "Work Areas" in Section 35 20 26 BEACH FILL PLACEMENT for additional information regarding the exclusion of the public from the work area.

2.2.2 Temporary Fencing

2.2.2.1 Safety Fencing

Temporary safety fencing must be a high visible orange color that is easily seen by pedestrians and vehicular traffic. Fencing material shall be a high density polyethylene grid with a minimum height of 48 inches and a maximum mesh size of 2 inches. Fencing must extend from the grade to a minimum of 48 inches above the grade and be tightly secured to T-posts spaced as necessary to maintain a rigid and taut fence. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.2.2.2 Chain Link Panel Fencing

Temporary panel fencing must be galvanized steel chain link panels 6 feet high. Multiple fencing panels may be linked together at the bases to form long spans as needed. Each panel base must be weighted down using sand bags or other suitable materials in order for the fencing to withstand anticipated winds while remaining upright. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.2.2.3 Post-Driven Chain Link Fencing

Temporary post-driven fencing must be galvanized chain link fencing 6 feet high supported by an tightly secured to galvanized steel posts driven below grade. Fence posts must be located on minimum 10 foot centers. Posts may be set in various surfaces such as sand, soil, asphalt or concrete as necessary. Chain link fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection. Fencing and posts must be completely removed at the completion of construction and any surfaces disturbed or damaged must be restored to its original condition. Underground utilities must be located and identified prior to setting fence posts. Fence must be equipped with a lockable gate. Gate must remain locked when construction personnel are not present.

2.3 TEMPORARY WIRING

Provide temporary wiring in accordance with EM 385-1-1 Section 11, NFPA 241 and NFPA 70. Include monthly inspection and testing of all equipment and

apparatus.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

Construction contract employees must park privately owned vehicles in the Contractor's designated staging and storage areas. Employee parking must not interfere with existing and established parking requirements of any federal, state, local, private, or neighboring properties.

3.2 PUBLIC AND VEHICLE CONTROLS

Provide temporary fencing and/or barricades along the construction site and at all open excavations and tunnels to control access by unauthorized personnel. Specific fencing requirements are as described herein. All fencing will meet the requirements of EM 385-1-1.

Maintain public and vehicle controls during the life of the contract. Upon completion and acceptance of the work, remove all controls from the site. The controls shall become the property of the Contractor.

3.3 TEMPORARY BULLETIN BOARD

Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer.

3.4 AVAILABILITY AND USE OF UTILITY SERVICES

3.4.1 Temporary Utilities

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

3.4.2 Water and Electricity

a. The Contractor shall provide and pay for its own water and electricity that may be required in the prosecution of the work. There will be no Government provided water and electricity at the project site.

b. Engage the local electrical utility company to install temporary electrical service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company requirements and recommendations.

c. All electrical work shall be in accordance with EM 385-1-1 and NFPA 70 and accomplished by a skilled licensed electrician. The use of portable generators will be allowed onsite.

3.4.3 Telecommunications (Voice/Data)

Make arrangements, provide, maintain, and pay for telecommunication (voice and data) services desired.

3.4.4 Sanitation

Government toilet facilities will not be available to the Contractor. The

location and installation of temporary sanitary facilities shall be coordinated with the Contracting Officer prior to installation. Sanitation shall meet the requirements of EM 385-1-1.

Provide, maintain, and make available to all workers provisions for sanitation and potable water for both drinking and personal cleansing. Maintain these provisions at all times without nuisance. Upon completion of the work, all sanitary provisions and facilities shall be removed from the premises by the Contractor, leaving the premises clean and free from nuisance.

Provide, maintain, and make available to all workers adequate minimum field-type portable toilets. Portable toilets shall be properly secluded from public observation in such a manner as required or approved by the Contracting Officer.

Periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into any municipal, district, or commercial sanitary sewer system. Any penalties or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into a station sanitary sewer system. Maintain these conveniences at all times. Include provisions for pest control and elimination of odors.

3.4.5 Fire Protection

Provide and maintain temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.5 TRAFFIC PROVISIONS

3.5.1 Maintenance of Traffic

a. Conduct operations in a manner that will not close any roadways or interfere in any way with traffic on roadways except with written permission of the Contracting Officer at least 15 calendar days prior to the requested date of closure.

3.5.2 Protection of Traffic

Maintain and protect traffic on all affected roadways during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment, and the erection and maintenance of adequate warning, danger, and direction signs as required to protect the traveling public and Government personnel from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of any damage to roads caused by construction operations.

3.6 CONTRACTOR'S TEMPORARY FACILITIES

Temporary facilities shall meet requirements as identified herein and in

EM 385-1-1, Section 04.

3.6.1 Temporary Fencing

As soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary fencing at the work site. Maintain the fencing during the life of the contract and, upon completion and acceptance of the work, remove from the work site.

3.6.2 Administrative Field Office(s) and Storage Trailer(s)

a. Provide and maintain administrative field office(s) and storage trailer(s) within the construction work area at the designated location. The Contractor's Administrative field office(s) and storage trailer(s) areas are shown on sheet C-102. Temporary facilities will be further discussed during the Preconstruction Conference prior to commencing work.

b. Field office(s) or storage trailers utilized by the Contractor for administrative or material storage purposes must present a clean and neat exterior appearance and be in a state of good repair. field office(s) or trailers which are rusted, have peeling paint, or require exterior painting will not be allowed on Government property. This includes those field office(s) or trailers that are, in the opinion of the Contracting Officer, in need of repair and maintenance.

c. File quality control records in the administrative field office and make available at all times to the Government.

3.6.3 Staging and Storage Areas

a. Areas have been made available for use by the Contractor for staging, storage of equipment, materials, and storage trailers during the life of this contract. The Contractor shall confine its staging and storage area to the limits and location as designated and shall be responsible for the security of the areas. Designated staging and storage area is located as shown on Contract Drawing C-102. The Contractor shall erect temporary chain-link fencing around the perimeter of the designated staging and storage areas.

b. All equipment shall be stored, maintained, repaired and fueled within the staging and storage area as shown on the Contract Drawings. No fueling or repairing of equipment shall occur on any beaches or outside the confines of the designated staging and storage area.

c. All equipment and materials must be removed from the Contractor's staging and storage area and the area returned to its original condition prior to the date set for completion of the project. See paragraph RESTORATION OF STAGING AND STORAGE, AND WORK AREAS below.

3.6.4 Maintenance of Staging and Storage Area

Temporary fencing shall be kept in a state of good repair and proper alignment. Any dirt or mud which is tracked onto paved parking lot must be swept and cleaned on a daily basis.

3.6.5 Access to/from Staging and Storage Area(s)

a. Access to and from the staging and storage area shall be along

established access ways. The traversing of non-established access ways, such as grassed or unpaved areas, with construction equipment or other vehicles shall not be allowed unless no other means of access exist. Mud tracked onto paved or established roadways shall be removed immediately.

b. If the traversing of non-established access ways with construction equipment or other vehicles is necessary and approved by the Contracting Officer, access ways shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation will be at the Contractor's discretion.

3.6.6 Safety Systems

Protect the integrity of any installed safety systems or personnel safety devices. Obtain prior approval from Contracting Officer if entrance into systems serving safety devices is required. If it is temporarily necessary to remove or disable personnel safety devices in order to accomplish contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the Contracting Officer.

3.6.7 Storage of Hazardous Materials

Hazardous materials shall be stored using a secondary containment system at least 50 feet from any drainage inlets, waterbodies (e.g. rivers, streams, lakes), and any environmentally sensitive areas (e.g. wetlands, vernal pools).

3.6.8 Usage of Fuels and Lubricants

Refer to Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS, subpart "Chemical Materials Management and Waste Disposal," subparagraph "Fuel and Lubricants."

3.6.9 Temporary Electrical System

a. Provide a temporary electrical distribution system for temporary power and lighting, to include equipment and connections, in accordance with EM 385-1-1, NFPA 70, and NFPA 70E. The Contractor, or his delegated subcontractor, shall enforce all the safety requirements of electrical extensions for the work of all subcontractors. All work shall be accomplished by skilled electrical tradesmen in a workmanlike manner, as approved by the Contracting Officer.

b. Temporary lighting circuits shall be separate from electrical tool circuits. Receptacle circuits shall be dedicated to either temporary lighting or electric tools and shall be labeled "LIGHTS ONLY" or "TOOLS ONLY," as acceptable.

c. A sketch of the proposed temporary electrical system shall be submitted and accepted by the Contracting Officer before temporary power and lighting is installed. The sketch shall indicate the location, voltages, and means of protection of all circuits, including receptacles, disconnecting means, grounding, GFCIs, and lighting circuits.

3.6.9.1 Temporary Wiring

Provide temporary wiring in accordance with NFPA 241 and NFPA 70, Article 305-6(b), Assured Equipment Grounding Conductor Program. Include frequent inspection of all equipment and apparatus.

3.6.9.2 Construction Equipment

In addition to the requirements of EM 385-1-1, all temporary wiring conductors installed for operation of construction tools and equipment shall be either Type TW or THW contained in metal raceways, or may be multiconductor cord. Temporary wiring shall be secured above the ground or floor in a workmanlike manner and shall not present an obstacle to persons or equipment. Open wiring may only be used outside of buildings, and then only in strict accordance with the provisions of the National Electrical Code.

3.6.9.3 Circuit Protection

In addition to the requirements in EM 385-1-1 and NFPA 70, all 15 and 20-ampere receptacle outlets used for obtaining power during construction shall have ground fault circuit interrupters (GFCI) for personnel protection. All generator-powered 15- and 20-ampere, 60 Hertz receptacle outlets shall have GFCI'S, and shall be properly grounded. A testing means shall be provided which will impose a measured fault of 5 milliamperes, plus or minus 1 milliamperes, and result in tripping the GFCI unit.

3.6.10 Security Provisions

The Contractor shall be responsible for the security of its own facilities, materials, and equipment. In the event that an incident involving a security breach does occur, the Contractor shall immediately notify the appropriate law enforcement agency and Contracting Officer.

3.6.11 Weather Protection of Stored Equipment and Materials

Take necessary precautions to ensure that stored equipment and materials, and openings and other critical openings in the temporary storage area are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the temporary facilities from damage.

3.6.11.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby properties. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby Government property.

3.6.12 Stormwater Pollution Prevention

To prevent sediment-laden runoff from entering any resource areas such as lakes, ponds, rivers, or wetlands, provide erosion prevention and sediment controls (such as compost filter sock, and/or entrenched sediment control

fence) in areas where land disturbance has resulted from the installation of temporary facilities and/or use of the staging and storage areas.

3.6.13 Dust Control

Dust control methods and procedures must be approved by the Contracting Officer. Treat dust abatement on access roads with applications of calcium chloride, water sprinklers, or similar methods or treatment.

3.6.14 Plant Communications

Whenever the individual elements of the plant are located so that operation by normal voice between these elements is not satisfactory, install a satisfactory means of communication, such as telephone or other suitable devices and make available for use by Government personnel.

3.7 GOVERNMENT FIELD OFFICE

3.7.1 Resident Engineer's Office

The Contractor shall provide the Government Resident Engineer with a field office. Four dedicated parking spaces for Government use shall be available at the Government Field Office location. This office shall be located in the vicinity of the Contactor's field office structure and as appropriate for the convenience of the Government. The office shall be approximately 300 square feet in floor area (not including hallways, conference rooms, closets, and bathrooms), located where directed and provided with space heat, electric light and power, toilet facilities consisting of one lavatory and one water closet complete with connections to water and sewer mains, and weekly cleaning of the office including trash removal. A portable toilet may be substituted for the water closet. This portable toilet will be reserved for use by Government personnel only. One closet with shelving and a clothing rod shall be included. A dedicated high speed data Internet connection (T1) shall be furnished. Include potable water dispenser. The office shall be alarmed with door and motion sensors and wired to a central station. Alarms that are audible outside of the temporary office structure are not permitted. All windows shall have security grates. The Contractor shall furnish and install furniture and equipment to include two 3 feet by 6 feet desks, one 3 feet by 8 feet conference table with 10 chairs, and two wheeled desk chairs. Furniture may be used, but must be clean and in good working order. The Contractor is responsible for snow removal for the dedicated parking spaces and for maintaining access to the trailer. At completion of the project, the office shall remain the property of the Contractor and shall be removed from the site. Utilities shall be connected and disconnected in accordance with local codes and to the satisfaction of the Contracting Officer.

3.7.2 Trailer-Type Mobile Office

The Contractor may, at its option, furnish and maintain a trailer-type mobile office acceptable to the Contracting Officer to meet the requirements of the minimum facilities specified above. Securely anchor the trailer to the ground at all four corners to guard against movement during high winds. Coordinate requirements for proper anchoring with EM 385-1-1 Section 04.

3.8 CLEANING DURING CONSTRUCTION

3.8.1 Daily Cleaning

Keep temporary facilities, work areas, staging and storage areas(s) and adjacent properties clean. Remove construction debris, solid waste materials, windblown trash and debris, packaging material, and the like from the work site daily. Store any salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away on a daily basis.

3.8.2 Dumpster and Removal of Waste

Provide dumpsters for the collection of trash and debris. Equip dumpsters with a secure cover. Keep cover closed at all times, except when being loaded with trash and debris. Locate dumpsters behind the construction fence or out of the public view. Empty project site dumpsters at least once a week or as needed to keep the project site free of trash and debris.

The Contractor's dumpster(s) shall be emptied the same day it is filled to the top. The Contractor's dumpster(s) shall not have any loose debris that can be blown out by windy conditions or during movement of dumpster. Dumpsters shall be clearly marked with a sign showing the name of Contractor and verbiage that reads "FOR CONTRACTOR USE ONLY". Under no circumstances shall Government dumpsters be used for disposal of any solid waste or construction and demolition waste during the contract performance period or any time before or thereafter. The Contractor shall actively control use of their dumpsters and shall insure that only materials from this contract get placed into the dumpsters assigned to this project.

3.8.3 Burning

Burning of brush, trash, rubbish, or debris is not permitted at the site.

3.9 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Stored material not in trailers shall be neatly stacked when stored.

3.10 RESTORATION OF STAGING AND STORAGE, AND WORK AREAS

a. Upon completion of the project remove trailers, materials and equipment, the bulletin board, signs, barricades, temporary fencing, sanitation facilities, gravel used to traverse grassed areas, and any other temporary products from the site. Removal of temporary fencing shall occur when trailers, materials, and equipment have been removed from within the fenced area.

b. Restore staging, storage, and work areas used during the performance of the contract to conditions that existed prior to notice to proceed or better, including topsoil and seeding as necessary. The Contractor shall be responsible for the repair or replacement of any damaged areas outside the work area, including damage to the exterior or interior of structures, or surrounding properties resulting from the Contractor's actions or equipment. Repair or replacement shall match

materials, dimensions, appearance and integrity as accurately as possible, or to a satisfactory match as determined by the Contracting Officer. Any damage to lawn areas shall be maintained by the Contractor until vegetation has been reestablished.

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SECTION 01 54 50

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SECTION 01 54 50

DREDGING PLANT AND EQUIPMENT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Plant and Equipment

Submit a schedule of the plant and equipment the Contractor will employ in the performance of the work of this contract. Submit also copies of all applicable inspections and certifications for all floating plant and equipment.

1.3 PLANT AND EQUIPMENT

1.3.1 Sufficient Capacity

The Contractor shall keep on the job sufficient plant and equipment capable of meeting the requirements of the work and performing at the necessary production rate required to complete the project in the allotted time. The plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in the contract documents. The measure of the "capacity of the plant" shall be its actual performance on the work to which these contract documents apply.

1.3.2 Minimum Capacity

The plant and equipment listed on the Plant and Equipment Schedule submitted with the Contractor's bid is the minimum which the Contractor shall place and keep on the job unless otherwise determined by the Contracting Officer. The listing of plant and equipment is not to be construed as an agreement on the part of the Government that the equipment is adequate to perform the required work.

1.3.3 Reduction in Capacity

No reduction in the capacity of the plant and equipment employed on the work shall be made except by written permission of the Contracting Officer. The measure of the capacity of the plant and equipment shall be its actual performance on the work covered by this contract.

1.3.4 Inspections and Certifications

Prior to commencement of work at the site, the Contractor shall submit to the Contracting Officer Representative (COR) for review, copies of all applicable inspections and certifications of floating plant and equipment as required by Federal, State, local laws and regulations, and EM 385-1-1, Sections 16, 18, 19, and 20. Such inspections and certifications shall be current and maintained in force for the duration of this contract. Each item of floating plant and equipment shall have on board a waste oil management plan which details the intended disposal method for waste oil. Launch service shall be available to the Contracting Officer's Representative (COR) at all times.

The plant and equipment shall be subject to the inspection of the Contracting Officer and/or the COR at all times. The responsibility for actual supervision and direction of dredging operations including the safe and efficient operation of dredge plant and equipment lies with the Contractor.

1.4 LICENSE REQUIREMENTS

Each vessel exceeding twenty-six feet in length, excluding sheer, which is used for pushing, hauling alongside, or any other method of towing, and not required by law to have a valid Certificate of Inspection by the U.S. Coast Guard, shall be under the actual direction and control of a person licensed for towing in the geographic area of the work by the U.S. Coast Guard. Licensed persons shall not perform command or other duties in excess of twelve hours in any consecutive twenty-four hour period except in an emergency.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
WETLANDS DELINEATION MANUAL	(1987) Corps of Engineers Wetlands Delineation Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328	Definitions of Waters of the United States
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
40 CFR 68	Chemical Accident Prevention Provisions

1.2 DEFINITIONS

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage 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.

1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners,excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

1.2.4 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.2.5 Wetlands

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland shall be done in accordance with WETLANDS DELINEATION MANUAL.

1.3 GENERAL REQUIREMENTS

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 shall be protected during the entire duration of this contract. Comply with all applicable environmental Federal, State, and local laws and regulations. Any delays resulting from failure to comply with environmental laws and regulations will be the Contractor's responsibility.

1.4 SUBCONTRACTORS

Ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. Payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor, and payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations are the Contractor's responsibility. All costs associated with this section shall be included in the contract price.

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, RO

Sonar and Fish Detecting and Startle System Equipment; G, DO

Submit for review and approval sufficient data showing compliance with specification requirements.

Fisheries Observer; G, DO

Submit for review and approval the name and qualifications of the Fisheries Observer. Present evidence that the Fisheries Observer meets the qualifications specified below under subparagraph titled "Special Environmental Requirements".

Endangered Species and Marine Mammal Observer; G, DO

Submit for review and approval the name and qualifications of the Endangered Species and Marine Mammal Observer. Present evidence that the Endangered Species and Marine Mammal Observer meets the qualifications specified below under subparagraph titled "Special Environmental Requirements".

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor shall address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. Address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but are considered necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section will relieve the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During construction, the Contractor will be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

Include in the environmental protection plan, but not limit it to, the following:

a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.

c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.

d. Description of the Contractor's environmental protection personnel training program.

e. Drawings showing locations of proposed temporary material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to contain materials on the site.

f. Spill control plan with procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. Include in this plan, as a minimum:

(1) The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual will immediately notify the Contracting Officer and Facility Environmental Office in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. Include in the plan a list of the required reporting channels and telephone numbers.

(2) The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

(3) Training requirements for Contractor's personnel and methods of accomplishing the training.

(4) A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

(5) The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

(6) The methods and procedures to be used for expeditious contaminant cleanup.

g. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including debris collected during dredging operations. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction.

h. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and

travel off the project site.

i. A contaminant prevention plan that identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be onsite at any given time shall be included in the contaminant prevention plan. Update the plan as new hazardous materials are brought onsite or removed from the site.

j. Environmental Monitoring. The Contractor shall include in the plan the details of environmental monitoring requirements under the applicable laws, regulations and permits, as specified in these specifications, and a description of how this monitoring will be accomplished.

k. Protection of Fish and Marine Mammal Resources. The Contractor shall prepare and submit a "Fish Detection and Protection Plan" and a "Endangered Species and Marine Mammal Protection Plan" as part of the Environmental Protection Plan. The plans shall include the names and qualifications of the designated observers, as well as specific details regarding protection of fish and wildlife resources during the work, including the type of fish deterrent system that will be used. The Contractor shall also comply with all aspects of the requirements specified below under subparagraph titled "Special Environmental Requirements". Also refer to Section 35 30 00 UNDERWATER DRILLING AND CONFINED BLASTING for additional requirements for the protection of fish and marine mammals during blasting.

1.7.3 Appendix

Attach to the Environmental Protection Plan, as an appendix, copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer will make a joint condition survey. Immediately following the survey, the Contractor will prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report will be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the work under the contract.

1.9 SPECIAL ENVIRONMENTAL REQUIREMENTS

1.9.1 Environmental Windows

The environmental windows shown below are for informational purposes only and are not intended to imply contractual performance periods. All work shall be completed as specified in the Contract and in Section 01 11 00 SUMMARY OF WORK under subparagraph titled "Work Commencement and Completion Requirements".

a. The environmental windows for dredging, transportation, and disposal operations in New Hampshire and Maine are as follows. Both environmental windows apply. As plant and equipment will be traversing both New Hampshire and Maine waters, both environmental windows shall apply.

(1) Dredge Season One:

NEW HAMPSHIRE: 15 November 2021 to 15 March 2022.

MAINE: 15 October 2021 to 1 April 2022

(2) Dredge Season Two (if Contractor elects to complete in two dredge seasons):

NEW HAMPSHIRE: 15 November 2022 to 15 March 2023.

MAINE: 15 October 2022 to 1 April 2023

b. The environmental window for drilling and blasting operations in New Hampshire and Maine are as follows. All drilling and blasting outside of this window is prohibited.

(1) Dredge Season One:

NEW HAMPSHIRE AND MAINE: 15 October 2021 to 30 March 2022

(2) Dredge Season Two (if Contractor elects to complete in two dredge seasons):

NEW HAMPSHIRE AND MAINE: 15 October 2022 to 30 March 2023

c. The environmental window for transportation and placement/disposal operations in Massachusetts are as follows (applies to Optional Bid Items 0004 and 0005 only):

(1) Dredge Season One:

MASSACHUSETTS: 1 October 2021 to 31 March 2022.

(2) Dredge Season Two: Not applicable as all beach placement and grading work must be completed during the first dredge season.

d. Work under this contract will not be permitted outside of any specified environmental window. An extension to any environmental window will not be permitted.

1.9.2 Fisheries Observer

For all efforts associated with dredging and disposal operations and drilling and blasting work the Contractor shall provide the services of a Fisheries Observer, with qualifications and duties as specified below, from 15 October 2021 to 1 April 2022 to avoid impacts to biological resources. The fisheries observer qualifications shall be acceptable to the Northeast Fisheries Observer Program (NEFOP) and have written approval/certification from the National Marine Fisheries Service (NMFS).

1.9.2.1 Fisheries Observer Qualifications

The fisheries observer shall have an educational background in marine biology, general experience aboard dredges, and hands on field experience with marine fish species. A person who does not have a college degree in marine biology or related field may be qualified as an observer if s/he has field experience with fisheries, sonar, and fish detecting and startle systems.

a. Education: College degree (B.S. or higher) in marine biology or related field.

b. Field Experience and Equivalents:

(1) Documented field research focused on marine fish species or its habitat OR has worked at least two years on a commercial fishing vessel identifying and locating the fish species, Atlantic and shortnose sturgeon, using sonar AND

(2) Has at least one month of work experience with a fish detecting and startle system.

c. Dredge Experience: Experience in any capacity aboard dredges of the same type as those to be used in the proposed project, would be helpful.

d. Skill Set - Observers must be able to:

(1) Identify the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*).

(2) Take standard field measurements (total length and weight) of fish killed by blasting (i.e. floating at the surface), if more than a few dozen fish. If hundreds or thousands of fish are killed, then representative samples will be taken.

(3) Run the fish detecting and startle system and observe and record the behavior of fish before and during use of the fish detecting and startle system.

(4) Observe fish patterns and any marine mammals (such as whales, sea turtles, harbor porpoises, and seals) in the area, and advise dredge and disposal operators on the appropriate blast timing to avoid impacting these biological resources.

(5) Provide a summary report of data collected on fish behavior, before and during the use of the fish detecting and startle system, results of fish killed (including species, length, and weight) during blasting, and observations of marine mammals to dredging and blasting

operations.

1.9.2.2 Fisheries Observer Duties and Requirements

a. The Fisheries Observer will be responsible for prohibiting blasting operations during the passage of schools of fish and other duties as specified, including performing marine mammal observer duties in the absence of the Marine Mammal Observer. Funding of the Fisheries Observer shall be the Contractor's responsibility. The Fisheries Observer shall be approved by the Contracting Officer. The Contractor shall provide sonar equipment and fish detecting and startle equipment for the exclusive use of the Fisheries Observer. The sonar and fish detecting and startle system equipment shall be placed on a separate vessel and meet the following requirements:

(1) Sonar (hydroacoustic monitoring equipment) shall be a side-scan type, which can provide a low target recognition value, distance to fish, determine the direction the fish are traveling, and provide a record of the information collected electronically.

(2) Fish detecting and startle system equipment shall be used to avoid blasting when fish are present or transiting through the areas to be blasted and dredged. The equipment shall be capable of deterring fish using high amplitude sound at specific frequencies.

b. The Contractor shall provide a self-propelled vessel exclusively for the use of the sonar equipment and the fish detecting and startle system equipment. The vessel shall be capable of operating in the project area during winter months, and capable of vacating the blast area quickly so blasting can occur within 30 minutes of the site being cleared.

c. The Contractor shall provide for clear and constant communication between the fisheries observer and the blasting personnel. It shall be the sole responsibility of the fisheries observer to determine when conditions are favorable for blasting based on fish observations. The fisheries observer shall not give approval for initiation of blasting until s/he has determined that no schools of fish, large fish, or marine mammals are present in the blasting area. However, the on-site safety officer shall have the authority and responsibility to override the fisheries observer's determination at those times when either safety concerns or regulatory compliance becomes an issue.

d. Fish Kills:

(1) If at any time during the implementation of this project a significant fish kill occurs, and can be attributed to this project, all site activities impacting the water shall cease until the source of the problem is identified.

(2) If a fish kill is observed, the Contractor will notify the Resident Engineer, the Project Manager (Ms. Erika Mark) and the Environmental Resources Specialist (Mr. Todd Randall) immediately. Pertinent information along with the fish observer's report will be forwarded to the above parties as soon as possible. The Project Manager will convene a meeting with USACE's Resident and Project Engineers, the Contractor, and appropriate State and Local agencies to discuss events and to determine the cause of the fish kill and determine what, if any, adequate mitigating measures and/or corrective

actions can be taken to reduce the changes of further fish kills.

e. Fisheries Observer Reports:

(1) The fisheries observer shall prepare an after action report for all blasting events monitored. The report shall include the date and time monitoring was initiated, deployment and retrieval of the fish detecting and startle system, the time of the placement, current speed and direction, tidal conditions, and weather observations throughout the day, and other pertinent observations. The fisheries observer will note if fish were observed in the project area prior to blasting and if there were any dead or injured fish after the event. If applicable, the fisheries observer shall record the number of fish killed or injured, and species including representative sizes and weights. Any equipment or operational issues that may have contributed to the fish kill will also be noted.

(2) Daily reports of the Fish Observer Observations and Findings shall meet the requirements of the permits (attached at the end of this section), as provided in these specifications.

(3) All reports shall be emailed to the U.S. Army Corps of Engineers, New England District, Evaluation Branch, addressed to: Mr. Todd Randall, Todd.A.Randall@usace.army.mil, phone: (978) 318-8518.

1.9.3 Endangered Species and Marine Mammal Observer

For all efforts associated with dredging and disposal operations and drilling and blasting work the Contractor shall provide the services of an Endangered Species and Marine Mammal Observer, with qualifications and duties as specified below, from 15 October 2021 to 1 April 2022 to avoid impacts to biological resources due to dredging and disposal work and drilling and blasting efforts.

1.9.3.1 Endangered Species and Marine Mammal Observer Credentials and Qualifications

Certain credentials and experience might indicate an observer has the skills listed below. Ideally, the applicant shall have an educational background in marine biology, general experience aboard dredges, and hands on field experience with the species of concern.

A person who does not have a college degree in marine biology or a related field may be qualified as an observer if she/he has successfully completed an approved endangered species dredge observer training program (subparagraph c(1) below), and has twice the experience identified as necessary in subparagraphs b(2), c(3), and c(4) below.

a. Education: College degree (BS or higher) in marine biology or a related field, and

b. Dredge/Float Experience:

(1) For shortnose sturgeon or sea turtle observers: Work for a minimum or one week in any capacity aboard dredges of the same type as those to be used in the project, or

(2) For large whale observers: Work for a minimum of two months as a naturalist or wildlife guide aboard an active whale watch vessel or

other vessel primarily engaged in the observation of large whales in the wild, and

c. Field Experience and Equivalents

(1) Successful completion of an approved endangered species dredge observer training course, or

(2) Documented field research focused on the species or its habitat, or

(3) Work for a minimum of four months as an endangered species observer-in-training aboard dredges that have interacted with the species in question, or

(4) Active involvement for a minimum of one year in organized responses to protected species stranding events where sea turtles and marine mammals are identified and handles.

Note: If dredge operations are likely to interact with more than one group of protected species, the observer must demonstrate that he/she has all of the respective skill sets.

d. Skill Sets:

(1) Observers must be able to identify whale and sea turtle species.

(2) Observers must be able to advise dredge operators on the appropriate maneuvering to avoid harassing or impacting whales and sea turtles.

(3) Observers must be able to identify endangered whale and sea turtle species that may be encountered during project operations.

(4) Observers must be able to discern whale behaviors, such as milling, traveling, and feeding.

(5) Observers must be able to demonstrate knowledge of individually distinctive markings on humpback and right whales for identification purposes.

e. NOAA and NMFS Approval

Endangered Species and Marine Mammal observers for this project shall be NOAA Fisheries approved observers and shall also have have written approval/certification from the National Marine Fisheries Service (NMFS).

1.9.3.2 Endangered Species and Marine Mammal Observer Duties and Requirements

a. The Endangered Species and Marine Mammal Observer shall be responsible for prohibiting harassment of marine mammals and sea turtles during blasting operations and transport and disposal of dredged material. Funding of the Endangered Species and Marine Mammal Observer shall be the Contractor's responsibility. The Endangered Species and Marine Mammal Observer shall be approved by the Contracting Officer.

b. The name of endangered species and marine mammal observer shall be recorded in the logbook and is required to be on lookout for marine

mammals, sea turtles, and sturgeon for the duration of the trip to and from the open water disposal site. If marine mammals (i.e. whales) are struck by the disposal vessel, a record of the details of the occurrence shall be thoroughly prepared in a report. Include in the report the name of the observer, date, time, weather and sea conditions, estimate of size of animal, estimate of species of animal, damage caused to animal, and photographs (if taken). The Contracting Officer must be contacted as soon as possible with the report of any vessel strikes.

c. To protect the right whale and other whale species, the Contractor shall contact the Right Whale Advisory (866-755-6622, Virginia to Maine) prior to transit of vessels. An Endangered Species and Marine Mammal Observer shall be present for the transport of dredged material and the transit of vessels to and from the ocean disposal site to avoid potential ship strikes. Vessels will not be allowed to travel greater than 10 knots.

d. An Endangered Species and Marine Mammal Observer shall be a required on every tug transporting dredged material.

1.9.4 Protection of Marine Mammals

a. The Contractor shall provide information and guidance to vessel operators and crews to familiarize them with the marine mammals and sea turtles likely to be present in transit to or at the disposal area during late fall, winter, and early spring.

b. The Contractor's vessel operators and crews shall be trained in the identification and response protocols for marine mammals and sea turtles likely to be present in the vicinity of the disposal site.

c. The Contractor shall contact NMFS and check the websites www.listenforwhales.org or http://www.nefsc.noaa.gov/psb/surveys/ in advance to determine the potential presence of marine mammals in the area.

d. In the event that a right whale is sighted, the Contractor must notify the National Marine Fisheries Service (NMFS) immediately at telephone number (866) 755-6622.

e. Modify ocean disposal operations by delaying the disposal for one-half hour, or as instructed by the marine mammal observer, after a sighting whenever the vessel crew or observer detect protected threatened or endangered species within approximately 1,000 feet of the disposal position or 500 yards of a North Atlantic right whale.

1.9.5 Operational Requirements and Responsibilities Necessary for Environmental Compliance

PART I. Legal Requirements for operation of any vessel around North Atlantic Right Whales:

Code of Federal Regulations (CFR), Title 50:

50 CFR Part 217 - REGULATIONS GOVERNING THE TAKE OF MARINE MAMMALS INCIDENTAL TO SPECIFIED ACTIVITIES, and

50 CFR Part 222 - ENDANGERED FISH OR WILDLIFE, Subpart D - Special

Prohibitions, Section 222.32 - Approaching North Atlantic Right Whales:

a. *Prohibitions*. Except as provided below under subparagraph title "Exceptions", it is unlawful for any person subject to the jurisdiction of the United States to commit, attempt to commit, to solicit another to commit, or cause to be committed any of the following acts:

(1) Approach (including by interception) within 500 yards of a right whale by vessel, aircraft, or any other means;

(2) Fail to undertake required right whale avoidance measures specified below under subparagraph titled "Right Whale Avoidance Measures".

b. *Right Whale Avoidance Measures*. Except as provided below under subparagraph titled "Exceptions", the following avoidance measures must be taken if within 500 yards of a right whale:

(1) If underway, a vessel must steer a course away from the right whale, and immediately leave the area at a slow safe speed;

(2) An aircraft must take a course away from the right whale and immediately leave the area at a constant air speed.

c. *Exceptions*. The following exceptions apply to this section, but any person who claims the applicability of an exception has the burden of proving that the exception is applicable:

(1) Subparagraphs above titled "Prohibitions" and "Right Whale Avoidance Measures" of Part I do not apply if a right whale approach is authorized by National Marine Fisheries Service (NMFS) through a permit issued under subpart C (Endangered Fish or Wildlife Permits) of this part or through a similar authorization.

(2) Subparagraphs above titled "Prohibitions" and "Right Whale Avoidance Measures" of Part I do not apply where compliance would create an imminent and serious threat to a person, vessel, or aircraft

(3) Subparagraphs above titled "Prohibitions" and "Right Whale Avoidance Measures" of Part I do not apply when approaching to investigate a right whale entanglement or injury, or to assist in the disentanglement or rescue of a right whale.

(4) Subparagraphs above titled "Prohibitions" and "Right Whale Avoidance Measures" of Part I do not apply to an aircraft unless the aircraft is conducting whale watch activities or is being operated for that purpose.

(5) Subparagraph above titled "Right Whale Avoidance Measures" of Part I does not apply to the extent that a vessel is restricted in her ability to maneuver, and because of the restriction, cannot comply with subparagraph above titled "Right Whale Avoidance Measures" of Part I.

PART II. Requirements on operation around any large whale or sea turtle for purposes of ocean disposal at the disposal site:

a. *Operational Restrictions*.

(1) Disposal operators must not approach within 500 yards of any large whale or 100 yards of any sea turtle with a vessel;

(2) Disposal operators must follow the avoidance measures described below:

b. *Avoidance Measures*. Except as provided below under subparagraph titled "Exceptions" of Part II, the following avoidance measure must be taken if within 500 yards of any large whale or 100 yards of any sea turtle:

(1) If underway, a vessel must steer a course away from the whale or sea turtle, and immediately leave the area at a slow safe speed;

c. *Exceptions*. The following exceptions apply to this section, but any person who claims the applicability of an exception has the burden of proving that the exception is applicable:

(1) These requirements do not apply where compliance would create an imminent and serious threat to a person or vessel.

(2) These requirements do not apply when approaching to investigate a right whale entanglement or injury, or to assist in the disentanglement or rescue of a right whale, provided that permission is received from NMFS or a NMFS designee prior to the approach.

(3) Subparagraph above titled "Avoidance Measures" of Part II does not apply to the extent that a vessel is restricted in her ability to maneuver (as defined in 72 COLREGS, 33 CFR) , and because of the restriction, cannot comply with subparagraph above titled "Avoidance Measures" of Part II.

Part III. Requirements for release of dredged material at the disposal site:

If threatened or endangered species of any kind (including whales and sea turtles) are sighted with 500 yards from the disposal point, operators must wait for the animals to leave the area or must use an alternative disposal point specified by the Corps of Engineers (NAE) within the boundary of the designated disposal site. If threatened or endangered species of any kind are sighted between 500 and 1500 yards from the disposal point, the lookout shall note animals' behavior, relative position, and direction and speed of movement to determine if release of dredged material is likely to harass or endanger the animals. For example, whale actively feeding at or near the disposal point are more likely than resting whales to interact with released sediments. If the lookout judges that disposal is likely to harass or endanger the animals, the lookout shall inform the vessel captain. Disposal shall be delayed until the animals change their behavior or move away such that the lookout judges that no danger to the animals will result from disposal. In the event that behavior and direction of movement is unpredictable, operators should use the alternative approved disposal point. In the presence of right whales, the most protective operational measure is advised.

PART IV. Other Responsibilities of Vessel Operator/Onboard Lookout (as appropriate):

a. The lookout is responsible for contacting NMFS early warning network for the most recent information on whale movements and locations prior to departure for the disposal site to check for the presence of whales.

b. The lookout shall report all whale sightings, noting location, to the early warning network at the end of the day. The lookout shall contact NMFS at 866-755-6622 if a Right Whale is spotted. The web site address is http://www.nefsc.noaa.gov/psb/surveys/.

1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations from the drawings and specifications, requested by the Contractor and which may have an environmental impact, will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. After receipt of such notice, the Contractor will inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

a. This Article supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has received environmental permits issued for this project. A findings of fact issued by Maine Department of Environmental Protection and a Coastal Zone Consistency Determination from both Maine and New Hampshire are attached at the end of this specification section. Also attached at the end of this specification section is the permit for the nearshore disposal sites (File No. NAE-2017-01590, dated April 27, 2018). For the permit pertaining to the beach fill placement at Nantasket Beach (File No. NAE-2018-00495, dated July 19, 2018) refer to end of Section 35 20 26 BEACH FILL PLACEMENT. The Contractor shall comply with terms and conditions that are applicable to this contract. Such applicable terms and conditions are specified in the various sections of these specifications and on the contract drawings. The above referenced documents shall not be relied on for contract requirements. In the event a discrepancy is discovered between the reference documents and these specifications or

the contract drawings, the Contractor shall notify the Contracting Officer for clarification. The Contracting Officer will rely on permit requirements and conditions to resolve perceived conflicts.

b. The requirements under the state of Maine's permit L-20323-4E-C-N Order #8 on page A-1-15 will be completed by the Government.

3.2 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. All water areas affected by construction activities shall be monitored by the Contractor.

3.3 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

3.3.1 Particulates

The Contractor shall maintain 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. The Contractor shall comply with all State and local visibility regulations.

3.3.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with the States of Maine and New Hampshire regulations and/or local ordinances.

3.3.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with the provisions of the States of Maine and New Hampshire rules.

3.4 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

3.4.1 Solid Wastes

Solid wastes shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

3.4.2 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in

accordance with all Federal, State, Regional, and local laws and regulations. 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. Storage of fuel on the project site shall be in accordance with all Federal, State, and local laws and regulations.

3.5 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.6 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, marine mammals and other aquatic wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State and local laws and regulations.

3.6.1 Eelgrass

a. Eelgrass resources are classified as essential fish habitat. Areas of eelgrass are shown on the contract drawings.

b. Anchors or anchoring, or spudding down within areas of eelgrass will not be permitted.

c. The Contractor shall take caution and maneuver its equipment and vessels such that their propulsion mechanisms do not cause scour in the vicinity of eelgrass.

3.7 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits, plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

3.8 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.9 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: 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; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.10 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
DIVISION OF GEOLOGY, NATURAL AREAS, AND COASTAL RESOURCES
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0093

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

June 30, 2014

Mr. John R. Kennelly
Chief, Planning Branch
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, Massachusetts 01742-2751

Re: CZMA Consistency; Dredging of the Piscataqua River Federal Navigation Project; Maine

Dear Mr. Kennelly:

I am writing in response to the Army Corps of Engineers' ("ACOE") letter dated April 8, 2014, which provides its determination that the proposed maintenance and improvement dredging of the Piscataqua River federal navigation project and related dredged materials disposal activity, as described in its letter and related information, are consistent with the enforceable policies of Maine's coastal zone management program.[1]

In accordance with the findings, conclusions, terms, and conditions of the Department of Environmental Protection's ("DEP") Order dated June 30, 2014 (L-20323-4E-C-N), which is incorporated herein by reference, the State conditionally concurs with the ACOE's consistency determination. Please note that under 15 C.F.R. §930.4 the State's conditional concurrence will be treated as an objection if the ACOE does not agree to modify its proposal, if and as necessary, to meet the conditions in DEP's above-referenced Order. We note that the ACOE has agreed to "conduct outreach directly with the lobster industry through venues such as the Lobster Zone Councils and the Shellfish Advisory Council" as part of its proposed action to ensure there will not be significant impacts to existing fisheries and encourage this effort.[2]

Please contact Todd Burrowes on my staff (207-287-1496) if you have questions or need additional information.

[1] At the State's request, the ACOE submitted additional information in support of its consistency determination following its initial submission. The ACOE agreed that the federal consistency review period would begin on the date of receipt of that information, which is May 16, 2014.
[2] *See* Findings 4 and 8 of DEP Order L-20323-4E-N, dated June 30, 2014.

MAINE COASTAL PROGRAM
KATHLEEN LEYDEN, DIRECTOR
17 ELKINS LANE – WILLIAMS PAVILLION
AUGUSTA
www.maine.gov/doc/nrimc/
PH: (207) 287-2801
FAX: (207) 287-2353

Sincerely,



Kathleen Leyden
Director, Maine Coastal Program

cc:\
Robert Green, DEP

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

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COMMISSIONER

June 2014

U. S. Army Corps of Engineers
C/o Mark Habel
New England District, Army COE
696 Virginia Road
Concord, MA 01742-2751

RE: Natural Resources Protection Act Application/Federal Consistency Review, Eliot
DEP #L-20323-4E-C-N

Dear Mr. Habel:

Please find enclosed a signed copy of your Department of Environmental Protection's Findings of Fact pertaining to Federal consistency review of the proposed Piscataqua River Turning Basin expansion project. You will note that the attached document includes a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take several moments to read the document carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department's environmental laws. You will also find attached some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit or thoughts on how the Department processed this application please get in touch with me directly. I can be reached at 207- 822-6300 or at robert.green@maine.gov.

Sincerely,

Robert L. Green, Jr.

Robert L. Green, Jr., Project Manager
Division of Land Resource Regulation
Bureau of Land and Water Quality

pc: File

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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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DEPARTMENT ORDER

IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	) NATURAL RESOURCES PROTECTION ACT
Eliot, York County	) COASTAL WETLAND ALTERATION
PISCATAQUA RIVER TURNING BASIN	)
L-20323-4E-C-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of the U.S. ARMY CORPS OF ENGINEERS with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: The Federal Navigation Project (FNP) for the Portsmouth Harbor and Piscataqua River was initially authorized by Congress in 1879 and substantially modified in the 1960's. The U.S. Army Corps of Engineers (the Corps) is authorized to maintain the federal channel in Portsmouth Harbor, located at the mouth of the Piscataqua River. The FNP for the Piscataqua River consists, in part, of a 400-foot wide channel extending from deep water in Portsmouth Harbor to the confluence of Adlington Creek, approximately 2,750 feet upstream of Frankfort Island. The turning basin, located at the head of the FNP, is approximately 800 feet wide. The authorized depth of the federal channel and turning basin is -35 feet mean lower low water (MLLW), which is the average of the lower low water height of each tidal day. Shoaling within the channel occurs along the portion of the FNP known as Simplex Reach and requires periodic maintenance dredging to maintain the authorized depth.

In Department Order #L-20323-4E-A-N, dated August 29, 2000, the Department issued a federal consistency finding and water quality certification to the Corps for dredging approximately 20,000 cubic yards of material to restore the channel to its authorized depth. In Department Order #L-20323-4E-B-N, dated December 20, 2011, the Department issued a federal consistency finding and water quality certification for the removal of approximately 50,000 cubic yards of sandy material from the Simplex Reach to restore the authorized 35-foot deep channel. This portion of the FNP was last dredged in February 2013.

B. Summary: The port facilities along the New Hampshire side of the river receive cargoes from vessels ranging in length from 420 to 747 feet and with drafts of 30 to 36 feet. The existing width of the turning basin is too narrow for the efficient and safe handling of these larger vessels. The Corps proposes to widen the existing 800-foot wide turning basin to 1,200 feet to the authorized depth of -35 feet MLLW, plus an additional two feet of allowable overdredge. The area proposed to be dredged is located on the

Maine side of the river. The Corps is also seeking to conduct a maintenance dredge of the entire turning basin concurrent with the widening. The proposed project is estimated to generate approximately 735,900 cubic yards of coarse-grained sand and gravel material. Bedrock in the proposed project site will require blasting to remove this material and will generate approximately 25,300 cubic yards of rock ledge. The Corps anticipates beginning dredging operations October 15 and taking four months to remove unconsolidated material. This would be followed by one month of drilling and blasting the uncovered ledge areas (mid-Feb to mid-March), which would then be followed by one month of dredging to remove the blasted rock. The entire project is expected to be completed by April 15, in a single dredge season.

Dredged material will be disposed of at an offshore location north of the Isle of Shoals and approximately ten miles seaward of the entrance to Portsmouth Harbor. The disposal site is located outside State waters and the Department has only considered the geological suitability of the disposal site for the dredged material; therefore, a Water Quality Certification under Section 401 of the Federal Water Pollution Control Act is not required or included with this permit.

The Corps noted that several options for nearshore disposal of dredged material for beach nourishment are still being discussed with municipalities in Maine and Massachusetts. The Corps intends to move forward with the disposal of dredged material offshore of the Isle of Shoals until such time as any of the municipalities provide the funding for the additional costs above the Corps' Base Plan for disposing of dredged material. Securing approvals and permits for nearshore disposal options will also be the responsibility of each municipality. The Corps also noted that rock ledge could be disposed of at the Cape Arundel Disposal Site (CADS), but because it is located within State waters, a water quality certification would first have to be obtained prior to disposing any dredged material at this location.

The proposed dredge project is shown on an undated plan sheet entitled "Portsmouth Harbor turning Basin Widening Project Feasibility Study," prepared by the Corps.

C. Current Use of the Site: The Maine side of the Piscataqua River is lightly developed with single-family residences. The New Hampshire side of the river is developed with commercial port facilities.

2. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES:

The Natural Resources Protection Act (NRPA) requires the Corps to demonstrate that the proposed project will not unreasonably interfere with existing scenic, aesthetic, and recreational uses pursuant to 38 M.R.S.A.§ 480-D(1).

In accordance with Chapter 315, Assessing and Mitigating Impacts to Scenic and Aesthetic Uses, the Corps submitted a copy of the Department's Visual Evaluation Field Survey Checklist as Appendix A to the application along with a description of the

property and the proposed project. The Corps also submitted several photographs of the proposed project site.

The proposed project is located in the Piscataqua River, which is a scenic resource visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities. There will be no permanent changes to the scenic and aesthetic values of the river, because dredging activities will take place in the subtidal area. The Corps intends to use a mechanical dredge to perform the proposed project, working 24 hours a day, seven days a week over a course of a six- to seven-month period that extends between October 15 and April 15.

The proposed project was evaluated using the Department's Visual Impact Assessment Matrix and was found to have an acceptable potential visual impact rating. Based on the information submitted in the application and the visual impact rating, the Department determined that the location and scale of the proposed activity is compatible with the existing visual quality and landscape characteristics found within the viewshed of the scenic resource in the project area.

The Department of Marine Resources (DMR) stated that the proposed project should not cause any significant adverse impact to navigation or recreation. DMR commented that the proposed time frame of the dredging operation may potentially increase the interaction with lobster gear on the transportation route; however, as discussed in Finding 8, DMR determined that the proposed activity can be managed to reduce potential impacts to existing uses.

The Department finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses of the protected natural resource.

3. SOIL EROSION:

As described in Finding 1, the dredging activity will be conducted using a mechanical bucket dredge and the dredged material will be disposed at an offshore location north of the Isle of Shoals.

Based on the materials submitted with the application, the Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

4. HABITAT CONSIDERATIONS:

The NRPA requires the Corps to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, estuarine and marine fisheries, and other aquatic life pursuant to 38 M.R.S.A. § 480-D(3).

Department staff reviewed a Geographic Information System (GIS) database that contains site-specific information on existing natural resources provided by both the DMR and the Department of Inland Fisheries and Wildlife (MDIFW). The GIS database indicates that there are no mapped Essential or Significant Wildlife Habitats associated with the proposed project.

The site of the Federal channel and turning basin is located in the estuarine portion of the Piscataqua River. The Great Bay, located approximately 0.25 miles upstream of the project site on the New Hampshire side of the river is designated as a National Estuarine Research Reserve. The March 2014 Draft Environmental Assessment (EA) submitted by the Corps states that numerous marine and estuarine fish species use the Piscataqua River and Great Bay area as a nursery, feeding, and resting area. Shellfish, such as lobsters (*Homarus americanus*), soft-shell clams (*Mya arenaria*), and harbor seals and harbor porpoises are present in the Great Bay and mouth of the river. Within the project site, benthic surveys have documented the presence of a few species of amphipods which are mostly opportunistic species adapted to frequent disturbances. The EA states that dredging to widen the turning basin is not expected to alter the benthic community. Recolonization is expected to occur within a few months following dredging and any temporary loss of fish foraging area is expected to be localized and short-lived. The EA also stated that the Great Bay Estuary supports 52 species of resident and migratory fish. Commercially and recreationally important species include, smelt, winter flounder, smooth flounder, and striped bass. The Corps proposes to conduct dredging operations between October 15 and April 15 to avoid impacts to the spring and fall runs of migratory fish.

DMR reviewed the proposed project and submitted written comments to the Department, dated June 26, 2014. DMR stated that diadromous fish species native to Maine including alewives, blueback herring, striped bass, American eels and sturgeon all potentially use habitat in the Piscataqua River, and that October is a timeframe when juvenile river herring might be emigrating and sturgeon are still present before they move to wintering grounds. The April timeframe is also a known period of elver (juvenile American eel) migration up stream. DMR noted that typical dredge windows include the periods between November 8 and April 8 of any year in order to minimize potential adverse impacts to fish in the area. However, DMR recognizes the navigational and safety hazards and the need to move ahead with the proposed project, and that the impact to diadromous fish species and lobster fisheries can be adequately mitigated. After consideration, DMR recommended that the Corps conduct outreach directly with the lobster industry through venues such as the Lobster Zone Councils and the Shellfish Advisory Council. The Corps agreed to undertake these efforts.

The effects of turbidity from dredging operations have been documented to result in adverse impacts to finfish and shellfish. The EA asserts that increased turbidity around the project site will be localized, and that the strong river current will disperse the fine grained sediment: thus high turbidity levels will be of a short duration such that adverse impacts are not expected. Impacts from turbidity are expected to be further minimized by limiting dredging operations to late fall to early winter, thus avoiding those times when

lobster larvae are most abundant in the estuary and when fish are spawning. The EA also states that fish passage is not expected to be impeded because of the width of the river at the project site and because of the grain size of the dredged material, specifically, that sand-sized particles, which make up more than 95% of the dredged material, are expected to settle quickly to the river bottom.

The Corps stated that Atlantic Sturgeon (*Acipenser oxyrhynchus oxyrinchus*), a federally-listed threatened species, and Short-nose Sturgeon (*Acipenser brevirostrum*) and Gulf of Maine Atlantic Salmon (Atlantic Salmon), both federally-listed endangered species, have been found to use the Piscataqua River. Acoustic receivers have documented Atlantic Sturgeon in the Great Bay. The EA states that the portion of the river around the project site is not suitable sturgeon overwintering habitat because of high currents and salinities.

The EA acknowledges the November 13, 2013 letter from the National Marine Fisheries Service (NMFS), which notes that the sound effects from blasting have the potential to injure or kill fish in the area of the blast site. At particular risk of injury are the two species of sturgeon. To minimize potential blasting impacts to marine mammals and fish, the Corps will take mitigating actions to the maximum extent practicable. These actions include: placing material on top of the borehole (stemming) to deaden the shock wave reaching the water column; staggered detonation of charges in a sequential blasting circuit; blasting during periods of slack tide and within a confined bubble curtain; using inserted delays of a fraction of a second per blast drill hole; requiring the use of sonar and the presence of a fisheries and marine mammal observer; prohibiting blasting during the passage of schools of fish or in the presence of marine mammals, unless human safety is a concern; and using a fish detecting and startle system to avoid blasting when fish are present or transiting through the area, including placing the fish startle system on a separate boat.

Although not subject to this review, the EA characterized the Isle of Shoals disposal site as a relatively flat plain surrounded by higher elevations and under approximately 300 feet of water. The benthic report for the disposal site summarizes the area as being physically homogeneous and inhabited by a limited benthic invertebrate community. Grain size data confirmed that the site is fine-grained as seven of the nine samples contained more than 95% fines and the remaining two samples contained more than 79% fines. The material proposed for placement is composed of coarse-grained material. Disposal mounds of coarser grained material and rock are expected to improve fish habitat by providing some physical diversity to the site which may attract additional species to the disposal area.

Based on depth and substrate type, a large number of fish species are likely to use the disposal site at some stage of their life cycle. These species include, among others, Atlantic cod, pollock, whiting, red hake, white hake, redfish, winter flounder, American plaice, ocean pout, Atlantic halibut, Atlantic sea scallop, Atlantic sea herring, long-finned squid, short-finned squid, Atlantic mackerel, summer flounder, ocean quahog, spiny dogfish, and bluefin tuna. Any eggs and larvae suspended at the placement site would be entrained in the dredged material as it is released from the scow and destroyed. Eggs and

larvae on the bottom of the sea floor would also be destroyed from burial during placement. It is possible that juveniles and adults would be able to escape impacts from placement. The temporary and limited impact of disposal on these species is not expected to have a significant impact.

NMFS noted that seaward migrating juveniles of the Gulf of Maine Distinct Population Segment of Atlantic salmon have been recorded by acoustic telemetry moving southward toward the vicinity of the disposal area; however, they have not been detected by the buoy closest to the disposal site. It is not expected that this species will be in the vicinity of the Isle of Shoals disposal area during the time of disposal operations. In addition, no tagged Short-nose Sturgeon were detected at a deployed buoy in the vicinity of the disposal site.

The site would be tidally flushed and have good water quality. The effect of storms on the bottom sediments within the site would be expected to be minimal as the site is located in a deep area (approximately 300 feet deep).

At the disposal site, right whales, as well as occasional humpback whales and fin whales, could be present. The EA recommends that the contractor be required to contact the Right Whale Sighting Advisory System prior to transit. A threatened and endangered species monitor will be present on board during transport of material to the disposal site from the project area to avoid potential ship strikes. It is also recommended that vessels not be allowed to travel greater than 10 knots in speed to minimize the potential for ship strike.

Based on the material submitted with the application and DMR's review comments, the Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life provided that dredging and disposal operations are performed between October 15 and April 15, that the Corps implements the recommended mitigation efforts designed to limit the impacts of sound created during blasting and that a threatened and endangered species monitor is present during all dredging and disposal operations.

5. WATER QUALITY CONSIDERATIONS:

The NRPA requires the Corps to demonstrate that the dredging project will not violate any state water quality law, including those governing the classification of the State's waters pursuant to 38 M.R.S. § 480-D(5). The project site is located within Class SB waters.

The water quality standards dictate that SB waters shall be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation and navigation, and as habitat for fish and other estuarine and marine life. Additionally, the State's water quality standards include an

antidegradation policy found at 38 M.R.S. § 464(4)(F). This policy provides that existing uses and the level of water quality necessary to protect those existing uses must be maintained and protected. As discussed in Finding 2 and Finding 4, and based on DMR comments, the Corps has demonstrated that the proposed activity will not result in a significant degradation of recreational uses, fishing, and commercial harvesting of shellfish and other estuarine and marine life and as habitat for such species.

Based upon information contained in the record, the Department finds that the Corps has demonstrated that the proposed project will maintain and protect existing uses and the level of water quality necessary to protect those existing uses; will protect the existing water quality of affected SB waters; will not significantly impair the viability of existing estuarine and marine life; and will not result in a significant degradation of existing recreation, fishing, and commercial harvesting of such estuarine and marine species.

Therefore, the Department finds that the proposed project will not violate any state water quality law, including those governing the classification of the State's waters.

6. WETLANDS AND WATERBODIES PROTECTION RULES:

The NRPA requires the Corps to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered species plant habitat, or aquatic or adjacent upland habitat pursuant to 38 M.R.S.A. § 480-D(3).

The Wetland Protection Rules interpret and elaborate on the NRPA criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a coastal wetland alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

The portion of the project that the Department has considered consists of the dredging of approximately 20.4 acres of river bottom adjacent to the existing turning basin and Federal channel. The disposal site is located outside of State waters and the Department has only considered the geological suitability of the disposal site for the dredged material as discussed in Finding 7.

A. Avoidance. No activity may be permitted if there is a practicable alternative to the project that would be less damaging to the environment. The Corps submitted an alternatives analysis for the proposed project in the EA. The purpose of the proposed project is to widen the existing turning basin to ensure safe navigation for commercial vessels and to conduct a maintenance dredge of the entire turning basin concurrent with the widening. No practicable alternative to maintenance dredging at the same time as the widening was identified since it would require remobilization of equipment and

disruption of existing uses during another dredge season in the near future. The alternatives analysis considered a no-action alternative, widening the turning basin to alternate widths, alternate dredging methods (hydraulic, hopper, or mechanical), and alternate disposal methods (upland, beach nourishment, nearshore placement, or ocean).

The Corps stated that the no-action alternative would continue to restrict the size of vessels that can use wharf facilities above the I-95 Bridge and continued hazardous navigation conditions at the turning basin. The no-action alternative was dismissed by the Corps because it did not meet the project purpose, which is to widen the existing 800-foot wide turning basin to allow for the efficient and safe turning of ships.

The Corps examined whether relocating the turning basin or widening the turning basin at its present location to 1,020 feet to accommodate ships less than 680 feet in length or 1,120 feet to accommodate those ships up to 747 feet in length were practicable alternatives. It was determined that the selected alternative, widening the turning basin to 1,200 feet at its present location would have little additional environmental impacts and would be the most cost efficient. In addition, the existing turning basin is located adjacent to the Sprague River Road Terminal, which handles an estimated two-thirds of the vessel traffic on the upper portion of the river. The Portsmouth pilots involved in turning the vessels would be able to maneuver the vessel to or from the dock to the turning basin.

The Corps considered three dredging methods: hydraulic dredge, hopper dredge, or mechanical bucket dredge. A hydraulic dredge loosens the bottom sediments and entrains them in a water slurry that is pumped up from the river bottom. The material is then discharged away from the channel or is pumped via a pipeline to a dewatering area or disposal site. This type of dredge is generally used for sandy material that will be disposed of in an upland area or on a nearby beach. Since the material to be dredged is compacted glacial till and there are no available upland disposal sites, this type of dredge was rejected. The second method considered was a hopper dredge, which uses a suction pump to loosen and remove material from the river bottom. The material is then deposited into hoppers aboard the dredge vessel. In this region, this type of dredge is most often used to remove sandy material from harbor entrance channels and deposit the material offshore of beaches to nourish littoral bar systems. The compacted sediment proposed to be removed makes use of this type of dredging operation impracticable. Furthermore, the haul distance to the proposed disposal site would make the use of a hopper dredge uneconomical. For these reasons, this alternative was rejected. The third option considered is a mechanical bucket dredge that involves the use of a barge-mounted crane, backhoe, or cable-arm with a bucket to dig the material from the river bottom. The material is placed in a scow for transport to a disposal site by tug. The material is discharged at a dump buoy and commonly forms a discrete mound of dredged material at the disposal site to minimize off-site migration. The Corps determined that since the material dredged for this project is suitable for unconfined open water placement, this dredge method was the best alternative.

The alternatives analysis also included three disposal methods: upland placement, unconfined open water placement, or nearshore placement. The Corps examined upland disposal opportunities and concluded that there were no upland sites available that could handle the dewatering and permanent storage of the large amounts of dredged material. Therefore, this alternative was rejected since upland disposal would raise the project costs significantly.

Another option considered was unconfined open ocean placement. Given the composition of the dredge material and the results of the sediment testing, the Corps has determined this disposal option is most suitable for the proposed project. CADS was determined to be impracticable because the Congressional action that re-opened the site placed a per-project disposal limitation of no more than 80,000 cubic yards. The Corps has considered disposing of the estimated 25,300 cubic yards of rock to be removed by the proposed project at CADS, but noted that a water quality certification would have to be obtained prior to disposing any dredged material at this location.

The Corps examined whether the site located off Isle of Shoals that had historically been used to dispose of dredged material was suitable for a project of this size. Given the volume of material to be dredged and the amount of fishing now present at the previous disposal site, the Corps located a new site north of the Isle of Shoals. Conditions at this site were reviewed in Finding 4. Use of this disposal alternative was included in the Corps development of a Base Plan. The costs and net economic benefits of the project are projected from the Base Plan. Deviations from the Base Plan are allowed provided those deviations are equal to or less than the cost reflected in the Base Plan.

The Corps also considered nearshore placement, which involves the placement of dredge material in nearshore areas from which it can be moved by littoral processes. Locations for nearshore disposal included beaches in New Hampshire and Maine that are within ten miles of the mouth of the river. However, there was no local interest in receiving the dredged material, so this alternative was determined to be impracticable. However, four coastal municipalities have indicated that they desire that the dredged material be placed in nearshore areas to nourish nearby beaches, and are willing to fund the cost differential between the Base Plan and nearshore placement. The EA examined the nearshore locations at each of the four locations (three in Massachusetts and one at Wells Beach in Wells, Maine) and made an initial determination that disposal of dredged material at these sites are not expected to result in an adverse impact to the environment. The Corps has stated that, because nearshore placement at these locations exceeds the costs established in the Base Plan, covering the additional costs and securing all approvals and permits will be the responsibility of the local municipality.

The Department concurs with the Corps' conclusions that the no-action alternative would not meet the stated project purpose and is not a practicable alternative. In addition, the Department concurs with the Corps' determination that the conditions at the turning basin warrant dredging at the scale proposed and that the use of a mechanical bucket dredge is the best method for completing the project. The Department finds that the selected

dredging and disposal methods are the most practicable alternatives that would have the least amount of environmental impact.

B. Minimal Alteration. The amount of coastal wetland to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project. The Corps prepared a detailed bathymetric survey of the project site to ensure that the minimum amount of material will be removed from the project area to meet the Project Need. The Corps stated that removing bottom material will not permanently alter the characteristics of the existing bottom sediment and habitat characteristics and therefore minimizes the impact to marine fisheries. Dredging is proposed during the fall and winter to minimize the impacts to marine life that use the area as discussed in Finding 4.

Based on the conclusions of the alternatives analyses above, the Department finds that the Corps has adequately demonstrated that the amount of coastal wetland to be altered by the proposed project is the minimum amount necessary to meet the stated project need and purpose.

C. Compensation. In accordance with Chapter 310, compensation is required to achieve the goal of no net loss of coastal wetland functions and values. The Corps has demonstrated that the proposed dredge will not permanently alter the characteristics of the project area. Based on the information provided in the EA and comments from DMR, the Department finds that the impact to wetland functions from the proposed project will be temporary and not significant. Therefore, no compensation is required.

The Department finds that the Corps has avoided and minimized coastal wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

7. GEOLOGICAL CONSIDERATIONS:

Sediment core samples were collected from 21 locations in 2007 and 2009 within the project site. Grain size analysis results demonstrated that the material was a mix of gravel, coarse to fine-grained sands, and silt with rock ledge present above the proposed dredge depth of -35 feet MLLW. The Corps proposes to dispose of the material at an unconfined disposal site approximately five to six miles northeast of the Isle of Shoals and the disposal site used in previous dredge events. The Isle of Shoals – North site is seaward of the three-nautical mile limit of the territorial sea, in Federal waters. The EA characterized the disposal site as a relatively flat plain surrounded by higher elevations and under approximately 300 feet of water with fine-grained sediments and little species diversity and use.

The Department finds that the Corps has demonstrated that the disposal site is geologically suitable.

8. DREDGE SPOILS TRANSPORTATION CONSIDERATIONS:

The Corps submitted a map that outlines the proposed transportation route to the Isle of Shoals Disposal Site which was reviewed by DMR. DMR stated that the October 15 start date could potentially increase the interaction with lobster gear on the transportation route in areas along the transportation route. As discussed in Finding 4, the Corps agreed to conduct outreach directly with the lobster industry through venues such as the Lobster Zone Councils and the Shellfish Advisory Council. To further minimize this impact and in accordance with 38 M.R.S.A § 480-D(9), the Department finds that one week prior to commencing the dredging operation, the Corps must:

a. Clearly mark or designate the dredging area, the disposal area, and the transportation route;

b. Publish in a newspaper of general circulation in the area adjacent to the route the approved transportation route of the dredge spoils;

c. Publish in a newspaper of general circulation in the area adjacent to the route a procedure that the Corps will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.

Provided the Corps marks the transportation route and publishes notices as described above, the Department finds that the transportation route of the proposed project minimizes adverse impacts on the fishing industry.

9. FUTURE DREDGE EVENTS:

The NRPA was amended to allow for maintenance dredging with a Permit-by-Rule notification (pursuant to Chapter 305 of the Department's Rules) if the area to be dredged is located in the same area that was dredged within the last ten years, and the amount of material to be dredged does not exceed the amount approved by the Department (38 M.R.S.A § 480-E(8), effective September 28, 2011). Use of a Permit-By-Rule notification to renew this Federal consistency finding is limited only to dredging the turning basin. Dredging in the remainder of the Federal channel may require a separate consistency review and, possibly, Water Quality Certification.

The Department has determined that to ensure that future dredge events will not result in an unreasonable impact to the environment and will not violate the standards of the NRPA, information specific to each dredge event must be provided. When seeking renewal of this Federal consistency finding, the Corps must submit an estimate of the volume of material to be dredged, a characterization of the material to be dredged, the location of where the dredged material will be disposed, and a schedule for completing dredging, to the Department's satisfaction, prior to receiving a renewal for all subsequent dredge events.

If the Corps proposes to dispose of dredged material by any other means than at the Isle of Shoals – North site, a new or revised Federal consistency finding may be required from the Department.

The Department finds that the Corps will have demonstrated that conditions for future dredge events will be similar to those discussed in this Federal consistency finding provided that, prior to a future dredge event, the Corps submits data to the Department that clearly characterizes the composition of the material to be dredged, accurately estimates the volume of material to be dredged, identifies the location of where the dredged material will be disposed, and submits a schedule for completing the dredging.

10. OTHER CONSIDERATIONS:

The Department did not identify any other issues involving existing scenic, aesthetic, or navigational uses, soil erosion, habitat or fisheries, the natural transfer of soil, natural flow of water, water quality, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided that: dredging and disposal operations are performed between October 15 and April 15: the Corps implements the recommended mitigation efforts designed to limit the impacts of sound created during blasting; a threatened and endangered species monitor will be present during all dredging and disposal operations as described in Finding 4; the Corps marks the transportation route and publishes the appropriate notices one week prior to commencing the dredging operation as described in Finding 8; and that prior to a future dredge event, the Corps submits data to the Department as described in Finding 9.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

J. The proposed activity will not unreasonably impact the fishing industry and the proposed disposal site is geologically suitable provided the Corps marks the transportation route and publishes the appropriate notices one week prior to commencing the dredging operation as described in Finding 8.

THEREFORE, the Department APPROVES the above noted application of the U.S. ARMY CORPS OF ENGINEERS to widen the Piscataqua River Turning Basin and conduct maintenance dredging in the existing basin as described in Finding 1, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The Corps shall take all necessary measures to ensure that its activities or those of its agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. All dredging activities and disposal of the dredged material shall be limited to the period between October 15 and April 15 of any given calendar year.

5. The Corps shall implement the recommended mitigation efforts in the EA designed to limit the impacts of sound created during blasting operations.

6. The Corps shall have a threatened and endangered species monitor present during all dredging and disposal operations.

7. The Corps shall comply with the provisions of 38 M.R.S.A 480-9(D) and shall:

   a. Clearly mark or designate the dredging area, the disposal area, and the transportation route;

b. Publish in a newspaper of general circulation in the area adjacent to the route the approved transportation route of the dredge spoils;

c. Publish in a newspaper of general circulation in the area adjacent to the route a procedure that the Corps will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.

8. Prior to any future dredge event, the Corps shall submit to the Department data that clearly characterizes the composition of the material to be dredged, accurately estimates the volume of material to be dredged, the location of where the dredged material will be disposed, and a schedule for completing the dredging.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 30th DAY OF June, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Michael Kuhns
For: Patricia W. Aho, Commissioner

Filed
JUN 30 2014
State of Maine
Board of Environmental Protection

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES…

RLG/L20323CN/ATS#77749

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised (12/2011/DEP LW0428)

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

June 2, 2014

John R. Kennelly
Chief, Planning Branch
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RE: File No. 2014-01; Portsmouth Harbor and Piscataqua River Navigation Improvement and Project

Dear Mr. Kennelly:

The New Hampshire Coastal Program (NHCP) has received the U.S. Army Corps of Engineers' federal consistency determination for the Portsmouth Harbor and Piscataqua River Federal Navigation Improvement Project, pursuant to Section 307(c)(1) of the Coastal Zone Management Act, 16 U.S.C. §1456(c)(1). The proposed project would widen the upper-most turning basin at the head of the deep-draft navigation channel in the Piscataqua River from 800 feet to 1,200 feet. Maintenance dredging of the existing basin and its approaches would also be performed. The basin would retain its current -35-foot depth at mean lower low water. Approximately 728,100 cubic yards (cy) of predominantly sand and gravel, and approximately 25,300 cy of ledge would be removed for the improvement project. Based on discussions with your staff, we understand that the estimated volume of material to be removed for maintenance dredging has been reduced from 7,800 cy to 2,100 cy. All proposed work associated with the improvement project would occur in Maine waters, while maintenance dredging would occur in both New Hampshire and Maine waters.

The federal base plan for disposal of the dredge material is at the Isles of Shoals-North ocean placement site, located approximately ten miles seaward of the entrance to Portsmouth Harbor. However, several communities in Maine and Massachusetts have proposed to beneficially use the sandy/gravelly material and rock for beach nourishment and wave attenuation. Should these communities be successful in securing the necessary regulatory approvals for such work and be willing to pay any increase in project cost to implement these proposals, then placement of some or all of the material removed from the federal navigation project at the Isles of Shoals-North site may not be necessary.

Information contained in the federal consistency determination, and in the Draft Feasibility Report and Draft Environmental Assessment submitted in support of the federal consistency determination, indicates that the proposed project is expected to take approximately six months to complete and would be limited to the period of mid-October to mid-April to protect federally-listed threatened or endangered species, including shortnose sturgeon and Atlantic sturgeon. As you may be aware, New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau rules at Env-Wt 304.11 limit dredging in tidal waters to the period of November 15 to March 15 to protect

DES Web Site: **www.des.nh.gov**
222 International Drive, Suite 175, Portsmouth, New Hampshire 03801
Telephone: (603) 559-1500 Fax: (603) 559-1510 TDD Access: Relay NH 1-800-735-2964

fish and shellfish resources. The NHCP, therefore, strongly recommends that all work in New Hampshire waters occur between November 15 and March 15 to minimize impacts to biological resources, including Atlantic and shortnose sturgeon, diadromous fish species and lobster. We also recommend that any proposed modification to the November 15 to March 15 dredging timeline be approved by the NHDES Wetlands Bureau in consultation with the New Hampshire Fish and Game Department.

After reviewing the federal consistency determination and supporting documentation, we find the proposed project to be consistent, to the maximum extent practicable, with the enforceable policies of New Hampshire's federally approved coastal management program.

Should you have any questions, please feel free to contact me at (603) 559-0025.

Sincerely,



Christian Williams
Federal Consistency Coordinator
New Hampshire Coastal Program

cc: Doug Grout, NH Fish & Game Department
Geno Marconi, Pease Development Authority – Division of Ports and Harbors
Dori Wiggin, NHDES Wetlands Bureau

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

April 27, 2018

Regulatory Division
File Number: NAE-2017-01590

Towns of Newbury and Salisbury
c/o Tracy Blais
12 Kent Way
Byfield, Massachusetts 01922

Dear Ms. Blais:

We have reviewed your application to place dredged material below the high tide line of waters of the United States in order to place suitable material dredged from the Piscataqua River in Maine within two nearshore disposal cells off the coasts of Newbury and Salisbury, Massachusetts as part of beach nourishment activities. The total amount of material to be placed will total no more than 500,000 cubic yards between both sites. This project is located in the Atlantic Ocean off the coasts of Newbury and Salisbury, Massachusetts. The work is shown on the enclosed plans entitled "NEARSHORE DISPOSAL SITE LOCATIONS", "SALISBURY NEARSHORE DISPOSAL SITE", and "NEWBURY NEARSHORE DISPOSAL SITE" on three (3) sheets, and dated "MARCH 2018". The following geographic coordinates describe the corner boundaries of the offshore disposal sites:

Newbury Disposal Cell:

FOR "NEWBURY NEARSHORE DISPOSAL SITE" USE
GEOGRAPHIC COORDINATES SHOWN ON SHEET C-103

Salisbury Disposal Cell:

FOR "SALISBURY NEARSHORE DISPOSAL SITE" USE
GEOGRAPHIC COORDINATES SHOWN ON SHEET C-103"

Based on the information you have provided, we have determined that the proposed activity, which includes work and/or a discharge of dredged or fill material into waters of the United States, including wetlands, will have only minimal individual or cumulative

environmental impacts. Therefore, this work is authorized under the enclosed February 2015 General Permits for Massachusetts (GPs for MA), specifically GP 5, under the pre-construction notification process. This work must be performed in accordance with the terms and conditions of the GPs and also in compliance with the following special condition:

The work authorized herein shall not be conducted during the time of year (TOY) restriction of 15 March to 30 June of any year in order to minimize adverse impacts to Atlantic salmon (Salmo salar), alewife (Alosa pseudoharengus), blueback herring (Alosa aestivalis), American shad (Alosa sapidissima), American eel (Anguilla rostrate), Atlantic sturgeon (Acipenser oxyrinchus), shortnose sturgeon (Acipenser brevirostrum), and winter flounder (Pseudopleuronectes americanus).

You are responsible for complying with all of the GP requirements. Please review the enclosed GPs for MA document carefully, in particular the general conditions beginning on Page 23, to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is underway.

This authorization does not obviate the need to obtain other Federal, state, or local authorizations required by law, as listed on Page 57 of the GP document. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

This authorization becomes valid only after the Massachusetts Department of Environmental Protection (MassDEP) issues or waives Water Quality Certification (WQC) as required under Section 401 of the Clean Water Act. In the event the MassDEP denies the 401 WQC, this determination becomes null and void. The address of the MassDEP Regional office for your area is provided on page 47 of the enclosed GP document.

Your project is located within, or may affect resources within the coastal zone. The Massachusetts Office of Coastal Zone Management (CZM) has already determined that no further Federal Consistency Review is required.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. You may submit a request for an approved jurisdictional determination to this office in writing if you desire.

This authorization expires on April 5, 2023. You must commence or have under contract to commence the work authorized herein by April 5, 2023 and complete the work by April 5, 2024. If you do not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. We recommend you contact us *before* this permit expires to discuss a time extension or permit reissuance.

You must contact us immediately to discuss modification of this authorization if you change the plans or construction methods for work within our jurisdiction. This office must

approve any changes before you undertake them.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Please contact Christine Jacek of my staff at (978) 318-8026 if you have any questions.

Sincerely,

Barbara Newman

Barbara Newman
Chief, Permits & Enforcement Branch
Regulatory Division

Courtesy Copy:

David Smith, GZA GeoEnvironmental, Inc., 144 Elm Street, Amesbury, Massachusetts 01913, david.smith@gza.com

Ed Reiner, U.S. EPA, Region 1, Boston, Massachusetts, reiner.ed@epa.gov

Zach Jylkka, NOAA; zachary.jylkka@noaa.gov

Robert Boeri, Coastal Zone Management, Boston, Massachusetts, Robert.Boeri@state.ma.us

Rachel Freed, DEP NERO, Wetland and Waterways, Wilmington, Massachusetts; rachel.freed@state.ma.us

Michael Girvan, MassDEP-WRP, Boston, Massachusetts; michael.girvan@state.ma.us

MEPA Office, Executive Office of Energy and Environmental Affairs, 100 Cambridge Street, Suite 900, Boston, Massachusetts, 02114

Town of Newbury Conservation Commission, 12 Kent Way, Suite 101, Byfield, Massachusetts 01922, conscom@townofnewbury.org

Town of Salisbury Conservation Commission, 5 Beach Road, Salisbury, Massachusetts 01952



NOTES:

1. BASE IMAGERY DOWNLOADED FROM BING ONLINE WEBMAP SERVICES ON FEBRUARY 16, 2018.
2. DISPOSAL BOUNDARIES SCALED FROM FIGURE 1 OF THE NEWBURYPORT HARBOR - ENVIRONMENTAL ASSESSMENT 2008, FINAL REPORT, FROM THE USACE, DATED JUNE 20, 2008.

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NO.	ISSUE/DESCRIPTION	BY	DATE

NEARSHORE PLACEMENT OF PISCATAQUA & MERRIMACK RIVER SEDIMENTS

NEARSHORE DISPOSAL SITE LOCATIONS

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TOWN OF NEWBURY

PROJ MGR: DAS	REVIEWED BY: ABB	CHECKED BY: DAS	SHEET 1
DESIGNED BY: DAS	DRAWN BY: JJZ	SCALE: AS SHOWN	
DATE: MARCH 2018	PROJECT NO. 18.0173620.00	REVISION NO.	

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NOTES:

1. BASE IMAGERY DOWNLOADED FROM BING ONLINE WEBMAP SERVICES ON FEBRUARY 16, 2018.
2. DISPOSAL BOUNDARIES SCALED FROM FIGURE 1 OF THE NEWBURYPORT HARBOR - ENVIRONMENTAL ASSESSMENT 2008, FINAL REPORT, FROM THE USACE, DATED JUNE 20, 2008.

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NO.	ISSUE/DESCRIPTION	BY	DATE

NEARSHORE PLACEMENT OF PISCATAQUA & MERRIMACK RIVER SEDIMENTS

SALISBURY NEARSHORE DISPOSAL SITE

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TOWN OF NEWBURY

PROJ MGR: DAS	REVIEWED BY: ABB	CHECKED BY: DAS	SHEET 2
DESIGNED BY: DAS	DRAWN BY: JJZ	SCALE: AS SHOWN	
DATE: MARCH 2018	PROJECT NO. 18.0173620.00	REVISION NO.	

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NOTES:

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NO.	ISSUE/DESCRIPTION	BY	DATE

NEARSHORE PLACEMENT OF PISCATAQUA & MERRIMACK RIVER SEDIMENTS

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
TOWN OF NEWBURY

NEWBURY NEARSHORE DISPOSAL SITE

PROJ MGR: DAS	REVIEWED BY: ABB	CHECKED BY: DAS	SHEET 3
DESIGNED BY: DAS	DRAWN BY: JJZ	SCALE: AS SHOWN	
DATE: MARCH 2018	PROJECT NO. 18.0173620.00	REVISION NO.	

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SECTION 01 71 23

FIELD ENGINEERING FOR DREDGING

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Engineering Services

The Contractor shall furnish the required personnel, equipment, instruments, and transportation, as necessary to accomplish all required surveys. The Contractor shall note that volume computations for this project shall be based on the Government's reduced hydrographic 3'x3' average data, and the final after dredge survey acceptance shall be based on the Government's reduced hydrographic 3'x3' minimum data. Reports and other data together with supporting material developed during the prosecution of the work shall be furnished to the Contracting Officer. The Contractor shall also provide adequate professional supervision and quality control to assure the accuracy, quality, completeness, and progress of the work.

The Contractor shall provide and pay for the following field engineering services for the project:

a. Hydrographic and other survey work specified or required in execution of this project, except for surveys performed by the Government, as indicated in these specifications.

b. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.

1.1.2 Survey Personnel

The Contractor survey work to be performed under this contract shall be accomplished by, reviewed by and approved by a surveyor familiar with and having personal experience with hydrographic surveys.

1.2 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referenced in the text by basic designation only. The Army Corps of Engineers references below may be viewed or downloaded free of charge via the Internet (http://www.hnd.usace.army.mil/techinfo/).

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-1-1002 (2012) SURVEY MARKERS AND MONUMENTATIONS

EM 1110-2-1003 (2002) HYDROGRAPHIC SURVEYING

1.3 DEFINITIONS

Survey Datum: The contract drawings refer to Mean Lower Low Water

(MLLW). The Government will perform all surveys using the Mean Lower Low Water (MLLW) datum. The Contractor shall perform all surveys using the Mean Lower Low Water (MLLW) datum. The Contractor shall calibrate GPS equipment to the Corps of Engineers existing control indicated on the drawings. Calibration results shall be documented and made available to the Government, if requested. The Contractor shall utilize the Government conversion between MLLW and NAVD88. The Government shall be notified immediately of any discrepancies found using the above referenced conversion.

Federal Navigation Project (FNP): Includes channels, anchorages, turning basins, maneuvering basins, side slopes or any other features of a FNP. The FNP project limits are those authorized by Congress or established by the Chief of Engineers in dredging projects.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control Survey Plan; G, DO

The Contractor shall submit a detailed plan describing the survey methods to be used during the work. The plan shall include the equipment to be utilized, tidal data, general site plan map, line designation map, any corrections to the MLLW datum used, calibration procedures to be used, expected horizontal and vertical accuracies, and pertinent information to describe the methods, and results to be obtained. Field surveys shall not begin until these plans are approved.

Layout Plan; G, DO

A complete plan of the dredging areas showing the horizontal layout of the Federal Navigation Project and any other pertinent features. The drawings shall be drawn at a scale sufficiently large to show all pertinent details. Typical scale of these drawing is 1"=100' or 1"=200'. The drawings shall be submitted as blue or black lines on a white background.

Charts

Current and tide charts to be used for the areas being dredged shall be submitted.

Survey Personnel

Furnish a listing of the personnel who will perform the survey work required by this contract. The listing shall include a brief summary of the hydrographic survey experience of each person. The list shall be submitted within 10 calendar days of the receipt by the Contractor of the Notice to Proceed.

Pre-Dredge Survey; G, DO

SD-05 Design Data

Contractor Quality Control Surveys; G, DO

Contractor After Dredge Survey; G, DO

1.5 GENERAL HYDROGRAPHIC SURVEY REQUIREMENTS

a. All hydrographic surveys for this project shall be multibeam and follow the mandatory criteria given in EM 1110-2-1003 for the "Navigation and Dredging Support Surveys" class of survey as a minimum.

b. Survey lines shall be spaced so that 200 percent bottom coverage is achieved. The lines shall clearly identify the toe and extend out to a minimum of three times the project depth to accurately depict the side slope.

1.6 HORIZONTAL POSITIONING PROCEDURES AND ACCURACIES

Vessel positioning systems utilized on this contract shall conform to the allowable horizontal positioning criteria in EM 1110-2-1003. The positioning system used shall be capable of meeting or exceeding the accuracy requirements and shall not exceed the allowable ranges where indicated. The Contractor shall submit a layout plan and may be required to demonstrate to the Government that its positioning system is capable of meeting or exceeding the accuracy requirements in EM 1110-2-1003.

1.7 REFERENCE HORIZONTAL CONTROL DATA

At the preconstruction conference, the Contracting Officer will provide the contractor with details of the RTK Base Station(s), Bench Mark(s) and any corrections from the geodetic datum of NAVD88 to the specified datum (MLLW) recommended for use on the project. This control information shall be presumed to meet the accuracy requirements in EM 1110-2-1003. The Contractor shall immediately notify the Contracting Officer if existing control points have been disturbed. In the event new station monumentation is required to perform the work, new stations shall be established in accordance with EM 1110-1-1002 criteria, and an equitable adjustment will be made to the contract.

1.8 DEPTH MEASUREMENT PROCEDURES AND CALIBRATION

1.8.1 Depth Measurement Precision and Accuracy

Depth measurements including depth observation precision and resolution shall meet the vertical accuracy standards prescribed in EM 1110-2-1003.

1.9 VERTICAL REFERENCE DATUMS

Depth measurements shall be reduced to the specified datum using RTK GPS or staff/gage readings, as described in EM 1110-2-1003. Recording tides using RTK GPS is recommended and can be used in lieu of tide staffs/gages. RTK tide data shall be referenced and documented to an existing tide gage daily. When needed, tide staffs/gages shall be constructed, referenced, maintained, stilled, and read in accordance with the criteria in EM 1110-2-1003.

1.10 FIELD DATA RECORDING, REDUCTIONS, AND PLOTTING REQUIREMENTS

The data format fields for submitting reduced hydrographic data to the District is x y (+)z. Digital data shall be emailed to the point of contact established at the pre-construction meeting, unless the data set is too large for email. In such cases, data shall be sent via CD-ROM or file transfer site as established by the Contracting Officer.

1.11 VOLUME COMPUTATIONS BY THE CONTRACTOR

The Contractor shall have the capability to compute excavation quantities from work performed under this contract. The Contractor shall compute volumes using any of the techniques given in Chapter 15 of EM 1110-2-1003. Section drawings shall be made at the horizontal and vertical scales given in EM 1110-2-1003.

1.12 MISCELLANEOUS QUALITY CONTROL PROCEDURES

1.12.1 Automated System Synchronization Checks

The Contracting Officer reserves the right to check each automated hydrographic survey system to insure adequacy of correlation between position and depth. Methods for performing this check are given in EM 1110-2-1003.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CONTRACTOR SURVEYS

3.1.1 Contractor Quality Control Surveys

The Contractor shall examine his work by conducting one hydrographic survey every two weeks for a total of two surveys per month. In addition to the two surveys per month, the Contractor shall also conduct surveys specified in Section 01 11 00 SUMMARY OF WORK under subparagraph titled "General Description of Work" and subparagraph titled "Work Sequence" (see below for listing). Additionally, the Contractor shall conduct a hydrographic survey prior to any request for a Government survey for final acceptance. The final Contractor Quality Control Survey for a specific discrete area, approved by the Contracting Officer, or for the entire FNP, shall constitute the Contractor After Dredge Survey for either that specific discrete area or the entire FNP, as appropriate. Contractor Quality Control Surveys shall be sent to the Contracting Officer upon request, and when a progress payment request is submitted.

Additional Contractor Quality Control Surveys:

Pre-rock removal Contractor's quality control survey of the exposed top and sides of rock after removal of overburden.

Post-rock removal Contractor's quality control survey after hard (rock) material has been removed to specified depths.

Progress Contractor's quality control survey of Regions R1 through R4 (required only if **Optional Items 0004 and 0005** ARE AWARDED).

Regions R1 through R4 must be surveyed all at the same time under this one survey.

Contractor After Dredge Survey of Regions R1 through R5 (required only if **Optional Items 0004 and 0005** ARE AWARDED). Regions R1 through R5 must be surveyed all at the same time under this one survey.

3.1.2 Contractor Pre-Dredge Survey

The Contractor shall, at his cost, conduct his own pre-dredge survey for verification of the Government's Pre Dredge survey and submit the data outlined below in subpart "Data Submission Requirements for All Contractor Surveys", to the Contracting Officer upon completion. In addition, prior to starting the Contractor Pre-Dredge Survey, the Contractor shall coordinate with the USACE Survey personnel to calibrate Contractor survey equipment settings to be consistent with Government survey equipment settings. It is the Contractor's responsibility to obtain and review the Government's Pre Dredge survey information and notify the Government of any discrepancies between the Government and Contractor Pre-Dredge surveys prior to the start of any dredging. Once the discrepancy evaluation is completed, the Contracting Officer shall determine if any revisions are needed for the Government Pre Dredge survey of record.

3.1.3 Data Submission Requirements for All Contractor Surveys

Data Submission Requirements for Contractor Surveys

All Contractor Quality Control Surveys submissions (to include the Contractor's pre-dredge survey as noted above under subparagraph "Contractor Pre-Dredge Survey") shall include the following:

a. Field Data:

Raw multibeam data zipped by day

Sound velocity casts zipped by day

Daily tide tables and/or files

Depth sounder rolls (if used) corrected for tide and corresponding boat plots

Reduced hydrographic 3x3 average and 3x3 minimum XY(+)Z files. The 3x3 average file shall have the average sounding in the center of the cell and the 3x3 minimum file shall have the minimum sounding in its actual location.

Field notes, daily logs, and quantity computations

b. 3x3 Minimum Plot (an example survey sketch is attached at the end of this specification section):

1. Noted Information

Name of project

Name of surveying/contract company

Date(s) of survey

Horizontal Datum

Distance units

Vertical Datum

Sonar system

Sounding frequency

GPS System

Software used

Sounding sort distance and confirmation that soundings shown represent shoalest values

MLLW to NAVD88 correction

V-Datum version used (if applicable)

2. Plotted Information

FNP limits/dredge area

Minimum sorted soundings

3x3 minimum contour at design depth

Scale bar

North arrow

Grid

Stationing

Navigation Aids

3. Sheet Setup

The scale of the plot shall match that of the contract drawings and the soundings shall be sorted as appropriate (e.g., 20 feet for 100 scale plot, 40 feet for 200 scale plot, etc). The font size shall be the appropriate size to prevent soundings from being overwritten on the plot.

The above data will be used by the government to verify achievement of contract depth, and compare actual progress and in-place quantities dredged with scheduled progress.

3.1.4 Contractor Progress Payment

The Contractor shall submit Contractor Quality Control Survey data for any periods for which progress payments are requested. The Contractor shall furnish the data listed above in subpart "Data Submission Requirements for Contractor Surveys", to the Contracting Officer, who will use the data as

necessary to determine the amount of progress payments. The Government does not conduct any progress type surveys (See below under paragraph "Government Surveys" for the type of surveys that the Government will perform).

3.2 GOVERNMENT SURVEYS

3.2.1 Survey Equipment

a. All Government surveys will be done with multibeam. Multibeam survey lines usually run parallel with the FNP limits and strive for 200 percent bottom coverage. The sonar beam angle will not exceed 120 degrees. Final FNP clearance will always be based on a contour of the authorized depth created from the 3x3 minimum soundings collected.

b. Tides will be recorded either by manual tide gage(s) or, when vertical accuracy permits, RTK GPS. When using RTK GPS a water surface/tide gage check will be done daily to verify the accuracy of the RTK data. The reference used for tide readings may be an existing NOAA bench mark(s), NOAA's V-Datum program, "Hypack KTD file or a point(s) established by the Government. All vertical reference information and methodology used is available upon request or may be found in the general notes on any set of plans issued by the Government. This information will be verified/updated at the Pre Construction meeting.

c. The RTK base station used by the Government for a particular project may be found in the general notes on any set of plans issued by the government. Specific details about the base station are available upon request and will be confirmed at the Pre Construction meeting.

3.2.2 Survey Types

a. Specification (Spec) Surveys: The Government has conducted a Specification (Spec) survey for this particular project, which was used to calculate initial quantities for the purposes of issuing a contact. The quantities calculated were done so using the 3x3 average soundings. The quantities calculated from the spec survey may be used for payment purposes, unless the Government opts to conduct a pre dredge survey (see part "B." below).

b. Pre Dredge Survey: The Government will conduct or has conducted a pre dredge survey within 180 days of the start of dredging operations. The Government reserves the right to use the specification survey as the pre dredge survey, even when the specification survey was completed more than 180 days before the start of dredging operations. Pre dredge drawings and XYZ files will be provided to the Contractor upon request.

c. The Government's Pre Dredge survey will be the survey of record for initial volume calculations and determining the total amount of material available to be dredged. Volume calculations will be based on the 3x3 average soundings.

d. Government After Dredge Surveys (Final Examination by the Government):

(1) The Government will not perform an after dredge survey until the Contractor has conducted his own after dredge survey and submitted the following:

(a) Reduced hydrographic 3x3 minimum PDF plot, as described in Subpart "Contractor Quality Control Surveys".

(b) Reduced hydrographic 3x3 minimum and average survey files (xyz data)

(c) Volume calculations

(2) The above information shall be submitted 3 calendar days (72 hours) prior to the date the Contractor is requesting the Government to mobilize to the site to perform an After Dredge survey. If the above 3x3 minimum XY(+)Z data does not show the project cleared to the targeted depth, the Government will not perform the After Dredge survey and will require the Contractor to perform additional dredging work to meet contract requirements. Upon completion of the additional dredging work, the Contractor shall perform a new After Dredge Survey and resubmit the new data to the Government as noted in Paragraph 1 above.

(3) The Contractor will be notified when the Government's After Dredge survey will take place, and shall have all equipment removed from the cleared survey area so as not to impede the Government survey operation. If water, tide and/or weather conditions at the project site prevent the survey from being completed safely, the survey will be conducted as soon as the Government determines that the water, tide and/or weather conditions have improved to the point where the After Dredge survey can be completed safely. Upon completion of the final after dredge survey, the Government shall have 7 days to compile the information, process the data, and review for required depth clearance. The Government's After Dredge survey will be used to verify that the targeted contract depth has been achieved. The Government's first After Dredge survey over a particular area will be performed at
no cost to the Contractor.

(4) If the Government's After Dredge survey shows the project clear to the targeted depth using the authorized depth contour created from the 3x3 minimum soundings it becomes the After Dredge Survey of record. This survey of record will be compared to the Government's Pre-Dredge survey of record to determine the amount of material that was removed from the project. The 3x3 average soundings will be used for the volume calculation. This calculation will be used to determine the amount of compensation due to the Contractor.

(5) If the Government's After Dredge survey does not show the project clear to the targeted depth, the Contractor will be required to follow the process laid out in paragraph "1" above. Should more than one After Dredge survey be necessary by the Government in a particular area because of shoals disclosed during the Government's first After Dredge survey, the cost of such second and any subsequent sounding or sweeping operations will be charged against the Contractor. The rate for each day in which the Government survey plant is engaged in such sounding or sweeping operations, editing data, is en route to or from the site, or is held, for the Contractor's convenience at or near the site for these operations, shall be $12,880.

(6) This entire process will repeat until the Government After Dredge shows the FNP clear to targeted contract depth. The survey area will be gridded into 3x3 foot cells. The minimum sounding within each cell

will be saved in its actual location. A TIN model will be generated and a required project depth contour will be created. This contour will be used by the Government to determine if the FNP has been cleared to contract project depth. Plotted soundings are not used to determine if the project has been completed to the contract depth.

e. Progress Surveys: The Government does not perform progress type surveys.

3.2.3 Government Volume Computations

a. All Government survey volume computations will be calculated using "Hypack".

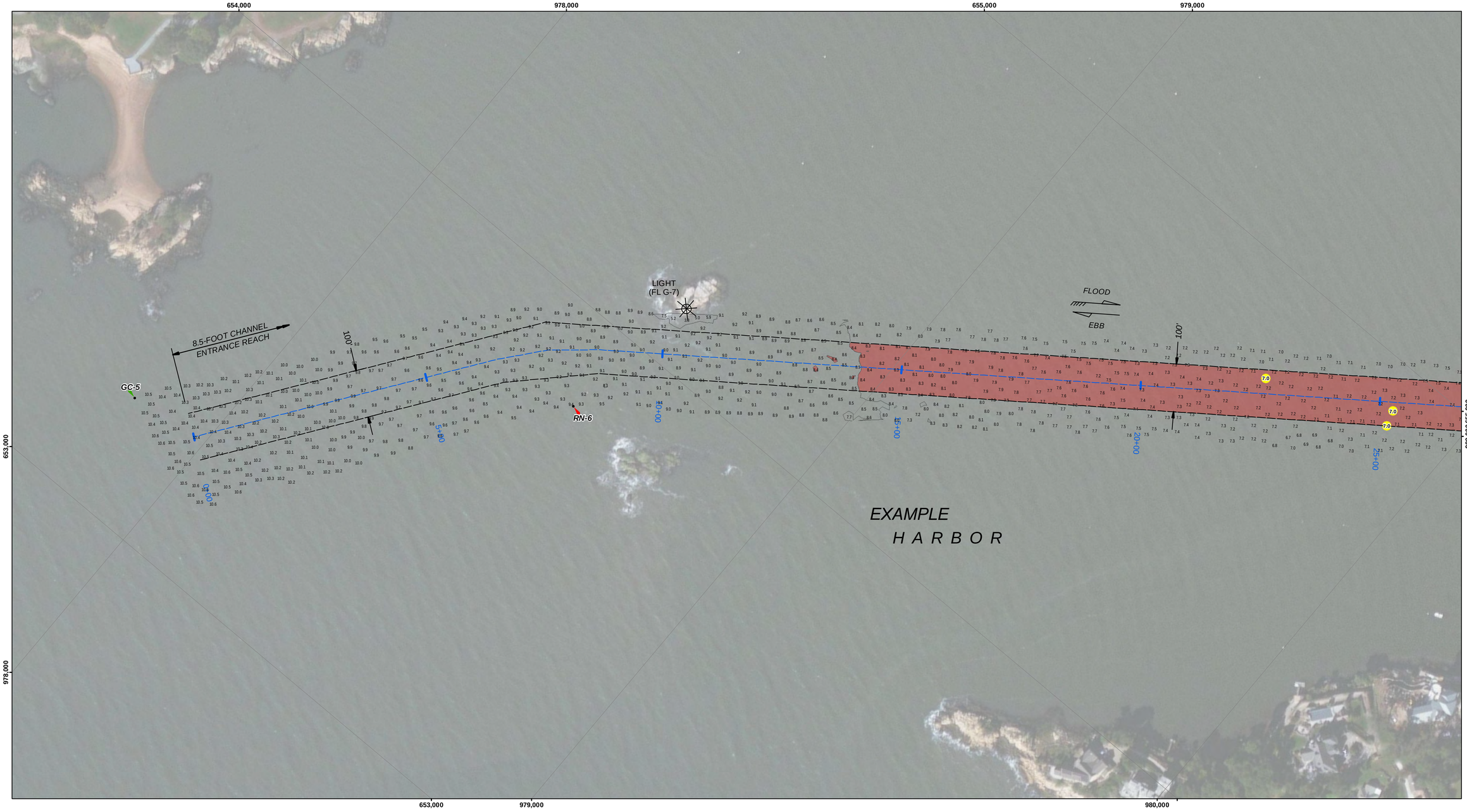
b. A HypackCHN channel design will be generated for each project representing the required FNP dredge depth, as well as any allowable over depth, and channel side slopes typically lV over 3H. Any change to the side slope design (i.e., box cutting) must be approved by the Government prior to the start of any dredging.

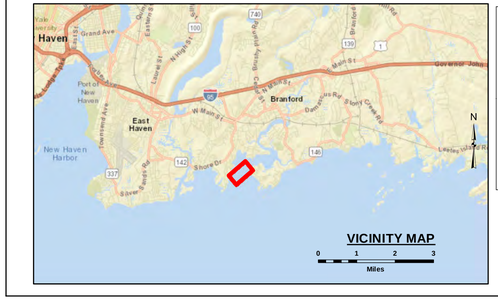
c. A separate TIN surface will be generated from each of the XYZ files created from the 3x3 average Pre-and After Dredge surveys. Hypack's TIN model program will do an analysis of the two surveys and determine the amount of compensation due the contractor. Material removed below the allowable over depth will not be included in the payable quantity of material.

3.2.4 Final Acceptance by the Government

Final acceptance of the whole or any part of the work, and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error.

-- End of Section --





LEGEND

- Federal Navigation Channel
- Cable or Pipeline area
- Channel Center Line
- Contour Line
- Fixed Navigation Aids
- Red Navigation Buoy
- Green Navigation Buoy
- Shoaling Area
- Shoalest Sounding**

** Shoalest Sounding per Quarter per Reach

GRAPHIC SCALE

1" = 100' 100 0 100 200 Feet

Notes:

Horizontal Datum: Connecticut, CT-0600 NAD 83
Distance Units: U.S. Survey Feet
Vertical Datum: MLLW
Depth Units: U.S. Survey Feet
Vessel Name: CELESTIAL
Sonar System: R2 Sonic 2024 (Multibeam Sonar)
Sounding Frequency: 300 kHz
Survey Method: RTK GPS Tides
GPS_System: Trimble SPS 855 (RTK)
RTK Base Station: MTS Smartnet Max
Software Used: Hypack
Sounding Sort Distance: 20'
Field Books: R&H 3760
Survey No.: BRN_CS_2019_065
Reference NOAA Chart No.: 12373

The information depicted on these charts represents the results of surveys made on the dates indicated, and can only be considered as indicating the conditions existing at that time.

General Notes

The sounding information shown on this map represents the SHOALEST soundings of those obtained from hydrographic surveys conducted during August 2019. The sounding information depicted on this map represents the results of surveys made on the dates indicated, and can only be considered as indicating the conditions existing at that time. The positions of aids to navigation were located during survey operations, are provided for information only and should not be used for navigation. Orthoimagery is from a variety of sources and dates and is intended to portray general characteristics of the shoreline and other features. Temporal changes may have occurred since this dataset was collected and some parts may no longer be an accurate representation of the conditions. The information depicted on this map should NOT be used to determine volumes as volumes are determined from more sounding information than shown.

Project Remarks

Lidar data included with sounding data.

Water Level Information

Tides were recorded using RTK GPS. The MLLW to NAVD88 correction used for this project is 3.41 feet. This correction is referenced from NOAA's V-Datum Model Version 3.9, NY/CTRI Region Version 2.2, in the vicinity of Branford Harbor, Branford, Connecticut. NAVD88 is above MLLW; therefore the correction should be added to NAVD88 to convert to MLLW. No tide gauges were used on this project.

INFORMATION PROVIDED FOR EXAMPLE ONLY. INFORMATION REQUIRED IS LISTED IN SPECIFICATION SECTION 01 71 23.

US Army Corps of Engineers
District: CENAE

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SURVEYED BY:
CHECKED BY:
ISSUE DATE:
SUBMITTED BY:
APPROVED BY:
MAP DOCUMENT:
SIZE: ANSI D

EXAMPLE HARBOR
CITY, STATE
SURVEY TYPE
File Name:

SHEET IDENTIFICATION

Sheet 1 of 4

Revison Number: 4.1-20191105

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(OPTIONAL BID ITEMS 0004 AND 0005)

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-- End of Section Table of Contents --

SECTION 01 71 24

FIELD ENGINEERING FOR BEACH FILL PLACEMENT
(OPTIONAL BID ITEMS 0004 AND 0005)

PART 1 GENERAL

This specification section is part of this contract only if Optional Bid Items 0004 and 0005 are awarded.

1.1 SUMMARY

This Section includes general administrative and procedural requirements for performing construction layout, field engineering and surveying, and installation of the work including, establishing and maintaining baselines, design lines, grades and field control points as required for construction layout survey, as-built surveys, and all calculations required to accomplish the Work.

1.2 MEASUREMENT AND PAYMENT

Separate measurement or payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included as incidental to the Work.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-11 Closeout Submittals

Beach Fill As-Built Surveys; G, DO

Beach Fill Placement Records and Survey Data; G, DO

Beach Fill Placement Photographs

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 DREDGED MATERIAL PLACEMENT SURVEYS AND CONTROL

3.1.1 General

The dredged material placement site conditions are dynamic in nature. Conditions existing during the preparation of this contract may not be an accurate representation of placement site conditions existing at the commencement of dredged material ("beach fill") placement operations.

3.1.2 Control and Layout Work

a. The Government has established benchmarks/control points, which are indicated on the Contract Drawings. The Contractor shall notify the Contracting Officer at least 24 hours prior to starting placement of beach fill material.

b. The Contractor is responsible for providing for all field engineering and surveying services necessary to complete the Work. The Contractor shall place physical markings for the purpose of dredged material placement control. Construction staking used shall be 2 inch by 2 inch wooden survey stakes marked with orange flagging, or other approved material, and must be promptly removed as the work areas are accepted by the Government. The Government reserves the right to verify all in-place construction staking before dredged material placement operations commence, and at any time during the construction.

c. The Contractor shall provide, at its own expense, all such stakes, flagging, spikes, steel pins, equipment, and material as may be required in laying out any part of the Work. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other markers established by him until authorized to remove them. If any of the control points established at the site by the Government are destroyed by or through the negligence of the Contractor prior to their authorized removal, they may be replaced by the Contracting Officer, and the expense of replacement will be deducted from any amount due or which may become due to the Contractor. The Contracting Officer may require that work be suspended at any time when horizontal and vertical control points established at the site by the Contractor are not reasonably adequate to permit checking the Work. Such suspension will be withdrawn once control points have been replaced.

d. The Contractor shall stake and flag each beach fill placement control point located such that it provides easy reference for use by the QA and QC personnel. Beach fill placement control points are shown on the Contract Drawings. Control points shall be surveyed utilizing surveying procedures and methodology that meet or exceed accuracy tolerances of +/- 0.10 feet in the vertical and +/- 0.10 feet in the horizontal. In addition, stake and flag the limits of work at 50 foot intervals.

e. From the control points the Contractor shall lay out the Work by establishing all lines and grades at the site necessary to control the work and shall be responsible for all measurements that may be required for the execution of the work as prescribed in the Contract Documents. The Contractor shall maintain such stakes and markers as are necessary for control and guidance of during construction operations. All survey data shall be recorded in accordance with this section. All field notes, sketches, recordings and computations made by the Contractor in establishing horizontal and vertical control points shall be available at all times during the progress of the work for ready examination by the Contracting Officer.

f. During the layout of the work, the Contractor shall notify the Contracting Officer of any inconsistencies or conflicts which arise due to the supplied control points or features of the project.

g. The Contractor will only be held responsible for the quality of his work on a daily basis. Therefore, the Contractor shall verify the

work daily with the Contracting Officer.

3.1.3 Beach Fill As-Built Surveys

a. The Contractor shall perform as-built survey work daily to provide the Government with as-built survey data for beach fill material placed each day and prior to loss of material due to wave action. As-built cross-sections shall be taken at intervals no greater than 50 feet. The Contractor shall collect survey points for each cross section location that includes seaward edge of berm, landward (at wall) edge of berm, elevation of berm, toe of slope, and enough survey points needed between seaward berm crest and the toe of slope to depict seaward slope.

b. The Contractor shall provide the Government with a draft copy of each days survey field notes within 48 hours from when the survey was completed. Final as-built drawings shall be completed using AutoCAD (v2016 or later) and submitted to the Government no later than 10 days after acceptance of final placement of beach fill material. The final as-built drawings shall include cross-sections and site plan. Site plan shall indicate where each cross-section was taken.

3.1.4 Beach Fill Placement Records and Survey Data

All original field notes, computations, and other records for the purpose of the layout and placement of the beach fill material by the Contractor shall be recorded and submitted to the Contracting Officer. The compiled profile data specified for each respective survey shall be submitted on a computer disk. The survey data shall be recorded digitally on DVD in an MS-DOS compatible format. The data shall be submitted to the Government in the following files:

a. ASCII files compatible with the Interactive Survey Reduction Program (ISRP), 2.8 format using distance offset from the baseline (x) and elevation (z).

b. ASCII files having a descriptive header for each profile line followed by three columns: Easting (x), Northing (y) and Elevation (z).

c. Plotted cross section drawings in AutoCAD 2014 each cross section survey taken. Each drawn cross section shall show the station that it was taken from.

d. Each new before- and after-dredged material placement survey disc submittal shall contain compilation of all previous survey data submitted.

e. The Government reserves the right to change and revise requirements for the survey data formats as described above. Submission requirements will be discussed during the Preconstruction Conference .

3.1.5 Beach Fill Placement Photographs

The Contractor shall document satisfactory placement of the dredged material with photographs every 150 feet. Prior to project closeout, submit a set of photographs to the Contracting Officer.

-- End of Section --

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SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 273	Standards for Universal Waste Management
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Co-mingle

The practice of placing unrelated materials together in a single container, usually for benefits of convenience and speed.

1.2.2 Construction Waste

Waste generated by construction activities, such as scrap materials, damaged or spoiled materials, temporary and expendable construction materials, and other waste generated by the workforce during construction activities.

1.2.3 Demolition Debris/Waste

Waste generated from demolition activities, including minor incidental demolition waste materials generated as a result of Intentional dismantling of all or portions of a building, to include clearing of building contents that have been destroyed or damaged.

1.2.4 Disposal

Depositing waste in a solid waste disposal facility, usually a managed landfill, regulated in the US under the Resource Conservation and Recovery Act (RCRA).

1.2.5 Diversion

The practice of diverting waste from disposal in a landfill, by means of eliminating or minimizing waste, or reuse of materials.

1.2.6 Final Construction Waste Diversion Report

A written assertion by a material recovery facility operator identifying constituent materials diverted from disposal, usually including summary tabulations of materials, weight in short-ton.

1.2.7 Recycling

The series of activities, including collection, separation, and processing, by which products or other materials are diverted from the solid waste stream for use in the form of raw materials in the manufacture of new products sold or distributed in commerce, or the reuse of such materials as substitutes for goods made of virgin materials, other than fuel.

1.2.8 Reuse

The use of a product or materials again for the same purpose, in its original form or with little enhancement or change.

1.2.9 Salvage

Usable, salable items derived from buildings undergoing demolition or deconstruction, parts from vehicles, machinery, other equipment, or other components.

1.2.10 Source Separation

The practice of administering and implementing a management strategy to identify and segregate unrelated waste at the first opportunity.

1.3 CONSTRUCTION WASTE (INCLUDES DEMOLITION DEBRIS/WASTE)

Divert a minimum of 60 percent by weight of the project construction waste and demolition debris/waste from the landfill. Follow applicable industry standards in the management of waste. Apply sound environmental principles in the management of waste. (1) Practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction waste and demolition debris/waste from landfills and incinerators and to facilitate the recycling or reuse of excess construction materials.

1.4 CONSTRUCTION WASTE MANAGEMENT

Implement a construction waste management program for the project. Take a pro-active, responsible role in the management of construction construction waste, recycling process, disposal of demolition debris/waste, and require all subcontractors, vendors, and suppliers to participate in the construction waste management program. Establish a process for clear tracking, and documentation of construction waste and demolition debris/waste.

1.4.1 Implementation of Construction Waste Management Program

Develop and document how the construction waste management program will be implemented in a construction waste management plan. Submit a Construction Waste Management Plan to the Contracting Officer for approval. Construction waste and demolition debris/waste materials include un-used construction materials not incorporated in the final work,

as well as demolition debris/waste materials from demolition activities or deconstruction activities. In the management of waste, consider the availability of viable markets, the condition of materials, the ability to provide material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates.

1.4.2 Oversight

The CQC Systems Manager, as specified in Section 01 45 00 QUALITY CONTROL, is responsible for overseeing and documenting results from executing the construction waste management plan for the project.

1.4.3 Special Instructions

Provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the projects. Designation of single source separating or commingling will be clearly marked on the containers.

1.4.4 Waste Streams

Delineate waste streams and characterization, including estimated material types and quantities of waste, in the construction waste management plan. Manage all waste streams associated with the project. Typical waste streams are listed below. Include additional waste steams not listed:

a. Land Clearing Debris
b. Asphalt
c. Masonry and CMU
d. Concrete
e. Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, bronze, etc.)
f. Wood (nails and staples allowed)
g. Paper
h. Plastics (PET, HDPE,PVC,LDPE,PP,PS, Other)
i. Non-hazardous paint and paint cans
j. Beverage Containers

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Waste Management Plan; G, RO

SD-11 Closeout Submittals

Final Construction Waste Diversion Report; S

1.6 MEETINGS

Conduct Construction Waste Management meetings. After award of the

Contract and prior to commencement of work, schedule and conduct a meeting with the Contracting Officer to discuss the proposed construction waste management plan and to develop a mutual understanding relative to the management of the construction waste management program and how waste diversion requirements will be met.

The requirements of this meeting may be fulfilled during the coordination and mutual Understanding meeting outlined in Section 01 45 00 QUALITY CONTROL. At a minimum, discuss and document waste management goals at following meetings:

a. Pre-construction/demolition meeting.

b. Regular site meetings.

c. Work safety meeting (if applicable).

1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

Submit Construction Waste Management Plan within 15 days after notice to proceed. Revise and resubmit Construction Waste Management Plan until it receives final approval from the Contracting Officer, in order for construction to begin. Manage demolition debris/waste or deconstruction materials in accordance with the approved construction waste management plan.

An approved construction waste management plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. Ensure all subcontractors receive a copy of the approved Construction Waste Management Plan. The plan demonstrates how to meet the project waste diversion requirement. Also, include the following in the plan:

a. Identify the names of individuals responsible for waste management and waste management tracking, along with roles and responsibilities on the project..

b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.

c. Description of the regular meetings to be held to address waste management.

d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of materials.

e. Name of landfill and/or incinerator to be used.

f. Identification of local and regional re-use programs, including non-profit organizations such as schools, local housing agencies, and organization that accept used materials such as material exchange networks and resale stores. Include the name, location, phone number for each re-use facility identified, and provide a copy of the permit or license for each facility.

g. List of specific materials, by type and quantity, that will be salvaged for resale, salvaged and reused on the current project,

salvaged and stored for reuse on a future project, or recycled. Identify the recycling facilities by name, address, and phone number.

h. Identification of materials that cannot be recycled or reused with an explanation or justification, to be approved by the Contracting Officer.

i. Description of the means by which any materials identified in item (g) above will be protected from contamination.

j. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).

k. Copy of training plan for subcontractors and other services to prevent contamination by co-mingling materials identified for diversion and waste materials.

l. Facilities or subcontractors offering construction waste transport on-site or off-site must ensure that proper shipping orders, bill of lading, manifests, or other shipping documents containing waste diversion information meet requirements of 40 CFR 273 Universal Waste Management, 49 CFR 173 Shippers - General Requirements for Shipments and Packagings, and 49 CFR 178 Specifications for Packaging. Individuals signing manifests or other shipping documents should meet the minimum training requirements.

m. List each supplier who deliver construction materials, in bulk, or package products in returnable containers or returnable packaging, or have take-back programs. List each program and the applicable material to actively monitor and track to assist in meeting waste diversion requirements on the project.

Distribute copies of the waste management plan to each subcontractor, Quality Control Manager, and the Contracting Officer.

1.8 RECORDS (DOCUMENTATION)

Maintain records to document the types and quantities of waste generated and diverted though re-use, recycling and/or sale to third parties; and through disposal to a landfill or incinerator facility. Provide explanations for any materials not recycled, reused or sold. Collect and retain manifests, weight tickets, sales receipts, and invoices specifically identifying diverted project waste materials or disposed materials.

Maintain a running record of materials generated and diverted from landfill disposal, including accumulated diversion rates for the project. Make records available to the Contracting Officer during construction or incidental demolition activities. Provide a copy of the diversion records to the Contracting Officer upon completion of the construction, incidental demolitions or minor deconstruction activities.

1.9 FINAL CONSTRUCTION WASTE DIVERSION REPORT

A Final Construction Waste Diversion Report is required at the end of the project. Include in the report the project name, contract information, information for waste generated, and cumulative totals of waste diverted

and disposed of for the project. Reports must identify quantifies of waste by type and disposal method. Also include in each report, supporting documentation to include manifests, weigh tickets, receipts, and invoices specifically identifying the project and waste material type and weighted sum.

1.10 COLLECTION

Collect, store, protect, and handle reusable and recyclable materials at the site in a manner which prevents contamination, and provides protection from the elements to preserve their usefulness and monetary value. Provide receptacles and storage areas designated specifically for recyclable and reusable materials and label them clearly and appropriately to prevent contamination from other waste materials. Keep receptacles or storage areas neat and clean.

Train subcontractors and other service providers to either separate waste streams or use the co-mingling method as described in the construction waste management plan. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Separate materials by one of the following methods described herein:

1.10.1 Source Separation Method

Separate waste products and materials that are recyclable from trash and sort as described below into appropriately marked separate containers and then transport to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the category types as defined in the construction waste management plan.

1.10.2 Co-Mingled Method

Place waste products and recyclable materials into a single container and then transport to an authorized recycling facility, which meets all applicable requirements to accept and dispose of recyclable materials in accordance with all applicable local, state and federal regulations. The Co-mingled materials must be sorted and processed in accordance with the approved construction waste management plan.

1.10.3 Other Methods

Other methods proposed by the Contractor may be used when approved by the Contracting Officer.

1.11 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the Contracting Officer and in compliance with waste management procedures as described in the waste management plan. Except as otherwise specified in other sections of the specifications, dispose of in accordance with the following:

1.11.1 Reuse

Give first consideration to reusing construction and demolition materials as a disposition strategy. Recover for reuse materials, products, and components as described in the approved construction waste management plan. Coordinate with the Contracting Officer to identify onsite reuse opportunities or material sales or donation available through Government resale or donation programs. Sale of recovered materials is not allowed on the Installation.

1.11.2 Recycle

Recycle non-hazardous construction and demolition/debris materials that are not suitable for reuse. Track rejection of contaminated recyclable materials by the recycling facility. Rejected recyclables materials will not be counted as a percentage of diversion calculation. Recycle all fluorescent lamps, HID lamps, mercury (Hg) -containing thermostats and ampoules, and PCBs-containing ballasts and electrical components as directed by the Contracting Officer. Do not crush lamps on site as this creates a hazardous waste stream with additional handling requirements.

1.11.3 Waste

Dispose by landfill or incineration only those waste materials with no practical use, economic benefit, or recycling opportunity.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 35 20 23

MECHANICAL DREDGING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 156	Navigation and Navigable Waters, Oil and Hazardous Material Transfer Operations

1.2 RELATED WORK SPECIFIED ELSEWHERE

1.2.1 Environmental Protection Requirements

The Contractor shall be prepared for and be responsible for providing environmental clean-up to correct conditions in the event of hazardous material or oil spills or loss of debris, that occurs during the dredging operations. Comply with Federal, State, and local regulations pertaining to water, air, and noise pollution. See Section 01 57 19 ENVIRONMENTAL PROTECTION.

1.2.2 Underwater Diving Operations

In the event that underwater diving operations become necessary due to the work of this contract, such operations shall be conducted in accordance with EM 385-1-1, Section 30, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS paragraph 1.16, and Section 35 25 00 UNDERWATER DIVING WORK.

1.3 DEFINITIONS

1.3.1 Improvement Dredging

Improvement Dredging under this contract is defined as dredging performed to expand the existing 800-foot wide Turning Basin footprint to coordinates as shown on the Contract Drawings.

1.3.2 Maintenance Dredging

Maintenance Dredging under this contract is defined as the removal of shoaled material that has accumulated within the authorized project (existing 400-foot wide Federal Channel and 800-foot wide Turning Basin) since completion of the last maintenance dredging.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Dredging Operation Plan; G, RO

Submit a work plan for accomplishing the dredging work of this contract.

Debris Management Plan

Develop and submit a debris management plan to the Contracting Officer for review.

Scows

Submit scow cards for each scow to be used for contract work. Scow cards shall have information specified in paragraph "Scows".

Geotechnical Field Technician

Submit for approval qualifications for the geotechnical field technician.

SD-05 Design Data

Equipment and Performance Data

The Contractor shall furnish proof of electronic positioning equipment calibration to the Contracting Officer.

Daily Report of Operations

Submit Daily Report of Operations for each dredge. This report shall be submitted on a daily basis as specified under subpart below titled "Contractor Quality Control."

Monthly Report of Operations

Submit a Monthly Report of Operations for each month or partial month's work as specified under subpart below titled "Contractor Quality Control."

1.5 ORDER OF WORK

Complete work in order as specified in Section 01 11 00 SUMMARY OF WORK under part "Work Sequencing and Scheduling".

1.6 NOTIFICATIONS

1.6.1 Notice of Misplaced Material

The Contractor shall notify the Contracting Officer and the U.S. Coast

Guard Marine Safety Office of any misplaced material.

1.6.2 Notice of Need for Dredging Survey

Refer to subpart titled "Survey Types" in Section 01 71 23, FIELD ENGINEERING FOR DREDGING for requirements pertaining to Government after dredge surveys.

1.6.3 Relocation of Navigation Aids

The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. The Contractor shall notify the Coast Guard District Commander, in writing, with a copy to the Contracting Officer, 30 days in advance of the time he plans to dredge adjacent to any aids which require relocation to facilitate the dredging operation. A copy of the notification shall be provided to the Contracting Officer.

1.6.4 Placement of Dredging Aids

The Contractor shall notify and obtain approval from the U.S. Coast Guard for all buoys, dredging aid markers to be placed in the water, and dredging aid markers affixed with a light prior to the installation. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids.

1.7 MATERIALS TO BE DREDGED

1.7.1 Results of Explorations

a. Explorations to determine the character of materials to be removed, have been made by the Government for selected areas of this project. Refer to Section 00 32 00 GEOTECHNICAL DATA for information regarding the Geotechnical reports. Although the results of such explorations are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations in the subsurface materials are to be expected and, if encountered, will not be considered materially different within the purview of the contract.

b. Ordinary Material:

(1) The ordinary material to be removed to accomplish the dredging work in the existing 35-foot deep federal channel and turning basin is anticipated to be medium to fine sands.

(2) The ordinary material to be removed to accomplish the dredging work in the expanded footprint of the turning basin is anticipated to be a mix of clay, glacial outwash, and glacial till. Refer to Section 00 32 00 GEOTECHNICAL DATA for a description of these ordinary materials to be encountered within the expanded footprint.

c. Hard (Rock) Material:

(1) The improvement dredging work will also require the removal of hard (rock) material by drilling and blasting, hydro-hammer, or removal by other appropriate mechanical means.

(2) The horizontal and vertical locations of hard (rock) material

shown on the contract drawings are based on the interpretation of data collected during the geotechnical investigations (refer to Section 00 32 00 GEOTECHNICAL DATA). The Contractor shall be aware that actual conditions may vary slightly from what is shown on the Contract Drawings. It is up to the Contractor to analyze subsurface data as specified in Section 00 32 00 GEOTECHNICAL DATA.

(3) Blasting for rock material will be permitted and shall be performed only by experienced persons.

(4) Conduct operations and protect exposed structures from the effects of the blast in strict accordance with applicable regulations and Section 35 30 00 UNDERWATER DRILLING AND CONFINED BLASTING.

d. Refer to paragraph titled "Soil and Rock Classification" under Section 00 32 00 GEOTECHNICAL DATA for a description of ordinary and hard (rock) materials.

e. The Contractor is expected to examine the site of the work and decide the character of the material for himself. Prior to bidding, the Contractor may, at its discretion and expense, conduct additional investigations to further determine conditions at the site and determine the character of the material.

1.7.2 Debris

All debris removed from the dredging area will be separated and stockpiled for disposal by the Contractor, in accordance with local, Federal and state laws and regulations, at an upland site supplied by the Contractor. Disposal shall be the responsibility of the Contractor and disposal shall be outside of the project limits.

1.7.3 Artificial Obstructions and Other Material

Except for the utility locations indicated on the contract drawings, the Government has no additional knowledge of existing debris, boulders, cables, pipes, or other artificial obstructions or of any wrecks, wreckage, or other material that would necessitate the use of explosives or the employment of additional equipment for economical removal. If actual conditions differ from those stated or shown, or both, an adjustment in contract price or time for completion, or both, will be made in accordance with "FAR 52.236-2, Differing Site Conditions".

1.8 DEBRIS MANAGEMENT

A Debris Management Plan shall be developed, reviewed by the Contracting Officer, and followed by the Contractor. Debris removed from the bottom during dredging operations, which is not suitable for disposal at the designated disposal area, shall be collected and removed from the site. All objects that become dislodged from the bottom sediments during dredging activities and float to the surface shall be collected, separated and stockpiled for disposal upland. Disposal of debris shall not be permitted on riverbanks, navigable waterways, or in disposal area. Each day during dredging operations, the Contractor shall use a boat to collect and remove floating debris resulting from project activities. This debris shall become the property of the Contractor and shall be removed from the jobsite. Containers for temporary storage of the collected debris shall be maintained on the dredge or support barge. The removal and disposal of this debris shall be accomplished at no additional cost to the Government.

1.9 EXISTING SITE CONDITIONS

It is highly recommended that the bidders examine the site of the work, including the disposal area and decide for themselves as to the conditions affecting their operations. See Contract Clause entitled: "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK."

1.10 WORK AREA

1.10.1 Access

1.10.1.1 Contractor Access

The Contractor shall be responsible for providing and maintaining access necessary for its equipment and plant to and from the work site, mooring area, and disposal area. The Contractor shall ascertain the environmental conditions which can affect the access such as climate, winds, currents, waves, depths, shoaling, and scouring tendencies.

1.10.1.2 Emergency Access

The Contractor shall be responsible for providing and maintaining access necessary for fireboats and first responders in the event of a fire or emergency.

1.10.2 Protection of Existing Waterways

The Contractor shall conduct his operations in such a manner that material or other debris are not pushed outside of dredging limits or otherwise deposited in existing side channels, basins, docking areas, or other areas being utilized by vessels. The Contractor will be required to change his method of operations as may be required to comply with the above requirements. Should any bottom material or other debris be pushed into areas described above, as a result of the Contractor's operations, the material must be promptly removed at no additional cost to the Government.

1.10.3 Adjacent Property and Structures

a. The Contractor shall conduct the dredging operation such that it does not undermine, weaken or otherwise impair existing structures located in or near the areas to be dredged. The Contractor shall investigate the existing structures at the site and plan the dredging work accordingly.

b. Damage to private or public property or structures resulting from the disposal or dredging operations shall be repaired promptly by the Contractor at the Contractor's expense. Damage to structures resulting from the Contractor's negligence will result in suspension of dredging and require prompt repair at the Contractor's expense as a prerequisite to the resumption of dredging.

1.10.4 No Spud Zones

Unless noted otherwise, no areas have been declared a "No Spud Zone".

1.10.5 Protection of Utility Lines

a. Existing utility lines that are shown on the drawings (or locations of

which are known prior to dredging), those utilities found during the Contractor's utility research, and all utilities that are to be retained shall be protected from damage during dredging, and if damaged, shall be satisfactorily repaired by the Contractor at no additional cost to the Government. Refer to part "Project Site Conditions" in Section 01 11 00 SUMMARY OF WORK for requirements pertaining to Contractor's utility research.

b. In the event that the Contractor damages any existing utility lines that are not shown on the drawings or the locations of which are not known to the Contractor, report shall be made immediately to the Contracting Officer. If the Contracting Officer determines that repairs shall be made by the Contractor, such repairs will be ordered under the Contract Clause entitled DIFFERING SITE CONDITIONS.

1.10.6 Unidentified Pipelines or Utilities

Any unidentified pipelines or utilities that may be found within the limits of the work, during the course of dredging shall not be disturbed nor shall excavation be performed at this location unless approved by the Contracting Officer. If actual conditions differ from those stated or shown, or both, an adjustment in contract price or time for completion, or both, will be made in accordance with "FAR 52.236-2, Differing Site Conditions."

1.10.7 Safety of Structures

The prosecution of work shall ensure the stability of piers, bulkheads, and any other structures lying on or adjacent to the site of the work, insofar as structures may be jeopardized by dredging operations. Repair damage resulting from dredging operations, insofar as such damage may be caused by variation in locations or depth of dredging, or both, from that indicated or permitted under the contract.

1.11 INSPECTION OF WORK

Inspect the work, keep records of work performed, and ensure that gages, targets, ranges, and other markers are in place and usable for the intended purpose. See Section 01 45 00 QUALITY CONTROL and Section 35 20 24 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM: SCOW - MONITORING PROFILE.

1.11.1 Method of Communication

For the duration of the contract provide the Contracting Officer with four portable two-way VHF marine radios capable of communicating with the Contractor's marine plant and to provide communication between the dredge crew, disposal crew, and the Contracting Officer.

1.11.2 Transportation

The Contractor shall provide, at the request of the Contracting Officer, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the equipment or marine plant as may be reasonably necessary in inspecting and monitoring the work. The Contractor shall provide, at the request of the Contracting Officer, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and the work site without delay.

1.12 EXISTING PIPELINES OR UTILITIES

A 30-inch diameter steel natural gas pipeline exists within the work area between stations 286+00 and 288+00; depth of pipeline ranges between 120 to 135 feet below Mean Lower Low Water (MLLW). Refer to contract drawings for location.

1.13 FUEL OIL HANDLING

The Contractor shall assure that all fuel oil transfer operations to or from its plant comply with all Federal, state, and local laws, codes and regulations. The Contractor shall incorporate in its accident prevention program, submitted in compliance with the Contract Clause: "ACCIDENT PREVENTION," sufficient information to demonstrate compliance with 33 CFR 156 and any other applicable laws, codes, and regulations.

1.14 DERELICT MOORINGS

Derelict moorings located by the Contractor during dredging operations, or otherwise made known to the Contractor, shall be reported to the Contracting Officer. The Contracting Officer will verify the location of the moorings and any potential hazards to navigation. Such moorings shall be removed and disposed of as debris by the Contractor at the contract price for dredging.

1.15 PERMITS

The Contractor shall comply with conditions and requirements of the Corps of Engineers Permit and other State or Federal permits. The Contracting Officer will secure the permit for dredging and disposal of material as indicated.

1.16 BASIS FOR BIDS

For unit price bid, see SF 1442, "Solicitation, Offer and Award" and "Schedule of Bid Items."

1.17 GEOTECHNICAL FIELD TECHNICIAN - OPTIONAL BID ITEM 0006

a. If optional bid item 0006 is awarded, the Contractor shall hire a geotechnical field technician with a minimum of 2 years of construction monitoring and testing of soil, concrete, and other materials during construction activities. The technician shall be onboard the dredging plant at all times during dredging operations to observe dredged material being loaded into scows/barges that are headed to Nantasket Beach. As each scow/barge is being loaded the technician shall monitor the material being loaded and take at least three (3) photographs at different intervals of the material being loaded into each scow/barge, that is, one photo of the initial load, one photo of the final load, and one photo of material between initial and final load. The technician will be required full-time and take at least three photos per scow/barge and no less than three photos per day until all Nantasket Beach work has been completed and accepted by the Contracting Officer. Monitoring of material is only to the extent to visually make sure that pockets of Glaciomarine Clay and Glacial Till are not being encountered in Regions R1, R2, and R3.

b. Prior to the start of dredging activities, the geotechnical field

technician shall read and review the Louis Berger report titled "Suitability Assessment of Piscataqua River Sand Source for Nourishment of Nantasket Beach". Refer to part 1.1 in Section 00 32 00 GEOTECHNICAL DATA for details on how to obtain a copy of the report.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 DREDGING PLANT AND ASSOCIATED EQUIPMENT

3.1.1 General Requirements

Plant and equipment shall meet the requirements of Section 01 54 50 DREDGING PLANT AND EQUIPMENT.

3.1.2 Dredging Plant

a. All dredging under this contract shall be performed using a mechanical type dredge. The use of hydraulic dredging will not be permitted on this project.

b. Material removed by dredging shall be loaded onto scows, transported, and disposed of at the approved disposal area(s) as indicated on the contract drawings and as specified herein. Overflow of scows while dredging shall not be permitted.

3.1.3 Associated Equipment

3.1.3.1 Tow Boats

All tow boats used for towing to disposal areas shall be equipped with DGPS and track recording navigational equipment or approved equivalent electronic navigation equipment, radar, corrected compass, marine radio, and depth sounding equipment which is to be maintained in operating condition during each tow. The tow boats utilized by the Contractor for this purpose shall be of a size adequate for towing in large rivers with significant current and shall have necessary reserve power for maneuvering with scows and under emergency conditions as well as for control of scows at the disposal point.

3.1.3.2 Scows

a. Failure to repair leaks or a change in the method of operation which is resulting in spillage will result in suspension of dredging operations and require prompt repair or change of operation to prevent spillage as a prerequisite to the resumption of dredging.

b. The Contractor shall provide and maintain markings on all scows clearly indicating the draft of the scow and shall provide scow cards for each scow used on the contract work. The scow cards shall show dimensions and volumes of individual pockets of scows and total volumes for varying depths below coaming or top of pockets. The Contractor shall also provide draft verses displacement curves for all scows. This is to enable the Contracting Officer personnel to make a determination of scow volume and corresponding drafts under partial and full load conditions. These measurements are to be made at the

time of initial use of each scow. The scow volume estimates are for use in connection with disposal area monitoring studies and are not intended to be used in determining quantities dredged. At the beginning of the work and as additional scows arrive on the project, sufficient time shall be allowed by the Contractor and assistance of Contractor personnel shall be made available by the Contractor for the purpose of obtaining the measurements of each scow under various partial and full load conditions. During the entire period of contract work, the Contractor shall provide and maintain sufficient spot or floodlights to permit the reading of the draft on the sides of scows at bow and stern from the tow boat at night and when visibility is impaired.

c. The Contractor shall achieve proper closure and watertightness of pocket doors to eliminate seepage or leakage of material. The use of plastic material to cover cracks in scow pockets will not be allowed.

3.1.4 Other Equipment

Submit all other equipment specifications and operating parameters for review and approval by the Contracting Officer prior to mobilization. No additional compensation shall be considered if other equipment is allowed.

3.2 CONDUCT OF DREDGING WORK

3.2.1 General

Dredging shall consist of the removal and satisfactory disposal of all material encountered to achieve the required depths and side slopes as shown on the contract drawings and as specified herein.

3.2.2 Dredging Operation Plan

At least 30 calendar days prior to initiating any dredging, the Contractor shall submit a detailed dredging operation plan for review and comment by the Contracting Officer. Dredging shall not commence until plan has been accepted, to the satisfaction, of the Contracting Officer. The plan shall include, but not be limited to, description of mechanical dredging (bucket, clamshell (grab) or dipper (backhoe) operations, sequence of work, anticipated plant and equipment; Expected coordination requirements; access, layout of dredging limits, dredging to project depths, retention of material, survey requirements; proposed measures to avoid overdredging; side slope material removal methodology; side slopes or box cut; anchoring locations; quality control survey procedures; anticipated problem areas of project; and all anticipated navigation channel closures.

3.2.3 Marking of Dredging Areas

The Contractor shall buoy off all dredging areas with highly visible markers. The Contractor shall not commence dredging operations until this system of marking has been inspected and approved by the Contracting Officer.

3.2.4 Interference with Navigation

Minimize interference with the use of channels and passages. The Contracting Officer will direct the shifting or moving of dredges or the interruption of dredging operations to accommodate the movement of recreational and commercial vessels and floating equipment, if necessary.

The Contractor shall comply with all requests from the Contracting Officer to move or interrupt dredging operations for a period of 2 hours or less at no additional cost to the Government.

3.2.4.1 Compensation for Interruption of Operations

If dredging operations are interrupted beyond the 2 hours due to the movement of vessels or floating equipment, an adjustment in the contract price or time for completion, or both, will be made as provided by the contract. The Contracting Officer will notify the Contractor 7 days prior to ship movements that will affect dredging operations.

3.2.5 Ranges, Gages, and Lines

Provide, set, and maintain ranges, buoys, and markers needed to define the work and to facilitate inspection. Establish and maintain gages in locations observable from each part of the work so that the depth may be determined. Suspend dredging when the gages or ranges cannot be seen or followed. The Contracting Officer will furnish, upon request by the Contractor, survey lines, points, and elevations necessary for the setting of ranges, gages, and buoys.

3.2.6 Signal Lights

Each night, between sunset and sunrise and during periods of restricted visibility, provide lights for floating plants and equipment, applicable pipeline, ranges, and markers. Also, provide lights for buoys that could endanger or obstruct navigation. When night work is in progress, maintain lights from sunset to sunrise for the observation of dredging operations. Lighting shall conform to United States Coast Guard requirements for visibility and color.

3.2.7 Salvaged Material

Anchors, chains, firearms, and other articles of value, which are brought to the surface during dredging operations, shall remain or become the property of the Government and shall be deposited on shore at a convenient location near the site of the work, as directed.

3.2.8 Method of Communication

Provide a system of communication between the dredge crew, disposal crew, and the Contracting Officer. Portable two-way marine radios are acceptable.

3.2.9 Plant Removal

Upon completion of the work, promptly remove plant and equipment, including ranges, buoys, piles, and other markers or obstructions.

3.3 VESSELS USED FOR TRANSPORTING DREDGED MATERIAL

All nautical vessels and conveyance systems shall be operated, loaded and unloaded in such a manner as to prevent overflow, spills, leaks, or other loss of dredged materials between point of pick-up and point of deposition within the disposal area. Under no conditions shall any barge or scow transporting dredged materials have less than 1 foot of freeboard. This means there shall be at least 1 foot between the top of dredged materials and/or water inside the scow or barge and the top edge of the barge or

scow. All vessels for transporting dredged materials shall be watertight, with all weep holes or openings sealed to prevent any leakage of water or dredged materials. Any modifications to vessels to allow additional freeboard shall be approved by the Contracting Officer. All vessels for transporting dredged material must be inspected and approved by the Contracting Officer 7 days prior to the start of dredging. At this inspection, the Contractor shall demonstrate that all vessels are sound, watertight, and river worthy.

3.4 DISPOSAL OF MECHANICALLY DREDGED MATERIAL

3.4.1 Disposal Sites

a. General

(1) Dredged material shall be placed in scows/barges and transported to and disposed of at the designated disposal sites. A general location for each disposal site can be found shown on the "Disposal Site Map" (not to scale) located on Contract Drawing G-001.

(2) Do not remove loaded or partially loaded scows from the dredge area until the load has been measured by the Contracting Officer. Notify the Contracting Officer when scows are returned to the dredge area.

(3) Provide for safe transportation and disposal of dredged materials. Transport and dispose of dredged material at the disposal site specified. Anticipated weather conditions shall be determined prior to departing for the disposal site.

(4) Year-round, disposal vessels including tugs, barges, and scows transiting between the dredge site and the disposal site shall operate at speeds not to exceed 10 knots. For unanticipated conditions, a vessel may operate at a speed necessary to maintain safe maneuvering speed instead of the required 10 knots. The intent of this condition is to reduce the potential for vessel collisions with endangered turtles, fish, and whales.

b. Unconfined Ocean Disposal Site

(1) All ordinary material and hard (rock) material slated for unconfined ocean disposal shall be placed in dump scows and transported to and disposed of at specific target sites within the Isles of Shoals North (IOS-N) Disposal Site. The IOS-N Disposal Site is located in the Gulf of Maine, approximately 12 nautical miles (22.2 km) east of Portsmouth, New Hampshire. The IOS-N Disposal Site is currently defined as a 9,840-foot diameter circle on the seafloor with its center located at N 68817.68 (43° 1.309' N) and E 2878407.57 (70° 26.680' W). Water depths at IOS-N vary from 255 feet to 340 feet and gradually slope from approximately 295 feet on the western boundary to 328 feet in the southeastern portion of the site.

Disposal target site radius and target site center coordinates within IOS-N for each material are shown on Contract Drawing sheet C-103 (also refer to sketch titled "DRAFT ISLES OF SHOALS NORTH PORTSMOUTH/PISCATAQUA DISPOSAL TARGETS" attached at the end of Section 01 11 00 SUMMARY OF WORK). A taut wire buoy shall be placed by the Contractor at the center of each disposal target site.

(2) Disposal may be performed with the scow in motion at a speed no greater than 2 knots as long the release of the material from the scow (as determined by the draft change recorded by the Dredging Quality Management (DQM) System) can be achieved within 300 feet of the specified target. If that accuracy cannot be achieved (based on a review by the Corps of the first 10 placement events), then the Contractor will be directed to release material with the scow at a complete halt so that the specified accuracy can be achieved.

(3) When the Contractor is required to release material with the scow at a complete halt, the requirement must be followed except when weather or sea state create unsafe conditions, with the scow or barge moving only fast enough to maintain safe control (generally less than 1 knot will be permitted). Disposal shall not be attempted if the above conditions cannot be met.

c. Nearshore Disposal Sites

(1) Dredged ordinary material slated for nearshore disposal shall be placed in bottom dump scows and transported to and disposed of at either the Salisbury or Newbury Nearshore Disposal Site as specified. Refer to sketch titled "Nearshore Disposal Site Locations" in Permit File No. NAE-2017-01590 (dated April 27, 2018) attached at the end of Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Post-award the Contractor will receive a shapefile that will provide the geometric location and shape of both nearshore disposal sites for use with GIS or CAD.

(a) The Salisbury Nearshore Disposal Site is approximately 15.5 nautical miles (27.8 km) south of the entrance to Portsmouth Harbor. The disposal site area is bounded by the coordinates shown on sheet C-103. Coordinates are in US survey feet and reference the Massachusetts State Plane (Mainland Zone), North American Datum of 1983 (NAD 83). Also refer to sketch titled "Salisbury Nearshore Disposal Site" in Permit File No. NAE-2017-01590 (dated April 27, 2018) attached at the end of Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

(b) The Newbury Nearshore Disposal Site is approximately 16.5 nautical miles (30.5 km) south of the entrance to Portsmouth Harbor. The disposal site area is bounded by the coordinates on sheet C-103. Coordinates are in US survey feet and reference the Massachusetts State Plane (Mainland Zone), North American Datum of 1983 (NAD 83). Also refer to sketch titled "Newbury Nearshore Disposal Site" in Permit File No. NAE-2017-01590 (dated April 27, 2018) attached at the end of Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

(2) The dredged ordinary material shall be disposed of at each nearshore disposal site as close to shore as possible but within the disposal area boundaries. Quantity of material placed at each nearshore disposal site shall be kept approximately equal through out the project.

(3) Disposal at each nearshore disposal site shall start from the north end of the disposal area and work south. Execution of disposal using bottom dump scows shall only be permitted while maintaining safe control of scow (generally less than one knot). In order to eliminate the potential for creating a hazard to navigation, material shall be spread evenly across within each disposal sites boundary. If the

above conditions cannot be met, the Contractor shall coordinate with Contracting Officer for direction. Anticipated weather, tide, and current conditions shall be determined prior to departing for the nearshore disposal area.

d. Beach Placement Site

(1) Dredged ordinary material that is slated as beach fill shall be placed in scows, transported to, pumped, and placed at Nantasket Beach in Hull, Massachusetts to the lines and grades as indicated on Contract Drawings C-102, C-103 and C-303. Nantasket Beach is approximately 55 nautical miles (101.9 km) south of the entrance to Portsmouth Harbor. Refer to NOAA Chart 13270 attached at the end of Section 35 20 26 BEACH FILL PLACEMENT.

(2) The Contractor is responsible for verifying that the dredged ordinary material being removed from Regions R1, R2 and R3 and to be used for beach fill is mostly of a grain size that can be pumped via a buoy pump off-loader and hydraulic pipeline onto the beach. If a loaded scow arrives at Nantasket Beach and is determined by the Contractor that the dredged ordinary material is not suitable for pumping, the scow/barge shall be rerouted to transport and dispose of the dredged ordinary material at either the Newbury Nearshore Disposal Site or the Salisbury Nearshore Disposal Site.

3.4.2 Disposal In Non-Approved Areas

a. The deposit of dredged materials in unauthorized or non-approved disposal areas is prohibited and shall be considered misplaced material and will result in the suspension of dredging operations until misplaced material is removed and properly disposed of to the satisfaction of the Government. Contractor furnished disposal areas will not be permitted.

b. The Contractor shall immediately notify the Contracting Officer and the U.S. Coast Guard Marine Safety Office of any misplaced material. Costs for the removal and re-disposal of misplaced material shall be at the expense of the Contractor.

3.5 DREDGING LIMITS

3.5.1 Overdepth Dredging

To cover unavoidable inaccuracies of dredging processes, the ordinary and hard (rock) materials removed to their respective overdepths shown on the contract drawings and within the dredging limits as shown on the contract drawings will be measured and paid for at full contract price. For specified overdepths for each material refer to paragraph titled "Work Covered by Contract Documents" under Section 01 11 00 SUMMARY OF WORK.

3.5.2 Side Slopes

a. Side slopes in the dredge areas within this contract will be measured and paid based on a 3 feet horizontal to 1 foot vertical ratio. Dredging on side slopes must follow, as closely as practicable, the dredge area limits indicated on the Contract Drawings. The limiting amount of side-slope overdepth will be measured vertically. Payment will not be made for material in excess of the amount originally lying above the pay slope plane. The Contracting Officer shall be notified

in writing if the Contractor elects to box cut.

b. No allowance will be made for dredging beyond the dredge area limits as indicated on the Contract Drawings. No dredging can occur outside of the dredge area and side slope limits.

3.5.3 Excessive Dredging

Material taken from beyond the limits as extended in subpart "DREDGING LIMITS" above will be deducted from the total amount dredged as excessive overdepth dredging, or excessive side-slope dredging for which payment will not be made.

3.6 CONTRACTOR QUALITY CONTROL

a. The Contractor shall prepare, maintain, and submit for approval a daily Report of Operations using Eng Form No. 4267 (Mechanical Dredging), and shall furnish signed copies thereof with the Daily Quality Control Reports required in Section 01 45 00 QUALITY CONTROL to the Contracting Officer. A copy of the forms used for Report of Operations is attached at the end of Section 01 45 00 QUALITY CONTROL.

b. In addition to the daily report(s), the Contractor shall prepare a monthly Report of Operations for each month or partial month's work on ENG Form No. 4267 (Mechanical Dredging). The monthly report(s) shall be submitted to the Contracting Officer on or before the 7th of each month, consolidating the previous month's work. Upon completion of the project, the Contractor shall submit a consolidated project report, combining the monthly reports.

c. Additionally, one copy of the reports shall be maintained by the Contractor on each dredge for the Contracting Officer's inspection purpose. Further instructions on the preparation and submission of the reports will be furnished at the Preconstruction Conference.

3.7 SHOALING

If, before the contract is completed, shoaling occurs in the turning basin expansion area previously accepted by the Government, including shoaling because of the natural lowering of the side slopes, redredging at contract price, within the limits of available funds may be done if agreeable to both the Contractor and the Contracting Officer.

3.8 FINAL CLEANUP AND DEMOBILIZATION

a. Final cleanup shall include the removal of all the Contractor's plant and equipment either for disposal or reuse. Plant, equipment, and materials to be disposed of shall only be disposed in a manner and at locations approved by the Contracting Officer. Unless otherwise approved by the Contracting Officer, the Contractor will not be permitted to abandon any equipment in the disposal area or other areas adjacent to the worksite.

b. Failure to promptly remove all plant, equipment, temporary construction facilities, and materials upon completion of the dredging will be considered a delay in the completion of the final cleanup and demobilization work. In such case, the Government will exercise its right to remove any plant, equipment, and materials at the

Contractor's expense.

c. Failure to remove such items will result in the Contracting Officer withholding final contract payment until items are appropriately removed. The entire site shall be restored to pre-mobilization conditions to the Contracting Officer's satisfaction.

-- End of Section --

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SECTION 35 20 24

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM
SCOW - MONITORING PROFILE

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the National Dredging Quality Management Program (DQM) to monitor the scow's status at all times during the contract and to manage data history. For the purpose of these specifications, a scow is defined as any non-self-propelled vessel used to transport dredged material. This includes, but is not limited to, split-hull scows, pocket scows, hopper barges, and deck barges.

This performance-based specification section identifies the minimum required output and the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office responsible for review of the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00, "SUBMITTAL PROCEDURES":

SD-01 Preconstruction Submittals

Dredge Plant Instrumentation Plan; G, SJ

SD-06 Test Reports

Data Appropriately Archived e-mail; G, RO

SD-07 Certificates

Letter of National Dredging Quality Management Program Certification; G, RO

1.3 PAYMENT

No separate payment shall be made for installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations; all costs in connection therewith will be considered a subsidiary obligation of the Contractor and covered under the contract unit price for dredging in the bidding schedule.

1.4 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

The Contractor is required to have a current certification from DQM for the scow instrumentation system to be used under this contract. Criteria for certification shall be based on the most recent specification posted

on the DQM website (http://dqm.usace.army.mil/Specifications/Index.aspx). Compliance with these criteria shall be verified by onsite quality assurance (QA) checks conducted by the DQM Support Center Data Acquisition and Analysis Team and by periodic review of the transmitted data. If a system is installed specifically for this contract, in order to ensure that it is capable of transmitting quality data to the DQM database, the QA checks should take place either prior to the start of the contract or, with prior approval of the local USACE District, as soon as practical after dredging commences. DQM certification is valid for one year from the date of certification and is contingent upon the system's ability to meet the performance requirements as outlined in Paragraph 3.3, "Performance Requirements." If issues with data quality are not corrected within 48 hours, the system certification shall be revoked and additional QA checks by the Data Acquisition and Analysis Team may be necessary.

Annual DQM certification shall be based on the following:

A series of QA checks as outlined on the DQM website (https://dqm.usace.army.mil/Certifications/Index.aspx

Verification of data acquisition and transfer as described in Paragraph3.3, "Performance Requirements")

Review of the Dredge Plant Instrumentation Plan (DPIP) as described in Paragraph 1.5, "Dredge Plant Instrumentation Plan (DPIP)"

The Dredging Contractor shall have personnel who are familiar with the system instrumentation and who have the ability to recalibrate the sensors on site during the QA process. The Dredging Contractor shall coordinate pickup times and locations and provide transportation to and from any platform with a DQM system to team personnel in a timely manner. The Dredging Contractor shall also have on site for the QA checks a tug capable of towing the scow. As a general rule, DQM Data Acquisition and Analysis Team personnel will come with personal protective equipment (PPE) consisting of hardhats, steel toe boots, and life jackets. If additional safety equipment is needed - such as eye protection, safety harnesses, work gloves or personal location beacons - these items shall be provided to the team while on site. The Contractor shall submit a test data package to the DQM database from the system on each scow and have it accepted by the DQM Support Center prior to scow compliance checks. The Contractor shall also submit data collected during the QA checks from the scow monitoring system to the DQM database and the Data Acquisition and Analysis Team personnel while on site. It is the Dredging Contractor's obligation to inform the QA team if the location designated for the QA checks has any site-specific safety concerns prior to their arrival on site.

The owner or operator of the scow shall contact DQM at DQM-AnnualQA@rpsgroup.com on an annual basis, or at least three weeks prior to the proposed beginning of dredging, to schedule QA checks. This notification is meant to make the Data Acquisition and Analysis Team aware of a target date and the contract on which the plant will be used. At least one week prior to the target date, the Dredging Contractor shall contact the Data Acquisition and Analysis Team and verbally coordinate a specific date and location. The Contractor shall then follow up this conversation with a written email confirmation. The owner/operator shall coordinate the QA checks with all local authorities including, but not limited to, the local USACE Contracting Officer's Representative (COR).

Recertification is required for any yard work which produces modification to displacement (for example, a change in scow lines, or repositioning or repainting hull marks), modification to bin volume (change in bin dimensions or addition or subtraction of structure), or changes in sensor type or location; these changes shall be reported in the sensor log section of the DPIP A system does not have to be transmitting data between jobs; however, in order to retain certification during this period, the system sensors or hardware should not be disconnected or removed from the scow. If the system is powered down, calibration coefficients shall be retained.

1.5 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor shall have a digital copy of the DPIP on file with the DQM Support Center. While working on site, the Contractor shall also maintain on the dredge a copy of the DPIP which is easily accessible to Government personnel at all times. This document shall describe the sensors used, configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how sensors/data reporting equipment will be calibrated and repaired if they fail. A description of computed scow-specific data and how the sensor data will be transmitted to the DQM database shall also be included. The Contractor shall submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work.

A complete list of the required DPIP contents is provided on the DQM website (https://dqm.usace.army.mil/Certifications/Index.aspx).

The Contractor shall submit to the DQM Support Center any addendum or modifications made to the plan, subsequent to its original submission, prior to the start of work. Any changes to the computation methods shall be approved by the DQM Support Center prior to their implementation.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

The Contractor shall provide, operate, and maintain all hardware and software to meet these specifications. The Contractor shall be responsible for the replacement, repair, and calibration of sensors and other necessary data acquisition equipment needed to supply the required data.

Repairs shall be completed within 48 hours of any sensor failure. Upon completion of a repair, replacement, installation, modification or calibration the Contractor shall notify the Contracting Officer's Representative (COR). The COR may request recalibration of sensors or other hardware components at any time during the contract as deemed necessary.

The Contractor shall keep a log of sensor repair, replacement, installation, modification and calibration in the onsite copy of the DPIP. The log shall contain a three-year history of sensor maintenance including the time of sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide the required data. It shall also contain the name of the person responsible for the sensor work.

Sensors installed shall be capable of collecting parameters within specified accuracies and resolutions indicated in the following subparagraphs.

With the exception of position and any value calculated, reported sensor values should represent a weighted average with the highest and lowest values not included in the calculated average for the given interval. The averaging routine used should be consistent across all event triggers. This information should be documented in the DPIP sections that say "Calculations done external to the instrumentation."

These data-reporting requirements cover the collection of electronic data on a scow through the entire dredging cycle. Disposal events can consist of both open-water disposal and offloading. Open water-disposal is the placement of material via bottom doors or split hull. Offloading is the placement of material via either hydraulic or mechanical means.

3.1.1 Scow Name

Each scow shall be assigned a unique name that will remain constant from one dredging operation to the next.

3.1.2 Contract Number

The USACE-assigned contract number for the project will be reported.

3.1.3 Load Number

A DQM load number shall document the end of a disposal event for a given scow.

3.1.4 Horizontal Positioning

Horizontal positioning shall be recorded as the geographic coordinates of the vessel as indicated by the location of the Global Positioning System (GPS) antenna. All locations shall be obtained using a positioning system operating with a minimum accuracy level of 1 to 3 meters horizontal Circular Error Probable (CEP). Positions shall be reported as Latitude/Longitude WGS 84 in decimal degrees. West Longitude and South Latitude values are reported as negative.

3.1.5 Date and Time

The date and time shall be reported to the nearest second and referenced to Universal Time Coordinated (UTC) based on a 24-hour format; yyyy-mm-dd hh:mm:ss.

3.1.6 Hull Status

Hull status is meant to reflect a condition when material could be removed or released from the scow.
For this contract, hull status shall register closed prior to leaving the disposal area.

3.1.6.1 Open-Water Disposal

An open split hull or open bottom door of a scow shall be indicated by reporting an "OPEN" value. A closed split hull or closed bottom door of a

scow shall be indicated by reporting a "CLOSED" value. An open status shall be indicated as the bin starts to open, and a closed status shall be indicated only once the bin is fully closed. For pocket scows, the open/closed status shall correspond to the compartment which is first to open and last to close.

3.1.6.2 Offloading

For non-dumping scows, an "OPEN" value shall indicate that the bin is in the process of being unloaded, either by pumping or mechanical means.

3.1.7 Course

Scow course-over-ground (COG) shall be provided using industry-standard equipment. The Contractor shall provide scow course-over-ground (to the nearest whole degree) with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.8 Speed

Scow speed-over-ground shall be provided in knots using industry-standard equipment with a minimum accuracy of 1.0 knot and resolution to the nearest 0.1 knot.

3.1.9 Heading

Scow heading shall be provided using industry standard equipment. The scow heading shall be accurate to within 5 degrees and reported to the nearest whole degree, with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention.

3.1.10 Draft

All reported draft measurements shall be in feet, tenths. and hundredths with an accuracy of +/- 0.1 foot relative to observed physical draft readings. The measurements shall be reported at a resolution of two decimal places (hundredths of a foot). The reported forward draft value shall be equal to the sum of the visual forward port and starboard draft mark readings divided by two. The reported aft draft value shall be equal to the sum of the visual aft port and starboard draft mark readings divided by two. Forward draft, aft draft, and average draft will be reported. Sensors shall be placed at an optimum location on the scow to be reflective of observed physical draft mark readings at any trim or list. Minimum accuracies are conditional to relatively calm water. The sensor value reported shall be an average of at least ten samples per event, with at least one maximum value and one minimum value removed, and the minimum eight remaining values averaged. When the average draft is calculated for the purpose of determining displacement, significant digits for average draft shall be maintained such that if forward draft were 0.15 and aft draft were 0.1, then the average draft would be 0.125.

3.1.11 Displacement

Scow displacement shall be reported in long tons, based on the most accurate method available for the scow. The minimum standard of accuracy for displacement is interpolation from the displacement table, based on the average draft. For this contract the density of water used to calculate displacement shall be_____* kg/cubic meter and shall be used for an additional interpolation between the fresh and salt water tables.

**The water density used is project-/location-specific. Enter the appropriate water density in the blank:*

- Fresh Water: 1000 kg/m3 (1g/cm3)
- Salt Water: 1027-1030 kg/m3 (1.027-1.03g/cm3)

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system shall be capable of collecting, displaying, and transmitting information to the DQM database. The parameters which shall be reported to the DQM database include trip number, date and time, hull status, scow course, scow speed, scow heading, draft, and displacement. An easily accessible, permanent visual display on the scow shall show in real time the parameters collected by the system in the same units as are used for data submitted to the DQM database. In the event a reported parameter is calculated based on multiple sensors, the sensor values as used in the equation shall be able to be viewed in addition to the required parameter. If a hardware problem occurs, or if a part of the system is physically damaged, then the Contractor shall be responsible for repairing it within 48 hours of determination of the condition.

3.2.1 Telemetry

The Contractor may select any commercial satellite, cellular phone, or other data communications systems available as long as it is capable of transmitting real-time data as well as enough additional bandwidth to clear historically queued data when a connection is reobtained. If connectivity is lost, unsent data shall be queued and transmitted upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

The data transition process from the scow to the DQM database must be automated. The data may be sent from the scow directly to the DQM database or to a shore-based system. Data transmitted to the DQM database should be raw data; any processing of the data conducted shoreside shall be done using repeatable automated software or programming routine. A description of this process shall be included in the DPIP.

3.2.2 Data Reporting Frequency

Disposal activities shall be logged with high temporal and spatial resolution. Data shall be logged as a series of events. Each set of measurements (time, position, etc.) will be considered an event. Any required information in Paragraph 3.1, "Requirements for Reported Data," that is not an averaged variable (that is, draft and ullage) shall be collected within 1 second of the reported time. Data shall be measured with sufficient frequency by the scow system to resolve the events to the accuracy specified in the following table. Any averaged variable must be collected and computed within this sampling interval. Event types "Sailing," "Loading/Stationary," "Offloading," and "Open Water Disposal" are triggered by a time criterion; the criterion should be consistent across the "Sailing" and "Open Water Disposal" event types and should not change for the data collected on a given scow. This criterion should be documented by the Contractor in the DPIP.

Event Type	Event Trigger Descriptions	Event Time Resolution	Event Position Resolution
Loading/ Stationary	**No change in position with hull status closed** An elapsed time of 1 hour since the last event. **No change in position with hull status open** ----------NONCLOSURE------- In the event a scow has completed an open water disposal and transited back to a holding station without closing the hull, the sampling shall be changed to once per hour.	1 minute	N/A
Sailing	**Change in position with hull status closed** Time from the last sample equals 1 minute.	1 second	+/-10 ft
Open Water Disposal	**Hull status open** A position must be recorded within 1 second of the hull status going from closed to open and again within 1 second of the hull status going from open to closed. The position shall be reported at any equal interval from 6 to 12 seconds. This interval shall always remain consistent for the dredge plant.	1 second	+/-10 ft
Offloading	**Offloading material, hull status reported as open** A position must be recorded within 1 minute arrival at the offload location and within one second of the material starting to be removed from scow. The time from the last sample equals 1 minute. --------STANDBY OFFLOADING----- In the event a scow is not being actively offloaded at the offload location for a time equal to one hour, the sampling interval shall be equal to once an hour.	1 second 1 minute	+/-10 ft

Example: The scow is stationary for 1 hour and 15 minutes, and then it sails to the disposal area. You should have a "Loading/Stationary" event at time 0 time 1 hour, and time 1 hour and 15 minutes. Then, for "Sailing," within 1 second of an elapsed time of 1 minute from the 1 hour and 15 minutes event, another event occurs.

3.2.3 Data Transmission to the Web Service

A Simple Object Access Protocol (SOAP) web service shall be used to report sensor data to the DQM database. Data shall be transmitted as it is collected in real time and pushed to the DQM web service. If the web service is not available or returns an error message, the data shall be stored in a queue and transmitted upon re-establishment of the connection, starting with the oldest data in the queue and continuing until real-time transmission is restored. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

Contact dqm-support@usace.army.mil to obtain the web service URL and the appropriate key credentials and communication protocol.

The data transmission method call takes two arguments: a string containing the plant identifier assigned by the DQM Support Center and a second string containing the XML-formatted sensor data. The method returns the string "OK" if the data is received. If the data is not received, either the web service or the client application throws an error.

3.2.4 XML-Formatted Sensor Data String

Each scow event shall be passed as a string on one continuous line of data. The example below is broken up by variable for ease of reading:

```
<?xml version="1.0"?>
<SCOW_DREDGING_DATA version="2.5">
   <SCOW_NAME>AU1994</SCOW_NAME>
   <CONTRACT>W123BA-09-D-0087_RL01</CONTRACT>
   <TRIP_NUMBER>34</TRIP_NUMBER>
   <X_POSITION>-81.670632</X_POSITION>
   <Y_POSITION>41.528987</Y_POSITION>
   <DATE_TIME>2010-08-14 10:50:15</DATE_TIME>
   <SCOW_SPEED>0.0</SCOW_SPEED>
   <SCOW_COURSE>0.0</SCOW_COURSE>
   <HULL_STATUS>OPEN</HULL_STATUS>
   <SCOW_HEADING></SCOW_HEADING>
   <SCOW_FWD_DRAFT></SCOW_FWD_DRAFT>
   <SCOW_AFT_DRAFT></SCOW_AFT_DRAFT>
   <SCOW_AVG_DRAFT></SCOW_AVG_DRAFT>
   <ULLAGE_FWD></ULLAGE_FWD>
   <ULLAGE_AFT></ULLAGE_AFT>
   <ULLAGE_AVG></ULLAGE_AVG>
   <SCOW_BIN_VOLUME></SCOW_BIN_VOLUME>
   <SCOW_DISPLACEMENT></SCOW_DISPLACEMENT>
   <SCOW_LIGHTSHIP></SCOW_LIGHTSHIP>
   <SCOW_TDS></SCOW_TDS>
   <ADDITIONAL_DATA>Some more scow info, if needed</ADDITIONAL_DATA>
</SCOW_DREDGING_DATA>
```

DATE_TIME values shall be formatted as YYYY-MM-DD HH:MM:SS, as shown above. If, for any reason, a field has no value, the enclosing XML tags should be sent with nothing between them (for example, <DRAFT_AFT></DRAFT_AFT>). The web service cannot handle a "null" value or any other indicators of no value collected.

3.2.5 Contractor Data Backup

The Contractor shall maintain an archive of all data sent to the DQM database during the dredging contract. The Contracting Officer's Representative (COR) may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. The data shall be provided in the HTML format which would have been transmitted to the DQM database. Data submission shall be via storage medium acceptable to the COR.

At the end of the dredging contact, the Contractor shall contact the DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data has been received and appropriately archived before giving the Contractor discard permission. The Contractor shall record in a

separate section at the end of the scow's onsite copy of the DPIP the following information:

- Person who made the call
- Date of the call
- DQM representative who gave permission to discard

3.3 PERFORMANCE REQUIREMENTS

The Contractor's DQM system shall be fully operational at the start of dredging operations and fully certified prior to moving dredge material on the contract (see Paragraph 1.4, "National Dredging Quality Management Program Certification"). To meet contract requirements for operability, in addition to certification, the Contractor's system shall provide, at a minimum, a data string with values for all parameters while operating, as described within the specifications. Additionally, all hardware shall be compliant with DPIP requirements Paragraph 1.5, "Dredge Plant Instrumentation Plan (DPIP)"). Quality data strings are considered to be those providing values for all parameters reported when operating according to the specification. Repairs necessary to restore data return compliance shall be made within 48 hours. Failure by the Contractor to report the required data within the specified time window for scow measurements (see Paragraph 3.2.2, "Data Reporting Frequency," and Paragraph 3.2.3, "Data Transmission to the Web Service") and failure to receive DQM certification prior to dredging will result in withholding of up to 10% of the contract progress payment per clause 52.232-5.

3.4 LIST OF ITEMS TO BE PROVIDED BY THE CONTRACTOR

DPIP	https://dqm.usace.army.mil/Certifications/Index.aspx	
DQM SYSTEM		
Sensor Instrumentation	Paragraph 3.1, Requirements for Reported Data"	
SCOW DATA		
Event documentation	Paragraph 3.2.2, "Data Reporting Frequency"	
Data reports	Paragraph 3.2.3, "Data Transmission to the Web Service"	
QA EQUIPMENT ON THE DREDGE		
Clear and accurate draft marks		

-- End of Section --

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SECTION 35 20 25

NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM
PIPELINE HYDRAULIC DREDGE

PART 1 GENERAL

1.1 DESCRIPTION

The work under this contract requires use of the US Army Corps of Engineers (USACE) National Dredging Quality Management Program (DQM) to monitor the dredge's status at all times during the contract and manage data history.

This performance-based specification section identifies the minimum required output as well as the precision and instrumentation requirements. The requirements may be satisfied using equipment and technical procedures selected by the Contractor.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office responsible for review of the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00, "Submittal Procedures":

SD-07, Certificates

Letter of National Dredging Quality Management Program Certification; G, RO

1.3 PAYMENT

No separate payment shall be made for the installation, operation, and maintenance of the DQM-certified system as specified herein for the duration of the dredging operations; all costs in connection therewith shall be considered a subsidiary obligation of the Contractor and covered under the contract unit price for dredging in the bidding schedule.

1.4 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM CERTIFICATION

The Contractor is required to have a current certification from the DQM Program for the cutter/suction head hydraulic dredge instrumentation system to be used under this contract. Standard Operating Procedures (SOP) and criteria for certification are presented on the DQM website at https://dqm.usace.army.mil.

1.5 DREDGE PLANT INSTRUMENTATION PLAN (DPIP)

The Contractor shall have a digital copy of the Dredge Plant Instrumentation Plan (DPIP) on file with the DQM Support Center. While working on site, the Contractor shall also maintain on the dredge a copy of the DPIP, which is easily accessible to Government personnel at all times. This document shall accurately describe the sensors used, the

configuration of the system, how sensor data will be collected, how quality control on the data will be performed, and how the sensors/data-reporting equipment will be calibrated and repaired if it fails. A description of the computed dredge-specific data and how the sensor data will be transmitted to the DQM database shall also be included. Prior to the start of work, the Contractor shall submit to the DQM Support Center any addendum or modifications made to the plan subsequent to its original submission. Requirements and a template for the DPIP are available on the DQM website at https://dqm.usace.army.mil.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 REQUIREMENTS FOR REPORTED DATA

The Contractor shall provide, operate, and maintain all hardware and software to meet these specifications. The Contractor shall also be responsible for the replacement, repair, and calibration of the sensors and other necessary data acquisition equipment needed to supply the required data.

The procedure to complete a repair shall be documented and completed as soon as practical. If repair is not possible within two business days of any sensor failure, a plan and timeline to complete the repair shall be submitted. Upon completion of a repair, replacement, installation, modification, or calibration, the Contractor shall notify the Contracting Officer's Representative (COR). The COR may request recalibration of the sensors or other hardware components at any time during the contract as deemed necessary.

The Contractor shall keep a log of sensor repair, replacement, installation, modification, and calibration in the dredge's onboard copy of the DPIP. The log shall contain a three-year history of sensor maintenance, including the time of the sensor failures (and subsequent repairs), the time and results of sensor calibrations, the time of sensor replacements, and the time that backup sensor systems were initiated to provide the required data. It shall also contain the name of the person responsible for the sensor work.

Sensors installed shall be capable of collecting parameters within the specified accuracies and resolutions indicated in the following subparagraphs and transmit these parameters to the DQM database. All data shall be transmitted in JSON message bundles. Each bundle can contain multiple message types. Sensor data shall be transmitted as work event messages, and data which relates to the operational state of the dredge or its sensors shall be transmitted as state event messages. (See Paragraph 3.3.3, "Parameter Transmission to the Web Service.")

3.1.1 Message Bundle Data

Every message bundle shall contain descriptive data that relates the message to a given dredge plant and date/time. The start of a message bundle shall be identified by the tag "DQM_data".

3.1.1.1 Messages

Messages contain operational data that populates the DQM database for a dredge plant. A message shall consist of an event type and its associated

data (as defined in Paragraph 3.1.1.1.3, "Dredge Events"), a date/time stamp indicating when the event occurred or started, and a comment providing clarification or metadata about the situation. There are multiple event types, but they all fall into one of two categories - work events and state events.

3.1.1.1.1 Message Time

In a work event message, message time is the date and time that the data is collected from the sensors; in a state event message, message time is the date and time that the state event begins. The message time shall be reported to the nearest second and referenced to Coordinated Universal Time (UTC) time based on a 24-hour format (*YYYY-MM-DD HH:MM:SS*). In order to ensure accuracy and reliability, the time stamp shall be synchronized to UTC format from an accurate, unchangeable source (for example, a GPS National Marine Electronics Association (NMEA) datastring). Message time shall be identified by the tag "msg_time".

3.1.1.1.2 Comment

Comments concerning the work event or state event messages being transmitted provide descriptive information that relates to the data. An example of a comment for work event data is information about a sensor issue; an example of a comment for state event data is a description of operations. A comment shall be identified by the introductory tag "comment", and the comment shall consist of no more than 250 characters.

3.1.1.2 Dredge Events - Work Event

There are two types of dredge event messages - work event messages and state event messages. Work event messages contain data that are instantaneously collected or calculated from sensors and are logged as a series of events. Work events are triggered by a time interval change (as described in Paragraph 3.3.2.1, "Work Event Messages"). All work event messages shall be initiated by the header tag "work_event".

3.1.1.2.1 Vertical Correction

The variation of the water level from the vertical datum for the river stage or tidal gage described in the state events shall be obtained using appropriate equipment to give the water level with an accuracy of +/- 0.1 ft. Vertical correction values above project datum described in the dredging specification shall be entered with a positive sign and those below with a negative sign. The tag for vertical correction shall be "vert_correction".

3.1.1.2.2 Cutter/Suction Head Location and Movement

The X, Y, and Z components of the cutter/suction head location shall be monitored. Additional calculations made from the observed values determine the rates of movement to track the progress of the dredge.

3.1.1.2.2.1 Cutter/Suction Head Horizontal Position

The forwardmost point of the cutter/suction head shall be obtained using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). It shall be reported as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values reported as negative. Position values shall be identified

by the tags "ch_latitude" and "ch_longitude".

3.1.1.2.2.2 Cutter/Suction Invert Depth

Cutter/suction invert depth is the depth of the invert of the suction mouth relative to the surface of the water. Instrumentation shall be capable of reporting to an accuracy of +/- 0.5 foot and a resolution to the nearest 0.1 foot with no tidal adjustments. Minimum accuracies are conditional to relatively calm water. The tag "ch_depth" shall be used to identify the cutter/suction head depth.

3.1.1.2.2.3 Cutter/Suction Head Heading

The cutter/suction head heading is the angle of the centerline of the cutter/suction head and dredge ladder measured relative to true north. All headings shall be provided using industry-standard equipment. The heading shall be accurate to within 5 degrees and reported to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention. The tag "ch_heading" shall be used to identify the cutter/suction head heading.

3.1.1.2.3 Dredge Activity

Dredge activity shall be monitored using a combination of the following parameters.

3.1.1.2.3.1 Slurry Velocity

A flow-metering device, calibrated according to the manufacturer's specifications, shall be used to record the slurry velocity to the nearest 0.01 fps with an accuracy of plus 0.5 fps. If the manufacturer does not specify a frequency of recalibration, calibration shall be conducted prior to the commencement of work. The slurry velocity shall be measured for the same pipeline inside diameter as that used for the slurry density measurement. The tag "slurry_velocity" shall be associated with this value.

3.1.1.2.3.2 Slurry Density

A density-metering device, calibrated according to the manufacturer's specifications, shall be used to record the slurry density to the nearest 0.01 g/cc. It is understood that the accuracy of this sensor can vary based on several factors, including the type of material, the magnitude of the cut, and the length of time since calibration. If the manufacturer does not specify a frequency of recalibration, calibration shall be conducted prior to the commencement of work. Continuous monitoring of this sensor ensures that drift and other factors inherent in the dredging process can be accounted for in monitoring dredge activity. The tag "slurry_density" shall be associated with this value.

3.1.1.2.3.3 Pump RPM

The pump rpm is the number of revolutions per minute measured for the slurry pump shaft. The shaft revolution rate (rev/min) shall be measured with the highest level of accuracy that is standard on the vessel's operational displays either at the bridge or in the engine room. This value shall be identified by the tag "rpm".

3.1.1.2.3.4 Pump Vacuum

The vacuum pressure of the dredge pump(s) (inches of mercury) shall be measured as near to the eye as practicable in the pump's suction pipe with the highest level of accuracy that is standard on the vessel's operational displays either at the leverman's controls or in the engine room. Vacuum pressure shall be identified by the tag "vacuum".

3.1.1.2.3.5 Pump Outlet Pressure

The pump outlet pressure shall be measured in the discharge line on the pump side of the flap valve in terms of pounds per square inch (psi) on a gauge. Pump outlet pressure shall be identified by the tag "outlet_psi".

3.1.1.2.4 Outfall Information (Open Water/Spill Barge Disposal)

The X and Y position of the terminal end of the outfall pipe shall be monitored continuously and the position reported as part of the work event string.

3.1.1.2.4.1 Discharge Horizontal Position

The horizontal position of the outfall end of the discharge pipe shall be obtained using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). It shall be reported as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values being reported as negative. Position values shall be identified by the tags "outfall_latitude" and "outfall_longitude".

3.1.1.3 Dredge Events - State Event

There are two types of dredge event messages - work event messages and state event messages. State event messages provide information about the current state of the dredge equipment or operations. They are created and sent only when a state changes. Since state events often cannot be collected in real time, state events are tagged with a date time stamp (referenced to Coordinated Universal Time (UTC)) that indicates when the state change happened relative to the work event message tag. This data is considered to be "true" until another state event tag of the same type is received. Each type of state event message shall be indicated by a specific header tag as enumerated in the following subparagraphs. State events can be transmitted along with work event message bundles directly by the contractor using the indicated format, or they can be entered on the "State" tab in the DQM-provided software. However, they should be sent only if the state value changes.

3.1.1.3.1 Message Time

The state event time is the date and time that the event starts. The leverman's time shall be entered to the nearest second as local time and automatically converted to and reported in UTC based on a 24-hour format (YYYY-MM-DD HH:MM:SS). Message time shall be identified by the tag "msg_time".

3.1.1.3.2 Contract Event

Information concerning the contract under which dredging is being performed shall be reported at the start and completion of each contract

using the header tag "contract_event".

3.1.1.3.2.1 Contract Number

The USACE-assigned contract number for the project shall be reported using the tag "contract_number".

3.1.1.3.2.2 Contract Start and End

The start and end of a contract shall be reported using the tag "event_type" with the appropriate value of "start" or "end".

3.1.1.3.3 Tide Station/River Stage Gage Event

Properties associated with the vertical correction (see Paragraph 3.1.1.1.3.1.1, "Vertical Correction") for the tide station/river stage gage shall be grouped together under the header tag "station_event". This information shall be sent at the start of the contract and each time the dredge has moved enough to change the station being used.

3.1.1.3.3.1 Station Name

The station name is a concise name defining the tide station/river stage gage begin referred to. It shall be introduced by the tag "station_name", and it shall consist of a descriptor of no more than 25 characters.

3.1.1.3.4 Length of Pipe Event

The leverman's estimate of the length of pipe downflow from the dredge pump, measured to the nearest whole foot, shall be reported under the header tag "pipe_length_event". This information shall be sent at the start of the contract and at the completion of each 24-hour period ending at midnight local time.

3.1.1.3.4.1 Floating Pipe

The total length of floating pipe shall be reported with the tag "length_floating".

3.1.1.3.4.2 Submerged Pipe

The total length of submerged pipe shall be reported with the tag "length_submerged".

3.1.1.3.4.3 Shore Pipe

The total length of shore pipe shall be reported with the tag "length_land".

3.1.1.3.5 Booster Pump Event

Information concerning the booster pumps being used shall be included under the header tag "booster_pump_event". A message shall be sent to indicate any change in the status of the booster pumps being used.

3.1.1.3.5.1 Number of Booster Pumps

Upon the addition or removal of a booster pump, the total number of booster pumps being used shall be reported with the tag "booster_total".

3.1.1.3.6 Dredge Advance

The dredge advance, the total forward progress of the dredge relative to the centerline of the cut, shall be measured to the nearest whole foot and cumulatively calculated over a 24-hour period from midnight to midnight local time. It shall be identified by the tag "advance_daily". The msg_time associated with this tag shall be reported as the first timestamp of the following 24-hour period (based on the local time) rather than as midnight of the day for which the value was calculated, and it shall be reported in Greenwich Mean Time (GMT).

3.1.1.3.7 Outfall Information

The X and Y position of the terminal end of the outfall pipe shall be monitored and sent at the start of the contract and thereafter according to the following table. Discharge Heading and Pipe Elevation may be omitted if the dredge is not discharging into an upland disposal site. For beach nourishment, the horizontal X and Y position of the outfall shall be sent at the start of the contract and at the completion of each 24-hour period ending at midnight local time.

Discharge Location	Horizontal Position	Discharge Pipe Elevation	Discharge Outfall Heading
Open Water	Continuous Work Event	N/A	N/A
Scow	Upon Change	N/A	N/A
Beach	Every 24 Hours	N/A	N/A
Upland	Upon Change	Upon Change	Upon Change

3.1.1.3.7.1 Discharge Location

Information on where the slurry is being discharged shall be reported with the tag "outfall_location". Acceptable values include "upland", "open water", "beach", and "scow".

3.1.1.3.7.2 Discharge Horizontal Position

The horizontal position of the outfall end of the discharge pipe shall be obtained using a positioning system operating with a minimum accuracy level of 3-10 feet horizontal Circular Error Probable (CEP). It shall be reported as Latitude/Longitude WGS 84 in decimal degrees with West Longitude and South Latitude values being reported as negative. Position values shall be identified by the tags "outfall_latitude" and "outfall_longitude".

3.1.1.3.7.3 Discharge Outfall Heading

The discharge outfall heading is the angle relative to true north measured from the centerline of the pipe in the direction of discharge. All headings shall be provided using industry-standard equipment. They shall be accurate to within 5 degrees and reported to the nearest whole degree with values from 000 (true north) to 359 degrees referenced to a clockwise positive direction convention. The discharge heading shall be identified by the tag "outfall_heading".

3.1.1.3.7.4 Discharge Pipe Elevation

The discharge pipe elevation is the height of the outfall measured in feet and tenths of a foot relative to the project datum. The required accuracy is contingent upon contract requirements. The tag "outfall_elevation" shall be used to identify this elevation.

3.1.1.3.8 Non-effective Work Event

Delays and dredge downtime shall be reported at the conclusion of the event. The reason for the non-effective work time shall be submitted under the header tag "non_eff_event" within 24 hours of the event.

3.1.1.3.8.1 Non-effective Work Interval

The start and end times for the non-effective work event shall be reported using the tags "msg_start_time" and "msg_end_time".

3.1.1.3.8.2 Dredge Function Code

The dredge operator indication of production delays, as listed on Form 4267, shall be transmitted at the end of the non-effective interval. Dredge function event messages shall be identified by the tag "function_code" and shall consist of one of the following standardized entries to indicate the operation:

AGV	Assisting Grounded Vessels
CCH	Change Cutterhead
CCSH	Clear Cutter Suction
CLPJ	Change Location Bar
COLL	Collision
CPPL	Clear Pump Pipeline
CPR	Change Impeller
DR	Dike Repair
FBD	Fire Boat Drills
HPL	Handling Pipe Line
HSL	Handling Swing Line
HSP	Handling Shore Pipe
LDNE	Loss Due to Natural Elements
LDPV	Loss Due to Passing Vessel
LNL	Transfer to New Location
MISC	Miscellaneous
MOB	Mobilization & Demobilization
MSC	Miscellaneous/Non-pay
OC	Out of Commission
OR	Operating Repairs
P	Preparation
PREP	Preparation & Making Up Tow
RPL	Repair Pipeline
SB	Sounding & Buoying
SBT	Stand-By Time as Directed
SH	Sundays-Holidays
TFS	Taking on Fuel & Supplies
TOW	Time on Tow
WAP	Waiting Attendant Plant

3.1.1.3.8.3 Additional Comments

The "comment" tag shall be used to provide additional explanation for the noted delays or downtimes. For example, when the code "LDPV" (Loss Due to Passing Vessel) is indicated, the name of the vessel and the number of tows shall be listed with the "comment" tag.

3.2 NATIONAL DREDGING QUALITY MANAGEMENT PROGRAM SYSTEM REQUIREMENTS

The Contractor's DQM system shall be capable of collecting and transmitting information to the DQM onboard computer. The applicable parameters from Paragraph 3.1, "Requirements for Reported Data," shall be recorded as events locally and continuously transmitted to the DQM database anytime an Internet connection is available. The dredge shall be equipped with a DQM computer system consisting of a computer, monitor, keyboard, mouse, data modem, Universal Power Supply (UPS), and network hub. The computer system shall be a standalone system, exclusive to the DQM monitoring system, and shall have USACE DQM software installed on it. If a hardware problem occurs, or if a part of the system is physically damaged, then the Contractor shall be responsible for repairing it within two business days of the determination of the condition or submitting a plan and timeline for repair if the repair will take more than two business days.

3.2.1 Computer Requirements

The Contractor shall provide a dedicated onboard computer for use by the Dredging Quality Management system. This computer shall run the USACE DQM software and receive data from the Contractor's data-reporting interface. This computer must meet or exceed the following performance specifications:

CPU	Intel or AMD processor with a (non-overclocked) clock speed of at least 1.6 gigahertz (GHz)
Hard drive	250 gigabytes (GB); internal
RAM	4 gigabytes (GB)
Ethernet adapter	Internal network card with an RJ 45 connector
Ports	1 free serial port with standard 9-pin connectors; 1 free USB port
Other hardware	Keyboard, mouse, monitor

The Contractor shall install a fully licensed copy of Windows 7 Professional Operating System or later on the computer specified above. The Contractor shall also install any necessary manufacturer-provided drivers for the installed hardware.

This computer shall be located and oriented to allow data entry and data viewing as well as to provide access to data ports for connection of external hardware.

3.2.2 Software

The DQM computer's primary function is to transmit data to the DQM shoreside database. No other software which conflicts with this function shall be installed on it. The DQM computer shall also have the USACE-provided Dredging Quality Management Onboard Software (DQMOBS) installed on it by DQM personnel.

3.2.3 UPS

The Contractor shall supply an Uninterruptible Power Supply (UPS) for the computer and networking equipment. It shall interface with the DQM computer to communicate UPS status, and it shall provide backup power at 1 kVA for a minimum of 10 minutes. The Contractor shall ensure that sufficient power outlets are available to run all specified equipment.

3.2.4 Internet Access

The Contractor shall maintain an Internet connection capable of transmitting real-time data to the DQM server as well as enough additional bandwidth to clear historically queued data when a connection is re-established. If connectivity is lost, unsent data shall be queued and transmitted upon restoration of connectivity. Delays in pushing real-time data to the DQM database should not exceed four hours. Exceptions to these requirements may be granted by the DQM Support Center on a case-by-case basis with consideration for contract-specific requirements, site-specific conditions, and extreme weather events.

The Contractor shall acquire and install all necessary hardware and software to make the Internet connection available for data transmission to the DQM web service. The hardware and software shall be configured to allow the DQM Support Center remote access to this computer, and the telemetry system shall be capable of meeting these minimum reporting requirements in all operating conditions.

In areas with poor cellular service and at the local District's discretion, it may be required to manually download the data on a daily basis using the protocol for retrieving and submitting backup files provided by the DQM Support Center. This method of data transmission should be used only if Internet connectivity is unavailable at the dredging site, and it should be considered a temporary measure.

3.2.5 Data Routing Requirements

Onboard sensors continually monitor dredge conditions, operations, and efficiency and route this information to the shipboard dredge-specific system (DSS) computer to assist in guiding dredge operations. Portions of this Contractor-collected information, as described in this specification, shall be routed to the DQM computer on a real-time basis. Standard sensor data shall be sent to the DQM computer via an RS-232 serial interface with a baud rate of 9600 or 19200 bps. The serial interface shall be configured as 8 bits, no parity, and no flow control

Information regarding changes in the state of the dredge shall be digitally logged and transmitted as close to the time of the occurrence as possible. These events can either be included in a separate message bundle going to the DQM onboard computer, or they can be entered on the "State" tab in the DQM Pipeline Software

3.3 DREDGE MONITORING DATA

3.3.1 General

Onboard sensors continuously collect dredging data in support of the dredge Contractor's operations. Portions of this Contractor-collected information, as described in this specification, and calculations based on them shall be stored and transmitted to the DQM database on a near

real-time basis. Additionally, information regarding the state of the dredge shall be digitally logged and transmitted.

3.3.2 Data Measurement Frequency

The frequency of data transmission is dependent on the type of message being sent. Work Event messages contain data that are instantaneously collected or calculated from sensors and are logged as a series of events. State event messages are activated by a change in the dredge state.

3.3.2.1 Work Event Messages

Data shall be logged as a series of events. Each event shall consist of a dataset containing dredge information (as defined in Paragraph 3.1, "Requirements for Reported Data"). Each set of measurements (for example, time and position) shall be considered an event, and there shall be a 6-12 second interval between work events. This interval shall remain consistent across event types for the dredge plant.

A standard data string shall be recorded within one second of an event trigger with the time stamp and all parameters reflecting when the event happened.

3.3.2.2 State Event Messages

A set of descriptive information (event name, time, description, comment) shall be considered a state event. These events shall be recorded within 24 hours of a change in state with the time stamp reflecting when the event happened.

3.3.3 Parameter Transmission to the Web Service

The data shall be formatted as JSON (JavaScript Object Notation, as defined at http://www.json.org) strings of arbitrary length. These JSON strings represent a hierarchical data structure consisting of a message bundle which may contain 0-3 automatic data messages and any number of manual data messages.

A tag/parameter is reported only when it contains a value. No "Null" value strings shall be included in a message bundle.

```
    ****************************
    Message bundle
    ****************************

    {
      "DQM_Data": {
        "messages": (
          {
            "work_event": {
            "msg_time":            <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
              "vert_correction":   <floating point 100th decimal place>,
              "ch_latitude":       <decimal to 6 decimal places>,
              "ch_longitude":      <decimal to 6 decimal places>,
              "ch_depth":          <floating point 100th decimal
    place>,
              "ch_heading":        <integer value 000-359>,
              "slurry_velocity":   <floating point 100th decimal place>,
              "slurry_density":    <floating point 100th decimal place>,
```

```
            "pump_rpm":          <integer>,
            "vacuum":            <floating point 100th decimal place>,
            "outlet_psi":        <floating point 100th decimal place>,
            "comment":           <string>},
        }
      },
      {
        "contract_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "contract_number":   <string>,
          "event_type":        <string - "start" or "end">,
          "comment":           <string>
        }
      },
      {
        "station_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "station_name":      <string>,
          "comment":           <string>
        }
      },
      {
        "pipe_length_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "length_floating":   <integer>,
          "length_submerged":  <integer>,
          "length_land":       <integer>,
          "comment":           <string>
        }
      },
      {
        "booster_pump_event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DDHH:MM:SS>,
          "booster_total":     <integer>,
          "comment":           <string>
        }
      },
      {
        "advance_Event": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "advance_daily":     <integer>,
          "comment":           <string>
        }
      },
      {
        "outfall_position": {
          "msg_time":          <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
          "outfall_location":  <string-"upland", "beach", "scow",
"open water">
          "outfall_latitude":  <decimal to 6 decimal places>,
          "outfall_longitude": <decimal to 6 decimal places>,
          "outfall_heading":   <integer value 000-359>,
          "outfall_elevation": <floating point 10th decimal place>,
          "comment":           <string>
        }
      },
      {
        "non_eff_event": {
          "msg_start_time":    <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
```

```
                "msg_end_time":      <24-hour UTC time YYYY-MM-DD HH:MM:SS>,
                "function_code":     <string - 1 to 4 characters>,
                "comment":           <string>

              }
            }
          ]
        }
      }
```

3.3.4 Contractor Data Backup

The Contractor shall maintain an archive of all data sent to the DQM computer during the dredging contract. The COR may require, at no increase in the contract price, that the Contractor provide a copy of these data covering specified time periods. The data shall be provided in the same JSON format as would have been transmitted to the DQM computer. There shall be no line breaks between the parameters, and each record string shall be on separate line. The naming convention for the files shall be <*dredgename*>_<*StartYYYYMMddhhmmss*>_<*EndYYYYMMddhhmmss*>.txt. Data submission shall be via a storage medium acceptable to the COR.

At the end of the dredging contact, the Contractor shall call the National DQM Support Center prior to discarding the data. The DQM Support Center will verify that all data has been received and appropriately archived before giving the Contractor discard permission. The Contractor shall then record the following information in a separate section at the end of the dredge's onboard copy of the DPIP:

- Person who called the National DQM Support Center
- Date of the call
- DQM representative who gave permission to discard the data

3.4 PERFORMANCE REQUIREMENTS

The Contractor's National Dredging Quality Management Program's data transmission shall be fully operational at the start of dredging operations. To meet contract requirements for operability, the Contractor's system shall provide an accurate data string return and be compliant with hardware requirements. Data string return is defined as the number of quality records within an event or state tag sent by the contractor's system to the DQM database. Quality data strings are considered to be those providing accurate values for all parameters reported when operating according to the specification. Repairs necessary to restore data return compliance shall be made within two business days, or a plan and timeline for repair shall be submitted if the repair will take more than two business days. Failure by the Contractor to report quality data within the specified time window for dredge measurements as stated in the specifications (see Paragraph 3.2.4, "Internet Access"; Paragraph 3.3.2, "Data Measurement Frequency"; and Paragraph 3.3.3, "Parameter Transmission to the Web Service"), will result in withholding of up to 10% of the contract progress payment per clause 52.232-5.

3.5 LIST OF ITEMS PROVIDED BY THE CONTRACTOR

- DPIP https://dqm.usace.army.mil

- DQM System Paragraph 3.2, "National Dredging Quality Management Program System Requirements," including all subparagraphs

- Dredge Data Paragraph 3.3, "Dredging Monitoring Data"

-- End of Section --

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DIVISION 35 - WATERWAY AND MARINE CONSTRUCTION

SECTION 35 20 26

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SECTION 35 20 26

BEACH FILL PLACEMENT
(OPTIONAL BID ITEMS 0004 AND 0005)

PART 1 GENERAL

This specification section is part of this contract only if Optional Bid Items 0004 and 0005 are awarded.

1.1 SUMMARY

The work covered by this section consists of furnishing all labor, materials, plant, and equipment necessary to perform placement of dredged ordinary material along the beach to the lines and grades as indicated on the Contract Drawings, spread and grade the dredged ordinary material along the beach, and all other associated work as specified herein and as shown in the Contract Drawings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 156	Navigation and Navigable Waters, Oil and Hazardous Material Transfer Operations

1.3 RELATED WORK SPECIFIED ELSEWHERE

1.3.1 Environmental Protection Requirements

Provide and maintain environmental protective measures until the work is complete and accepted by the Contracting Officer. Also, provide environmental protective measures required to correct conditions, such as oil spills or debris, that occur during the beach fill placement operations. Comply with Federal, State, and local regulations pertaining to land, water, air, and noise pollution. See Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

1.3.2 Environmental Restrictions

Refer to Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS under paragraph titled "Special Environmental Requirements".

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office

that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Beach Fill Placement Plan; G, RO

Submit a plan for accomplishing the placement of the dredged material along the beach as specified in this specification section.

Debris Prevention Plan; G, RO

Pumpout Plan; G, RO

Prior to the start of work submit a plan for pumpout of dredged material from the scow to the beach fill area. If applicable to the Contractor's operations, the plan shall include the description, dimensions, and location of any offshore floating mono-buoy(s)/buoy pump offloaders, and piping used.

Discharge Outfall and Pipe Support Detail; G, RO

The Contractor shall submit for approval a drawing of the proposed outfall detail and method for supporting the discharge pipeline inside the designated placement site, to include sketches showing plan and elevation views and details for the proposed method, and data on the materials to be used.

Temporary Berms

The Contractor shall submit plans for a temporary berm at the dredged material placement site. The plan shall indicate all dimensions of the berm and the source of the material to be used for its construction.

SD-05 Design Data

Baffle Plate Design; G, RO

A baffle plate concept design for the end of the discharge pipeline is shown on the drawings. The Contractor shall prepare a detailed baffle plate design, intended to limit scouring of the existing beach sand, and submit the design to the Contracting Officer for approval.

1.5 BEACH FILL SURVEYS AND CONTROL

Refer to Section 01 71 24, FIELD ENGINEERING FOR BEACH FILL PLACEMENT for Contractor field engineering requirements for quality control, as-built surveys, and survey data.

1.6 SITE CONDITIONS

a. The conditions of the beach fill placement site are dynamic in nature. Conditions existing during the preparation of this contract may not be an accurate representation of the beach fill placement site conditions existing at the commencement of beach fill operations.

b. There are numerous ramps and stairs along the seaward side of the existing seawall that will affect the shaping of the beach fill berm. Bidders are encouraged to examine the project site to determine the conditions that may affect their operations.

c. It is highly recommended that the bidders examine existing site conditions and decide for themselves as to the conditions affecting their operations. See Contract Clause entitled: "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK."

1.7 SEQUENCING AND SCHEDULING

1.7.1 Work Sequence for Beach Fill Work

Refer to Section 01 11 00 SUMMARY OF WORK under subparagraph titled "Work Sequence" for requirements pertaining to the sequence of this work necessary to complete the beach fill placement work within the contract's period of performance.

1.7.2 Hours of Operations for Beach Fill Work

The Contractor will be allowed to perform the beach fill grading work 24 hours per day, 7 days per week, including holidays, for the entire period of performance of this contract.

1.7.3 Plant and Equipment

Provide sufficient plant and equipment capable of performing the work required to complete the beach fill and grading work within the specified contract duration.

1.7.4 Other Equipment

Provide all other equipment, operators, labor, materials, booster pumps, fuel and incidentals necessary to complete this project. Submit all other equipment specifications and operating parameters for review and approval by the Contracting Officer prior to Mobilization. No additional compensation shall be considered if alternative equipment is allowed.

1.8 LAND ACCESS AND LIMITS OF WORK

Land access to the designated placement site and staging and storage areas are indicated on the Contract Drawings. Restrict contract work, materials, and equipment to within the designated work limits.

1.9 WORK AREAS

a. All activities of the Contractor, its employees and subcontractors, while working on the beach and surrounding areas to be used during construction, whether it be on town or private property, shall be conducted in a manner that is in accordance with the Contract Documents.

b. The Contractor shall erect temporary barricades and/or temporary fencing to exclude the public from the work area. The work area includes the beach fill placement site, and the Contractor's parking, temporary facilities, and storage and staging areas. Refer to Section 01 50 01 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS FOR BEACH FILL PLACEMENT WORK for details pertaining to temporary barricades and

temporary fencing.

1.10 DEBRIS PREVENTION PLAN

Submit a Debris Prevention Plan, indicating the method to ensure that debris (either from dredging or by Contractor's personnel) is not deposited upon the beach and buried by beach fill material. Include a proposed monitoring program, using the Contractor's personnel, to monitor the proposed debris-prevention method's results.

1.11 BEACH FILL PLACEMENT PLAN

The Contractor shall develop and submit a Beach Fill Placement Plan for review and approval by the Contracting Officer. Placement of beach fill shall be as specified below. Beach fill placement work shall not commence until the plan has been accepted by the Contracting Officer. The plan shall include field engineering and surveying, sequence of dredged material placement, the pumpout plan, pipeline layout and routing to the beach and along the beach, and pipeline discharge locations.

1.12 FUEL OIL HANDLING

Regardless of whether fueling on land or offshore, the Contractor shall assure that all fuel oil transfer operations to or from its plant and equipment comply with all Federal, state, and local laws, codes and regulations. The Contractor shall incorporate in its accident prevention program, submitted in compliance with the Contract Clause: "ACCIDENT PREVENTION," sufficient information to demonstrate compliance with 33 CFR 156 and any other applicable laws, codes, and regulations.

1.13 PERMIT

a. Unless otherwise noted, the Contractor shall comply with conditions and requirements of permit "File No. NAE-2018-00495, dated July 19, 2018" for beach fill placement at Nantasket Beach. A copy of the permit is attached at the end of this specification section.

b. The Contractor is not responsible for the completion of either the Compliance Certification Form or the Work Start Notification Form found at the end of the attached permit "File No. NAE-2018-00495".

c. Disposal work at Nantasket Beach is prohibited from April 1 to September 30 in order to minimize adverse impact to sensitive species during migration, nesting, and breeding.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 DREDGED MATERIAL PLACEMENT

3.1.1 Placement Requirements

a. Before disposal operations and placement of dredged material can begin, the Contractor shall have in hand an accepted "Beach Fill Placement Plan" as specified above.

b. The Contractor shall maintain, protect, and keep the beach fill placement site in a satisfactory condition at all times until acceptance of the work.

c. Prior to depositing dredged material at the beach fill placement site, the Contractor shall remove all existing debris and miscellaneous items, such as but not limited to, snags, driftwood, similar foreign and organic debris, man-made trash and materials, and miscellaneous items lying within the limits of the beach fill placement site. All materials removed shall be disposed of offsite as debris at the expense of the Contractor. Grading and other construction equipment will not be permitted outside the limits of the beach fill placement site except for ingress and egress to and from the site.

d. The dredged material shall be hydraulically pumped from the scow through a discharge pipeline and placed unconfined directly onto the beach within the limits of the beach fill footprint. The discharge points of the pipe shall be manipulated and controlled by the Contractor in such a manner to minimize the loss of material into the surf zone. The Contractor will not be allowed to load trucks and haul and dump the dredged material along the beach.

e. At the beach fill placement site, the Contractor shall start placement of dredged ordinary material at the end that is most economically beneficial and then proceed in an orderly and consecutive manner and with work continuing towards the opposite end of the profile. No payment will be made for work completed until the acceptance of each section is brought to the shape and grade indicated and specified on the Contract Drawings. If it ends up that there is not enough dredged ordinary material to meet the placement of the total specified volume, continue placing material until no more material is available, and then ending the placement by tapering the east end with a one on three slope (1 vertical:3 horizontal) to existing grade.

f. Contractor may place the dredged ordinary material unconfined along and within the designated beach fill footprint. The discharge pipeline shall be placed so as to direct the discharge parallel to the shoreline, and away from existing wall, ramps, and stairs. As the maximum elevation is reached, the discharge pipeline shall be moved as necessary to maintain construction of a continuous beach berm.

g. The Contractor shall provide and form temporary berms using available dredged material at the point of discharge. The berms will insure that the retention of material is maximized. The dimensions of the temporary berm shall be determined by the Contractor and adjusted as needed to contain the maximum amount of dredged material possible.

h. Pumping to the beach fill placement site shall be controlled to place the dredged material uniformly throughout and within the footprint of the beach fill. Refer to Contract Drawings for typical cross-sections.

i. The Contractor shall employ a baffle plate diffuser at the pipe discharge when discharging material onto the beach area and to prevent erosion of the existing beach. Refer to Contract Drawings for baffle plate concept.

j. The dredged material shall be placed in such a manner that will not block or interfere with natural or constructed drainage ways into the adjacent water body. Drainage shall be maintained across the placed

dredged materials at all times. During placement the Contractor shall prevent erosion and disturbance of existing shoreline sediments.

k. The Contractor shall not impact areas that are outside the limits of work. All damages to the seawall, ramps, and stairs shall be repaired by the Contractor to original condition at no additional cost to the Government.

3.1.2 Misplaced Material

Material that is deposited or placed elsewhere than in locations designated or approved by the Contracting Officer will not be paid for and the Contractor, at his expense, shall be required to remove such misplaced material and place it where directed.

3.2 GRADING OF DREDGED MATERIAL

3.2.1 Grading

a. Grade the beach fill to lines, elevations, and slopes as specified on the Contract Drawings.

b. Grading may be performed by suitable methods with equipment adapted to the work. However, the procedures under which the work is performed shall provide for the safe conduct of the work and protection of areas outside the limits of work that are to remain undisturbed.

c. Perform final grading to achieve a tapered slope seaward from the new beach berm as shown in the Contract Drawings. At the completion of all work, repair and restore all damaged areas and return any disturbed areas outside the limits of work to conditions that existed prior to construction.

3.2.2 Dust Control

The Contractor is responsible for cleaning any paved areas and access ramp where loamy and silt type soils, that dry and cause dust, may have been tracked from the beach onto said areas.

3.3 DISCHARGE (HYDRAULIC) PIPELINE(S)

3.3.1 Discharge Pipeline Routes

a. The Contractor shall locate and route the discharge pipeline to the beach fill placement site in accordance with the approved "Beach Fill Placement Plan". The routing of the discharge pipeline shall be such that adverse impacts to public safety and navigation are minimized.

b. Prior to placement of the discharge pipeline, the Contractor shall meet onsite with the Contracting Officer.

c. The Contractor shall plainly mark the discharge pipeline access routes with conspicuous stakes, targets, lights, buoys, or signs to clearly mark and identify the discharge pipeline location. The markings shall be maintained throughout beach fill placement operations.

3.3.2 Discharge End of Discharge Pipeline

a. The Contractor shall prevent public access to the discharge end of the

discharge pipeline. The Contractor shall erect, maintain, and move as necessary, a temporary barrier around the discharge end of the discharge pipeline. The temporary barrier shall be constructed of orange plastic construction fencing to prevent the public from approaching the discharge from any direction closer than 50 feet. The Contractor shall be responsible for for keeping out the public at no additional cost to the Government.

b. During dredged material placement operations, the Contractor shall assign and place a site safety person at the discharge end of the discharge pipeline. The Site Safety Person shall be onsite at all times during discharge operations. The Site Safety Person shall inspect the discharge end of the discharge pipeline daily for a minimum of 12 times within 24 hours (4 inspections for each 8 hour shift). The Site Safety Person shall provide and maintain radio communication between the scow, beach fill placement site, and the Contracting Officer. Any damage to private or public property resulting from the Contractor's operations shall be repaired by the Contractor at its own expense. Refer to subparagraph titled "Site Safety Personnel Training Requirements for Dredging" under specification Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

3.3.3 Pipeline Leakage

A tight dredge discharge pipeline shall be maintained along all sections of the discharge pipeline to prevent spilling of dredge effluent outside of the beach fill placement site. To minimize damage caused by leaks in the discharge pipeline, the Contractor shall inspect the entire length of discharge pipeline daily with a minimum of 4 times within 24 hours (1 inspection every 6 hours) during discharging operations. The Contractor shall burlap and strap weld all joints along the discharge pipeline running across land. When significant leaks occur in the discharge pipeline which can cause erosion or appears to be a safety hazard to the public or are causing adverse environmental impacts, the Contractor shall immediately cease pumping operations until the discharge pipeline is repaired. Failure to immediately repair leaks in the discharge pipeline will result in suspension of placement operations and require prompt repair of the discharge pipeline as a prerequisite to the resumption of work. If any material is found to have leaked from the discharge pipeline onto ground outside the beach fill placement site, the Contractor shall contact the Contracting Officer for direction.

3.3.4 Submerged Discharge Pipeline

In the event the Contractor elects to submerge the pipeline, the pipeline shall rest completely on the ocean bottom. In no case shall the Contractor's pipeline lie partly submerged. Should the Contractor elect to use a pipeline material which is buoyant or semi-buoyant, such as plastic pipe or similar low density materials, the Contractor shall securely anchor the pipeline to prevent the pipeline from lifting off the bottom under any conditions. The Contractor shall make daily inspections of the submerged pipeline to ensure buoyancy has not loosened the anchors. The Contractor shall remove all anchors when the submerged pipeline is removed. The location of the entire length of submerged pipeline shall be marked with buoys, lights, flags, and signs in conspicuous locations with the wording "CAUTION - SUBMERGED PIPELINE" conforming to U.S. Coast Guard regulations and section 19 of EM 385-1-1. Underwater work necessary to install submerged pipelines shall be performed in strict accordance with Section 35 25 00 UNDERWATER DIVING

WORK.

3.3.5 Floating Discharge Pipeline

Discharge pipelines that do not rest along the bottom will be considered a floating discharge pipeline and shall be visible on the surface and clearly marked. In no case shall the discharge pipeline be allowed to obstruct navigation, fluctuate between the surface and the bottom, or lie partly submerged.

3.3.6 Booster Pumps

Any booster pumps installed by the Contractor shall be located at least 300 feet from any residential-type building or house. Booster pumps, their prime movers, and any auxiliary equipment shall be fitted or equipped with mufflers, noise control enclosures, or other engineering noise control methods, measures, and features such that steady noise emanating from this equipment does not exceed 85 decibels on the A scale at slow response, and impulsive noise does not exceed 140 decibels. Such items shall be maintained throughout the course of the work.

3.4 FINAL CLEANUP AND DEMOBILIZATION

a. Plant Removal: Upon completion of the work, promptly remove plant, including, but not limited to, any Contractor placed ranges, discharge pipelines, buoys, piles, and other markers or obstructions.

b. Beach Fill Placement Site Restoration: Upon completing the removal of plant, temporary facilities, materials, equipment, discharge pipeline from beach areas, and to the Contracting Officer's satisfaction, promptly degrade or otherwise restore beach areas outside of the beach fill placement site to conditions that existed prior to receiving the Notice to Proceed (NTP). Restoration shall include, but not be limited to, removal of any debris pumped to the beach.

c. Failure to restore disturbed areas and remove such items noted above will result in the Contracting Officer withholding final contract payment until the beach is restored to the satisfaction of the Contracting Officer and items are appropriately removed.

-- End of Section --

NOTE X

Within the 12-nautical mile Territorial Sea, established by Presidential Proclamation, some Federal laws apply. The Three Nautical Mile Line, previously identified as the outer limit of the territorial sea, is retained as it continues to depict the jurisdictional limit of the other laws. The 9-nautical mile Natural Resource Boundary of the Gulf coast of Florida, Texas, and Puerto Rico, and the Three Nautical Mile Line elsewhere remain in most cases the inner limit of Federal fisheries jurisdiction and the outer limit of the jurisdiction of the states. The 24-nautical mile Contiguous Zone and the 200-nautical mile Exclusive Economic Zone were established by Presidential Proclamation. Unless fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification.

PROJECT DEPTHS

Channel legends and tabulations, where indicated, reflect this U.S. Army Corps of Engineers (USACE) project depths. The channel may be significantly shoaler, particularly at the edges. For detailed channel information and minimum depths as reported by USACE, use NOAA Electronic Navigational Charts. USACE surveys and channel condition reports are available at http://navigation.usace.army.mil/Survey/Hydro.

JOINS CHART 13275

CONTINUED ON CHART 13267

CONTINUED ON CHART 13267

CONTINUED ON CHART 13267

CONTINUED ON CHART 13267

(use chart 13272)

(use chart 13272)

(use chart 13272)

(use chart 13272)

PRECAUTIONARY AREA
(see note B)

RIGHT WHALE CRITICAL HABITAT
(precautionary area, 50 CFR 226.203, 224.103c, see note A)
It is illegal to approach any right whale anywhere closer than 500 yards.

NANTASKET BEACH

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - EAST COAST

MASSACHUSETTS

BOSTON HARBOR

Mercator Projection
Scale 1:25,000 at Lat. 42°19'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

PLACE	LATITUDE	LONGITUDE	Height referred to datum of soundings (MLLW)			
			Mean Higher High Water	Mean High Water	Mean Low Water	Mean Lower Low Water
			feet	feet	feet	feet
Boston Light	(42°19.7'N	70°53.8'W)	0.4	9.4	0.3	
Chelsea Street Bridge	(42°23.5'N	71°02.7'W)	0.6	9.4	0.3	
Weymouth Fore River Bridge	(42°13.1'N	70°57.3'W)	10.2	9.6	0.3	
Cohasset Harbor	(42°15.1'N	70°47.9'W)	0.5	9.1	0.3	

Subtract 0.1 foot for each 1 foot of water above 10 feet. Subtract 0.2 foot for each 1 foot of water above 20 feet.

Soundings in feet, located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, predictions, and MSL-current predictions are available at the NOAA Tides and Currents website (tidesandcurrents.noaa.gov).

(Kap 20/30)

For Symbols and Abbreviations see Chart No. 1

COLREGS: International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus:

HEIGHTS
Heights in feet above Mean High Water.

AUTHORITIES
Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, U.S. Coast Guard, and Department of the Navy.

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 1 for important supplemental information.

AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when ordained by fire, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

CAUTION
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 1. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 1st Coast Guard District in Boston, MA or at the Office of the Detroit Engineer, Corps of Engineers in Concord, MA.
Refer to charted regulation section numbers.

HORIZONTAL DATUM
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.3'52" northward and 1.82" eastward to agree with this chart.

RADAR REFLECTORS
Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.
Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
(Accurate location) (Approximate location)

CAUTION
Fishing and trawling obstructions, some submerged, may exist within the magenta limited dredge construction area. Mariners are advised to proceed with caution.

CAUTION
Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus:

MARINER ACTIVATED SOUND SIGNALS
Sound signals labeled with (MINIDS) require user activation. See USCG Light List.

TOWN RIVER CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF AUG 2007
AND SURVEYS TO MAY 2007

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (MILES)	DEPTH (FEET)
TOWN RIVER:							
ENTRANCE CHANNEL	39.7	39.9	39.3	3-07	300	0.7	35
HOLE POINT REACH	37.1	37.1	37.0	3-07	150-300	0.6	35
QUINCY REACH	42.8	2.4		3-07	100	0.2	15

A EXCEPT FOR SHOALING TO 13 FEET IN FINAL 50 FEET OF CHANNEL.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

NOTE C
The Upper Weymouth Fore River is marked with uncharted aids.

NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio stations listed below provide continuous broadcasts. The reception range is typically 20 to 45 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Boston, MA	KHB-36	162.475 MHz
Essex Marine, MA	WNG-574	162.425 MHz

NOTE Z
NO-DISCHARGE ZONE, 40 CFR 140
Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. All vessels with an installed marine sanitation device (MSD) that are navigating moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the discharge of sewage. All vessels operating in the NDZ are required to display the "No Discharge" symbol. For the NDZ sanitation regulations in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: https://www.epa.gov/vessels-marinas-and-ports.

CAUTION
BASCULE BRIDGE CLEARANCES
For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

SOURCE DIAGRAM
The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been compiled on this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

SOURCE		
A	1990 - 2007	NOS Surveys	full bottom coverage
B1	1990 - 2001	NOS Surveys	partial bottom coverage
B2	1970 - 1989	NOS Surveys	partial bottom coverage
B3	1940 - 1969	NOS Surveys	partial bottom coverage
B5	Pre - 1900	NOS Surveys	partial bottom coverage
		Chart 13272	

ANCHORAGE AREAS
110.138 (see note A)

Limits and designations of anchorage areas are shown in magenta

(2) (3) (4) GENERAL ANCHORAGE

(5) ANCHORAGE FOR EXPLOSIVES

(A) (B) SPECIAL ANCHORAGES 110.29, 110.30, 110.31, 110.32, 110.1 (see note A)

POLLUTION REPORTS
Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free) or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

SMALL CRAFT WARNINGS
Year round small-craft warnings will be displayed during daytime only on Metropolitan District Commission Police Patrol Boats underway in Inner Boston Harbor from Nantasket Beach (42° 16.2' N, 70° 51.3' W) to waters around Georgen and Lovell Islands.

NOTE B
PRECAUTIONARY AREA
Traffic within the Precautionary Area may consist of vessels operating between Boston Harbor and one of the established traffic lanes. Mariners are advised to exercise extreme caution navigating within this area.
Recommended traffic lanes have been established for the approach to Boston Harbor. Use charts 13200 and 13267.

Pump-out facilities

CAUTION
SUBMARINE PIPELINES AND CABLES
Charted submarine pipelines and submerged cables and submarine pipeline and cable areas are shown.

Pipeline Area — Cable Area

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths less than or comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dredging, or trawling.
Covered areas may be marked by lighted or unlighted buoys.

NO-DISCHARGE ZONE
(see note Z)

Sunken Ledge 18

Jason Shoal

Jo Mo Ledge

Gowen Rks

Hoop Pole Ledge

Bates Rk

Cohasset Harbor

Straits Pond

Little Harbor

Black Rocks

Whitehead Ledge

Minot Ledge

Minot Light

Scituate Harbor

Scituate Light

Cohasset

Scituate

Hingham Bay

Weymouth Back River

Weymouth Fore River

Rock Island Cove

Broad Meadows

Quincy Bay

Hingham Harbor

Town River Bay

Hull Bay

Broad Sound

Massachusetts Bay

Boston Harbor

Nantasket Roads

President Roads

Inner Harbor

Old Harbor

Dorchester Bay

Quincy

Hull

Hingham

Weymouth

Logan International Airport

Boston

Charlestown

Chelsea

Everett

Winthrop

Winthrop Highlands

Beachmont

Belle Isle Inlet

Governors Island

Deer Island

Long Island

Spectacle Island

Thompson Island

Pleasure Bay

Reserved Channel

Finns Ledge

Northeast Grave

The Graves

Martin Ledge

Three-and One-Half Fathoms Ledge

Boston Ledge

Nantasket Beach

Allerton Harbor

Stoney Ledge

Handing Ledge

Unknown Ledge

Thieves Ledge

Ulcers Ledge

Ragged Ledge

Bumkin Island

Grape Island

Sarah Island

Slate Island

Sheep Island

Peddocks Island

Georges Island

Lovells Island

Gallops Island

Outer Brewster Island

Middle Brewster Island

Inner Brewster Island

Calf Island

Green Harbor

Marshfield

Duxbury

Pleasant Bay

Provincetown Harbor

Race Point

Wood End

Long Point

Highland Light

Cape Cod Bay

Cape Cod Canal

Sandwich

Plymouth

Plymouth Harbor

Gurnet Point

Saquish

Manomet Point

Ellisville Harbor

Brant Rock

Green Harbor

Marshfield

Duxbury

Pleasant Bay

Provincetown Harbor

Race Point

Wood End

Long Point

Highland Light

Cape Cod Bay

Cape Cod Canal

Sandwich

Plymouth

Plymouth Harbor

Gurnet Point

Saquish

Manomet Point

Ellisville Harbor

Brant Rock

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

SCALE 1:25,000
Statute Miles
Yards
1000 0 1500 2000

NOAA encourages users to submit inquiries, discrepancies or comments about this chart at http://www.nauticalcharts.noaa.gov/staff/contact.htm.

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

Use NOAA electronic navigational charts for the most up-to-date information.

66th Ed., Dec. 2018. Last Correction: 2/19/2021. Cleared through:
LNM: 1121 (3/9/2021), NM: 1321 (3/27/2021), DHS: 0221 (2/26/2021)
To ensure that this chart was printed at the proper scale, the two bars should measure as inches (152 millimeters).
If the bars do not measure as inches (152 millimeters), this copy is not certified safe for navigation.

(POD) providers fulfill a vessel's requirement to carry a navigational chart "published by the National Ocean Service" in accordance with federal regulations, including but not limited to 33 C.F.R. 164.33(a), 33 C.F.R. 164.72(b), and 46 C.F.R. 28.225(a). POD charts meet stringent print standards and can be recognized by an official certification of authenticity printed on the chart. A list of POD providers can be found at: nauticalcharts.noaa.gov/pod

Boston Harbor
SOUNDINGS IN FEET - SCALE 1:25,000

FATHOMS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
FEET 0 3 6 9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60 63 66 69 72 75 78 81 84 87 90 93 96 99 102 105 108 111 114 117 120 123 126 129 132 135 138 141 144 147 150 153 156 159 162 165 168 171 174 177 180
METERS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

13270

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742

July 19, 2018

Regulatory Division
File No. NAE-2018-00495

Massachusetts Department of Conservation and Recreation
Division of State Forests and Parks
c/o Priscilla Geigis
251 Causeway Street, 9th Floor
Boston, Massachusetts 02114

Dear Ms. Geigis:

Attached are two copies of a Department of the Army U.S. Army Corps of Engineers (Corps) permit authorizing your project. Please sign both copies of the permit and return one signed copy to this office at the address above. The authorized work cannot start until we receive a complete, signed copy of the permit.

You are required to complete and return the attached forms to this office:

1. Preliminary Jurisdictional Determination Form to be submitted along with your signed copy of the permit
2. Work Start Notification Form at least two weeks before the anticipated work start date.
3. Compliance Certification Form within one month following the completion of the authorized work.

This permit is a limited authorization containing a specific set of conditions. Please read the permit thoroughly to familiarize yourself with those conditions, including any conditions contained on the attached state water quality certification. If a contractor does the work for you, both you and the contractor are responsible for ensuring that the work is done in compliance with the permit's terms and conditions, as any violations could result in civil or criminal penalties.

A combined Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form, and flow chart explaining the appeals process and your options, are attached to this letter. If you desire to appeal this proffered permit, you must submit a completed RFA form along with any supporting or clarifying information to James W. Haggerty; Administrative Appeals Review Officer; North Atlantic Division, Corps of Engineers; North Atlantic Fort Hamilton Military Community, Bldg. 301; General Lee Avenue; Brooklyn, NY 11252-6700. Contact Mr. Haggerty via email at james.w.haggerty@usace.army.mil or via phone at (347) 370-4650.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received

by the Division Office within 60 days of the date of the NAP.

You may not appeal conditions contained in the Coastal Zone Management consistency determination as they are automatically included in the Federal permit. The MA Dept. of Environmental Protection has confirmed that Water Quality Certification is not needed/applicable for the proposed project. This authorization does not obviate the need to obtain other Federal, state, or local authorizations required by law.

The Corps continually strives to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Please contact Sarah Wilkinson, Project Manager, if you have any questions via mail at the letterhead address, via email at sarah.a.wilkinson@usace.army.mil, or via phone at (978) 318-8513.

Sincerely,

Barbara Newman

Barbara Newman
Chief, Permits and Enforcement Branch
Regulatory Division

Enclosures:

1. Notification of Administrative Appeal Options and Process and Request for Appeal
2. NAE-2018-00495 Individual Permit Form (2 copies)
3. Preliminary Jurisdictional Determination Form
4. Work Start Notification Form
5. Compliance Certification Form

Copies Furnished:

1. Priscilla Geigis, priscilla.geigis@state.ma.us
2. Bernward Hay, bhay@louisberger.com
3. Mike Galvin, mike.galvin@state.ma.us
4. Dave Hill, david.hill@state.ma.us
5. Jim Mahala, jim.mahala@state.ma.us
6. Ed Reiner, reiner.ed@epa.gov
7. CENAE-PDP and PPM, Michael.S.Riccio@usace.army.mil and Erika.L.Mark@usace.army.mil
8. Bob Boeri, Robert.Boeri@mass.gov and patrice.bordonaro@state.ma.us
9. Kate Frew, kate.frew@state.ma.us
10. Chris Krahforst, ckrahforst@town.hull.ma.us

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: MA DCR	File Number: NAE-2018-00495	Date: 17 July 2018
Attached is:		See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

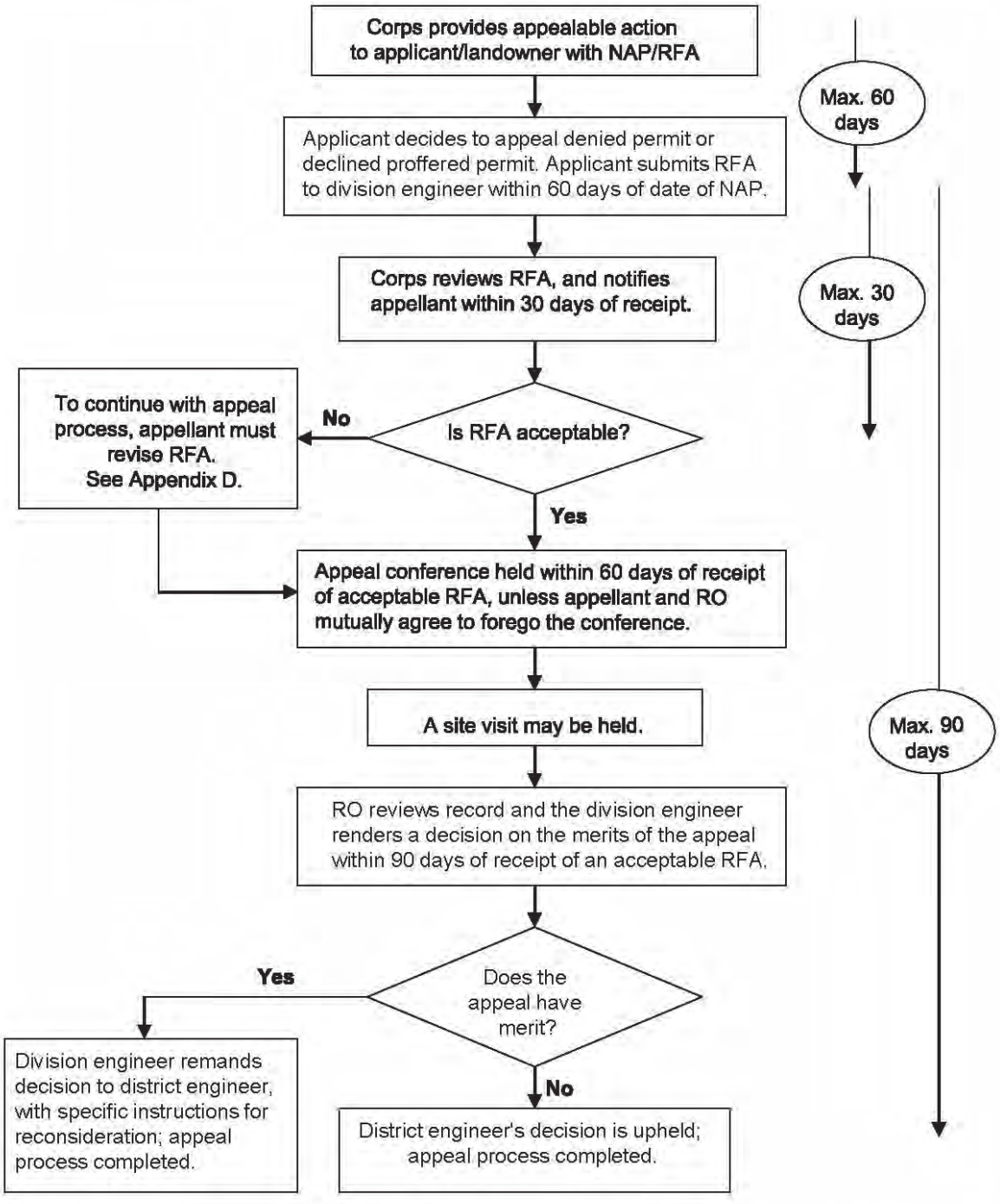
- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
POINT OF CONTACT FOR QUESTIONS OR INFORMATION:	
If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact: Mr. James W. Haggerty Regulatory Program Manager (CENAD-PD-OR) U.S. Army Corps of Engineers Fort Hamilton Military Community 301 General Lee Avenue Brooklyn, New York 11252-6700

	Telephone number: 347-370-4650	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.		
_____ Signature of appellant or agent.	Date:	Telephone number:

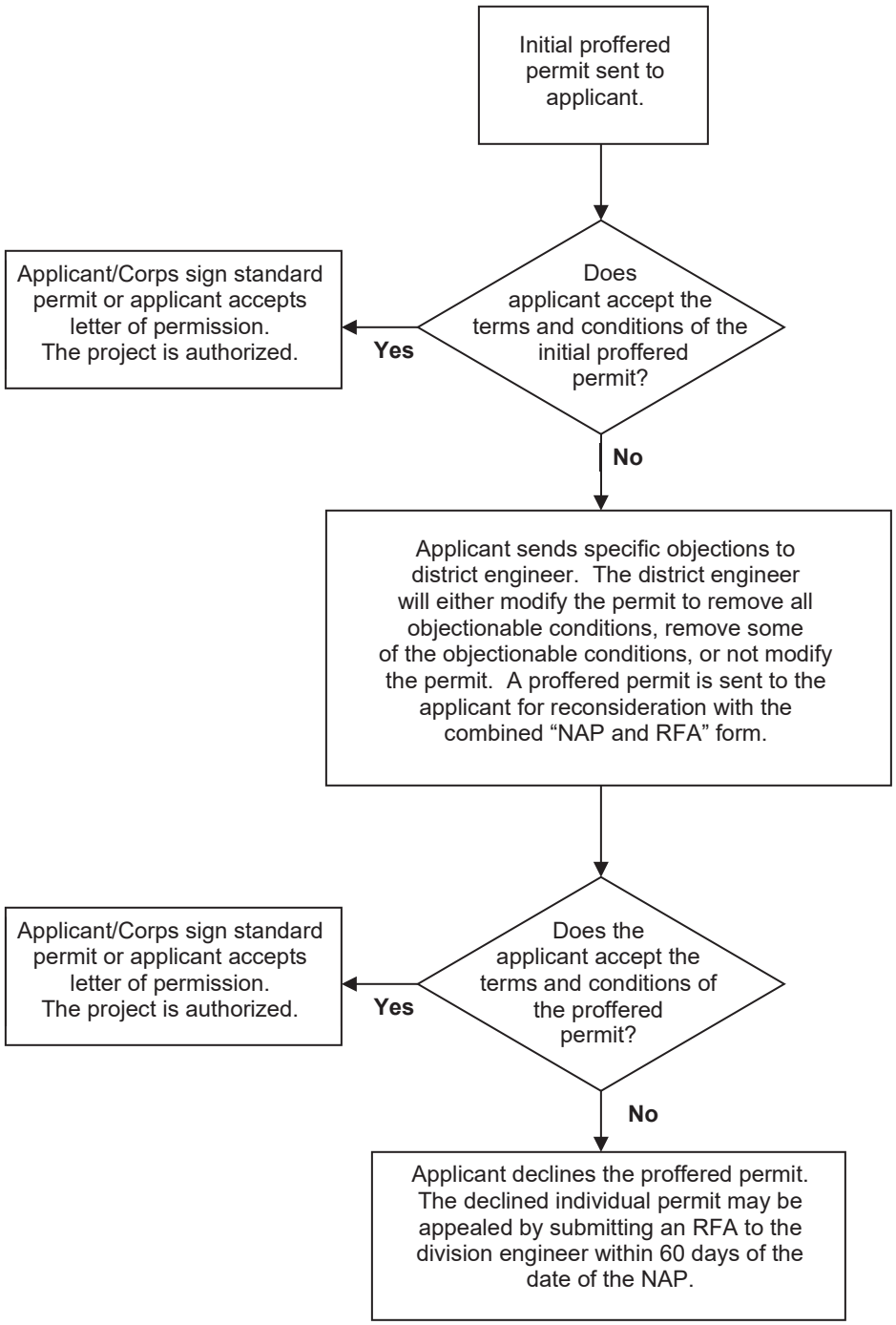
Administrative Appeal Process for Permit Denials and Proffered Permits



NOTE: If new information is provided to the Corps, the applicant will be asked if the applicant wishes to revise the project or record. If so, the appeal will be withdrawn and the case returned to the District for appropriate action. If not, then the Division Engineer will rule on the merits of the appeal based on the administrative record without consideration of the new information. However, the new information may cause the District Engineer to take action under 33 CFR 325.7, independent of the appeal process.

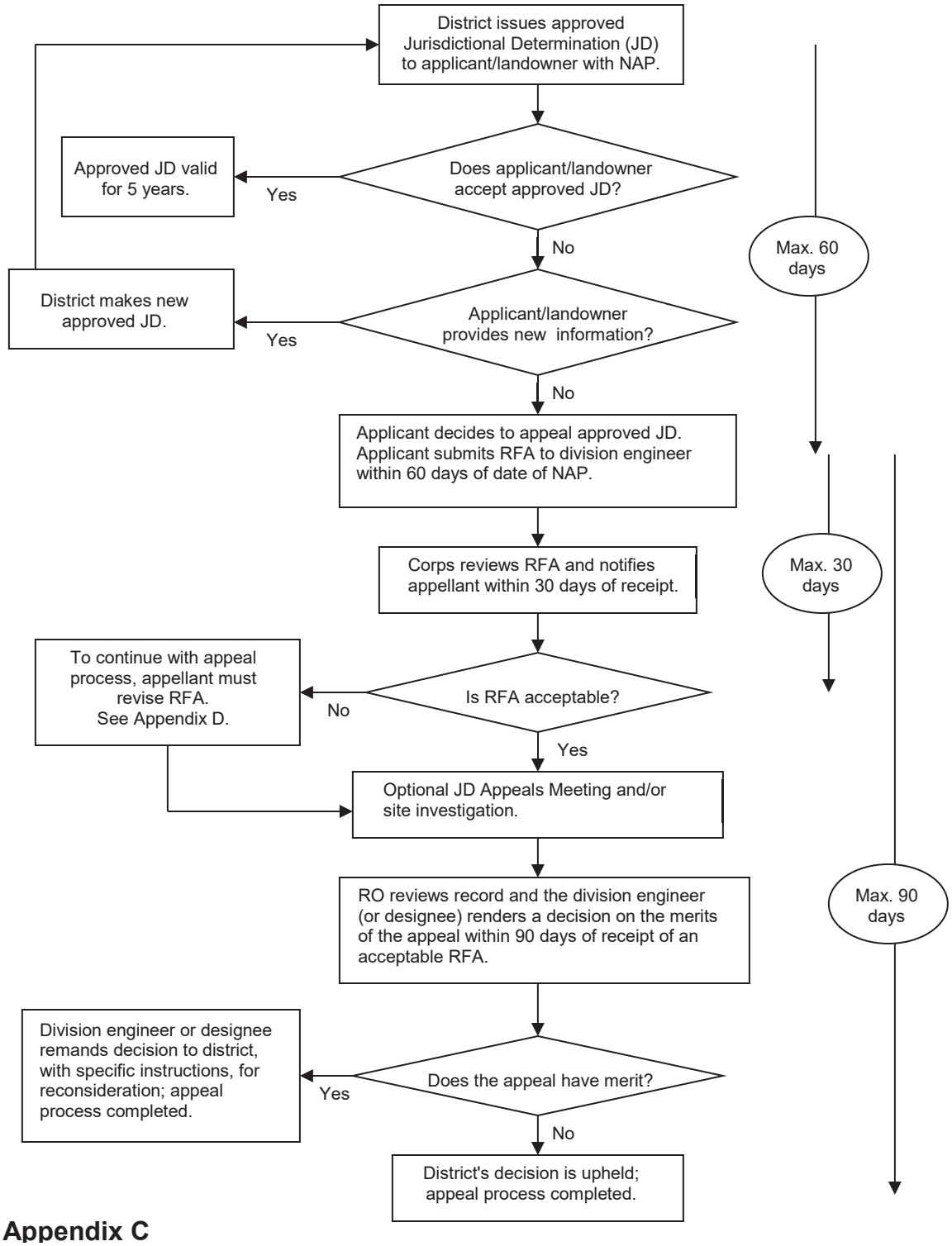
Appendix A

Applicant Options with Initial/Proffered Permit



Appendix B

Administrative Appeal Process for Approved Jurisdictional Determination



Appendix C

DEPARTMENT OF THE ARMY PERMIT

Permittee: MA Dept. of Conservation and Recreation

Permit No: NAE-2018-00495

Issuing Office: New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Place 372,900 cubic yards of sand below the high tide line (HTL) on Nantasket Beach. The sand will cover 2.26 million square feet (52 acres) below the HTL at depths ranging up to 3.6 feet. The sand will be sourced from a dredging project on the Piscataqua River (NH/ME) sponsored by a division of the U.S. Army Corps of Engineers. Vessels (tug/scows) with sand will make multiple trips between the Piscataqua River site and Nantasket Beach to reload with sand. The sand will be pumped to shore from a barge (carrying the pump) anchored approximately 2,600 feet from shore. The frequency of the trips by the tugs/scows will be determined by the dredging schedule at the Piscataqua River site.

The work is shown on the attached plans entitled “Nantasket Beach Coastal Storm Damage Reduction Project Phase 2: Beach Nourishment” on 10 sheets, and dated “April 24, 2018”.

Project Location:

Massachusetts Bay/Nantasket Beach from State Park Rd. to Phipps St., Hull, Massachusetts

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on July 19, 2023. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site (and the project office) authorized by this permit whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this permit. This shall be achieved by including the entire permit in the specifications for work. The term “entire permit” means this permit (including its drawings, plans, appendices and other attachments) and also includes permit modifications.

If the permit is issued after the construction specifications, but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed Compliance Certification Form to this office at least within one month following the completion of the authorized work.

3. The permittee shall complete and return the enclosed Work Start Notification Form to this office at least two weeks before the anticipated starting date.

4. All project vessels shall maintain speeds below 10 knots and maintain buffers of 150 feet for all listed species (1,500 feet for right whales).

5. There shall be no disposal from April 1 to September 30 in order to minimize adverse impact to sensitive species during migration, nesting, and breeding.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from Natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interested decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

_____ _____

(PERMITTEE) ***(DATE)***

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

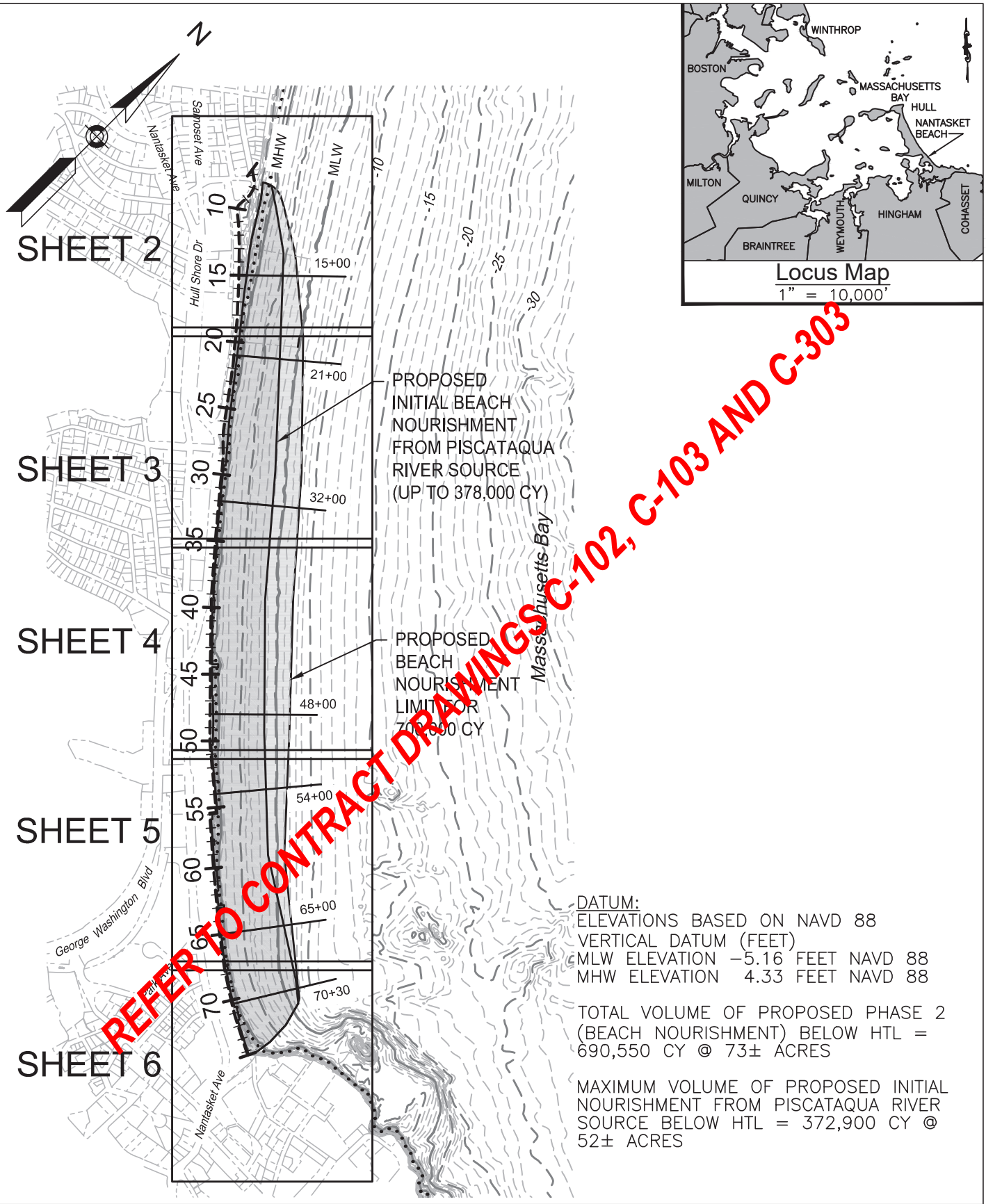
Barbara Newman 7/19/2018

(DISTRICT ENGINEER) ***(DATE)***

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE) ***(DATE)***



DATUM:
ELEVATIONS BASED ON NAVD 88
VERTICAL DATUM (FEET)
MLW ELEVATION −5.16 FEET NAVD 88
MHW ELEVATION 4.33 FEET NAVD 88

TOTAL VOLUME OF PROPOSED PHASE 2 (BEACH NOURISHMENT) BELOW HTL = 690,550 CY @ 73± ACRES

MAXIMUM VOLUME OF PROPOSED INITIAL NOURISHMENT FROM PISCATAQUA RIVER SOURCE BELOW HTL = 372,900 CY @ 52± ACRES

APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

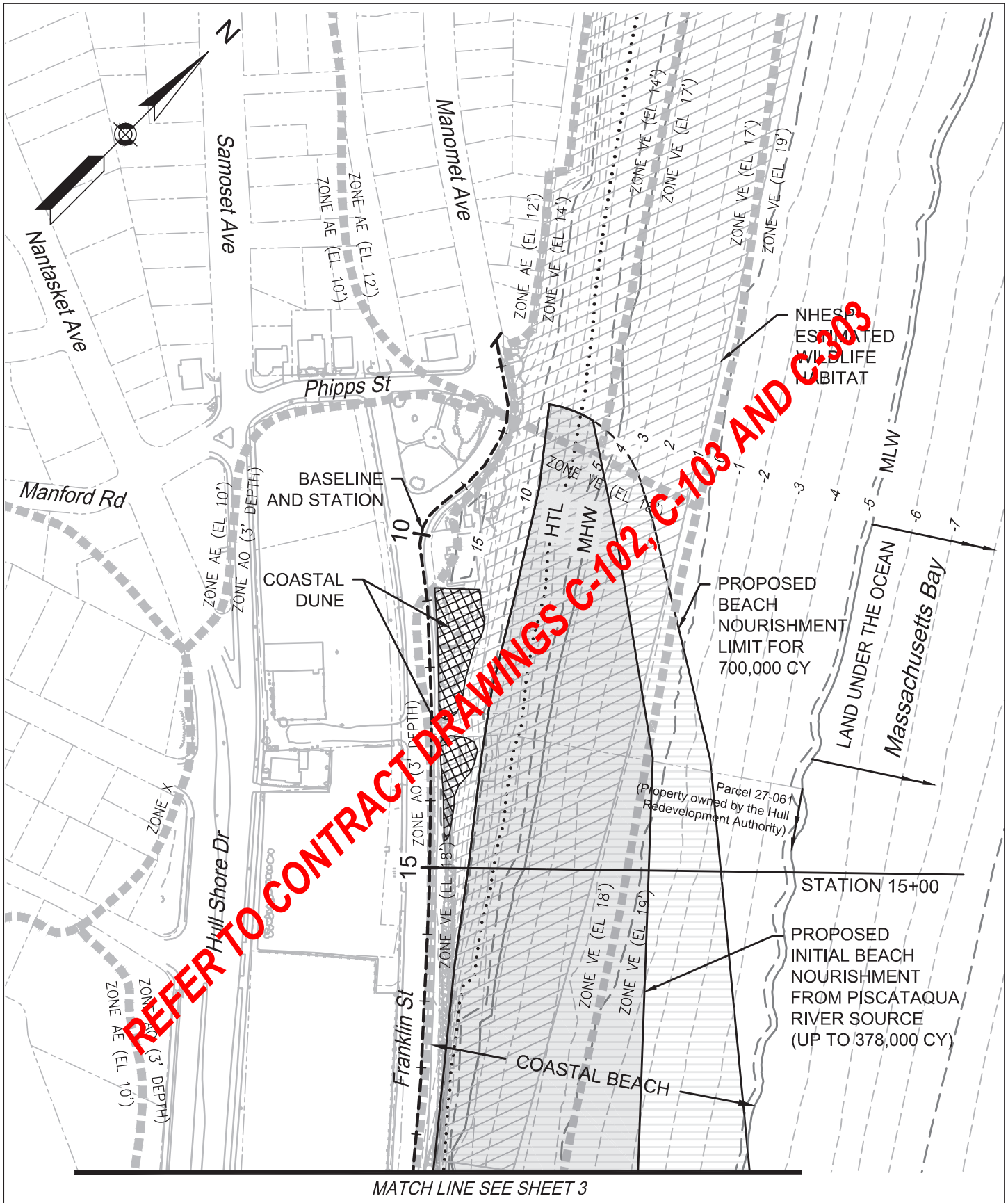
PROJECT AREA OVERVIEW

0 1000'

SCALE: 1" = 1000'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2: BEACH NOURISHMENT

HULL, MASSACHUSETTS



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

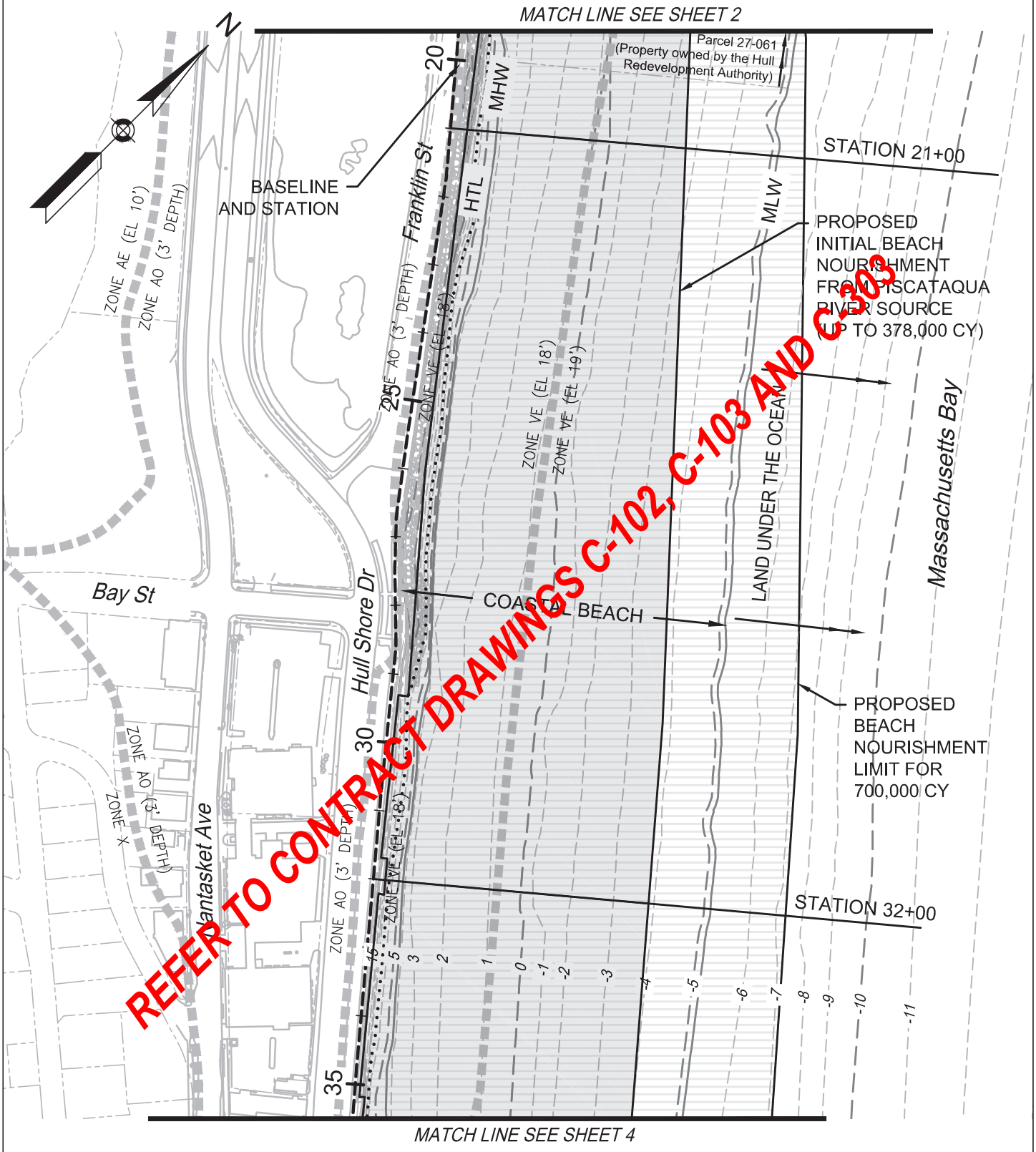
PROPOSED WORK PLAN
SHEET 1 OF 5

0 200'

SCALE: 1" = 200'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2: BEACH NOURISHMENT

HULL, MASSACHUSETTS



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
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APRIL 24, 2018

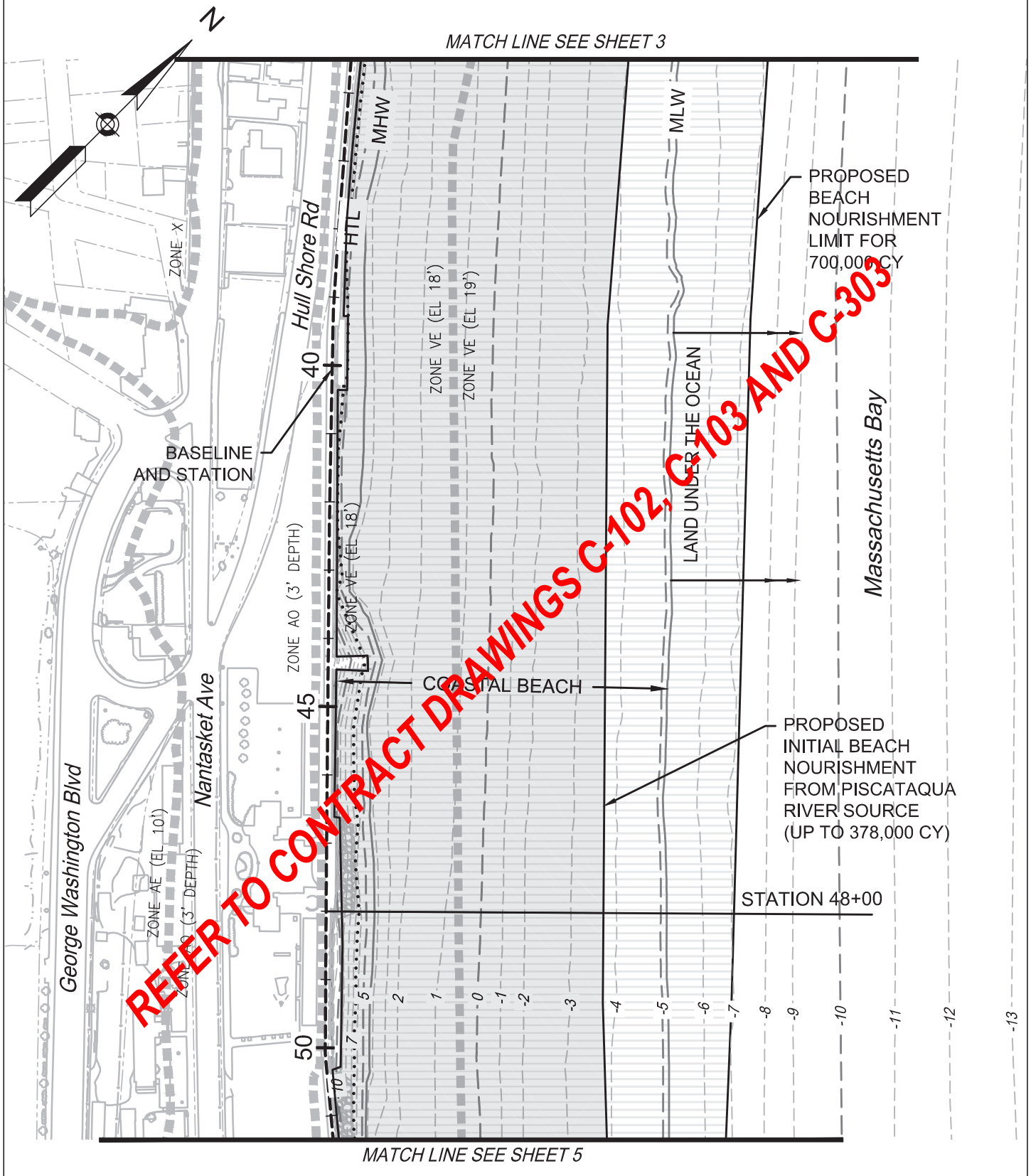
PROPOSED WORK PLAN
SHEET 2 OF 5

0 200'

SCALE: 1" = 200'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

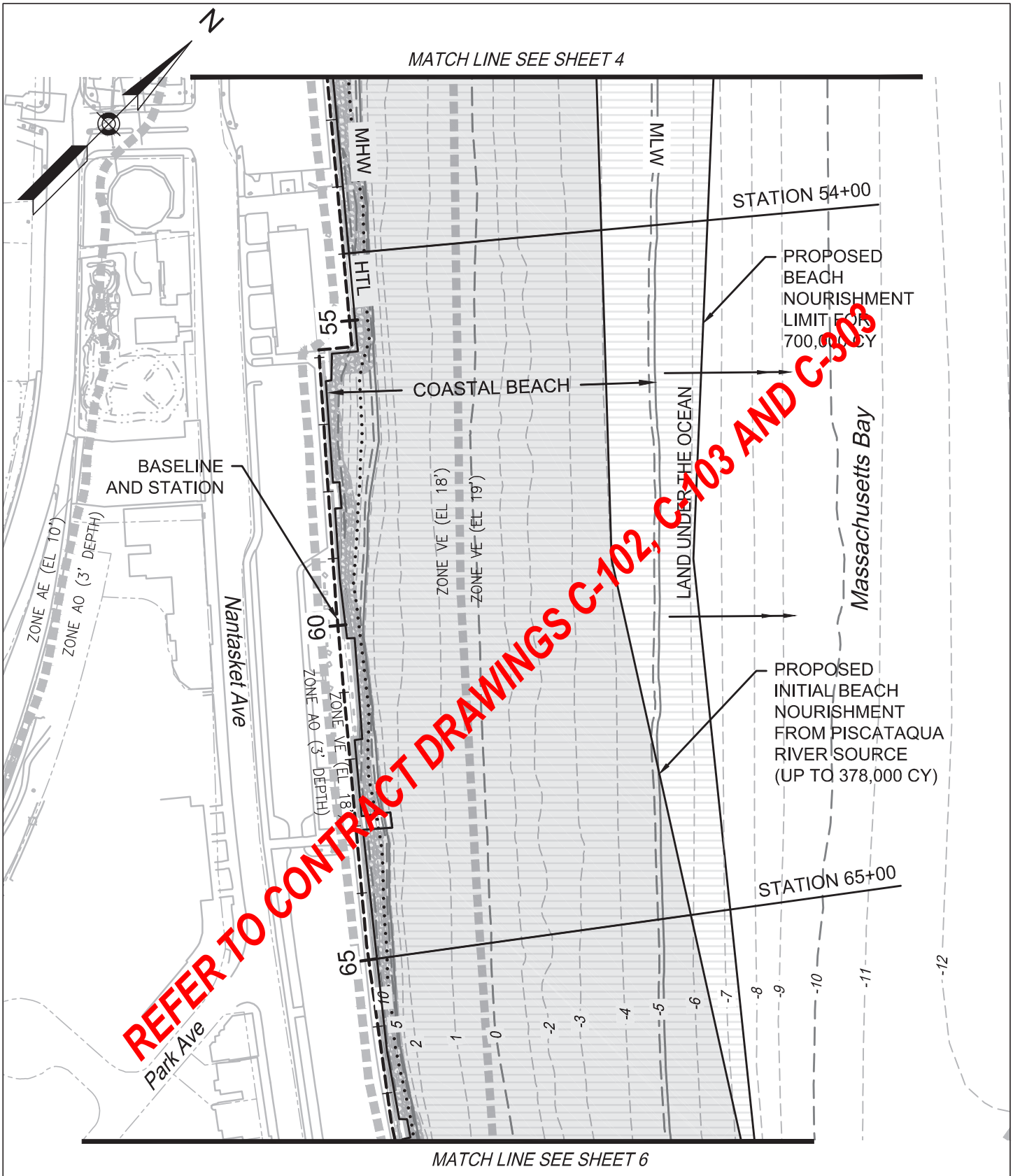
PROPOSED WORK PLAN
SHEET 3 OF 5

0 200'

SCALE: 1" = 200'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS



REFER TO CONTRACT DRAWINGS C-102, C-103 AND C-303

APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

PROPOSED WORK PLAN
SHEET 4 OF 5

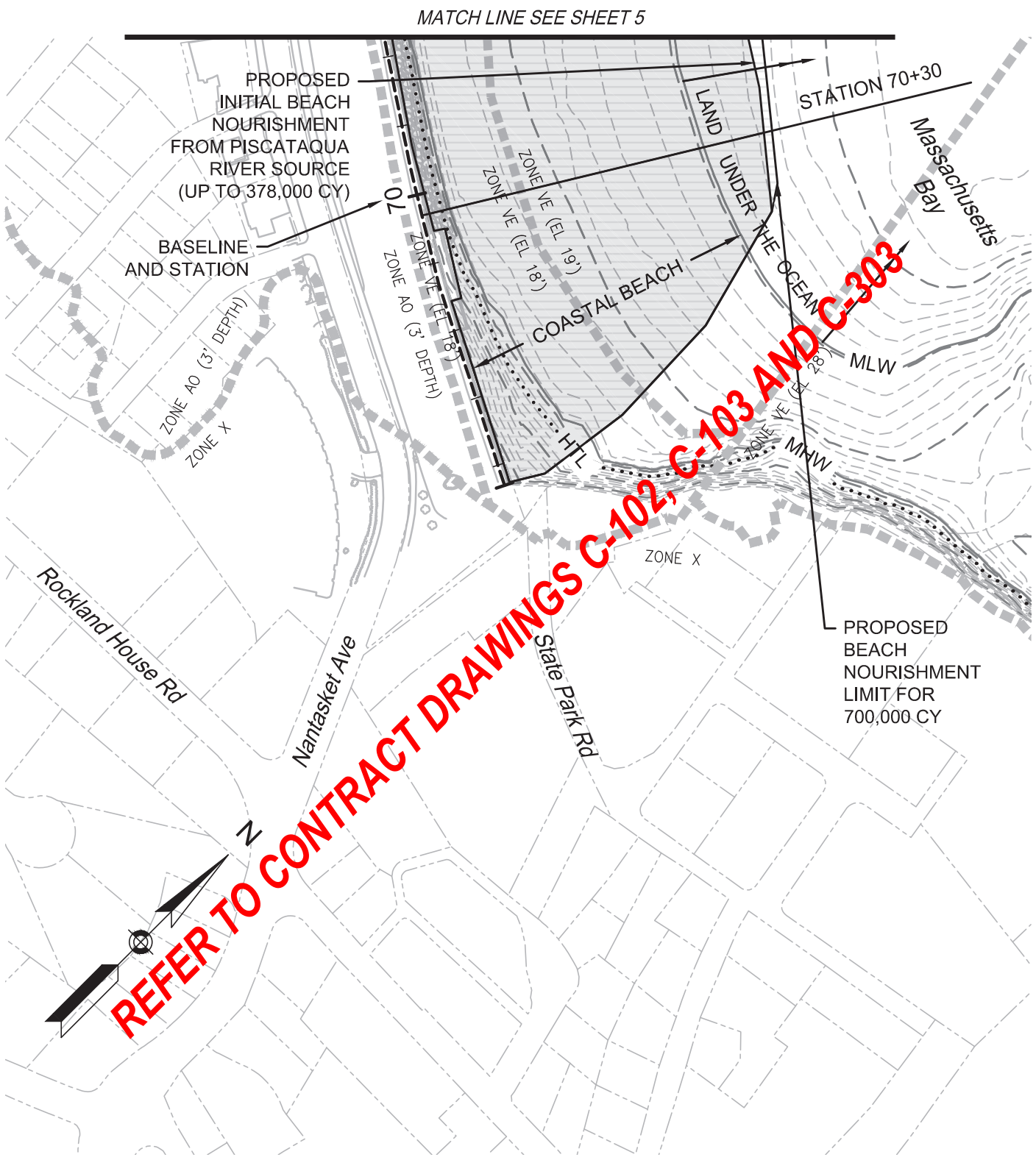
0 200'

SCALE: 1" = 200'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS

SHEET: 5 OF 10



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

PROPOSED WORK PLAN
SHEET 5 OF 5

0 200'

SCALE: 1" = 200'

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS

APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

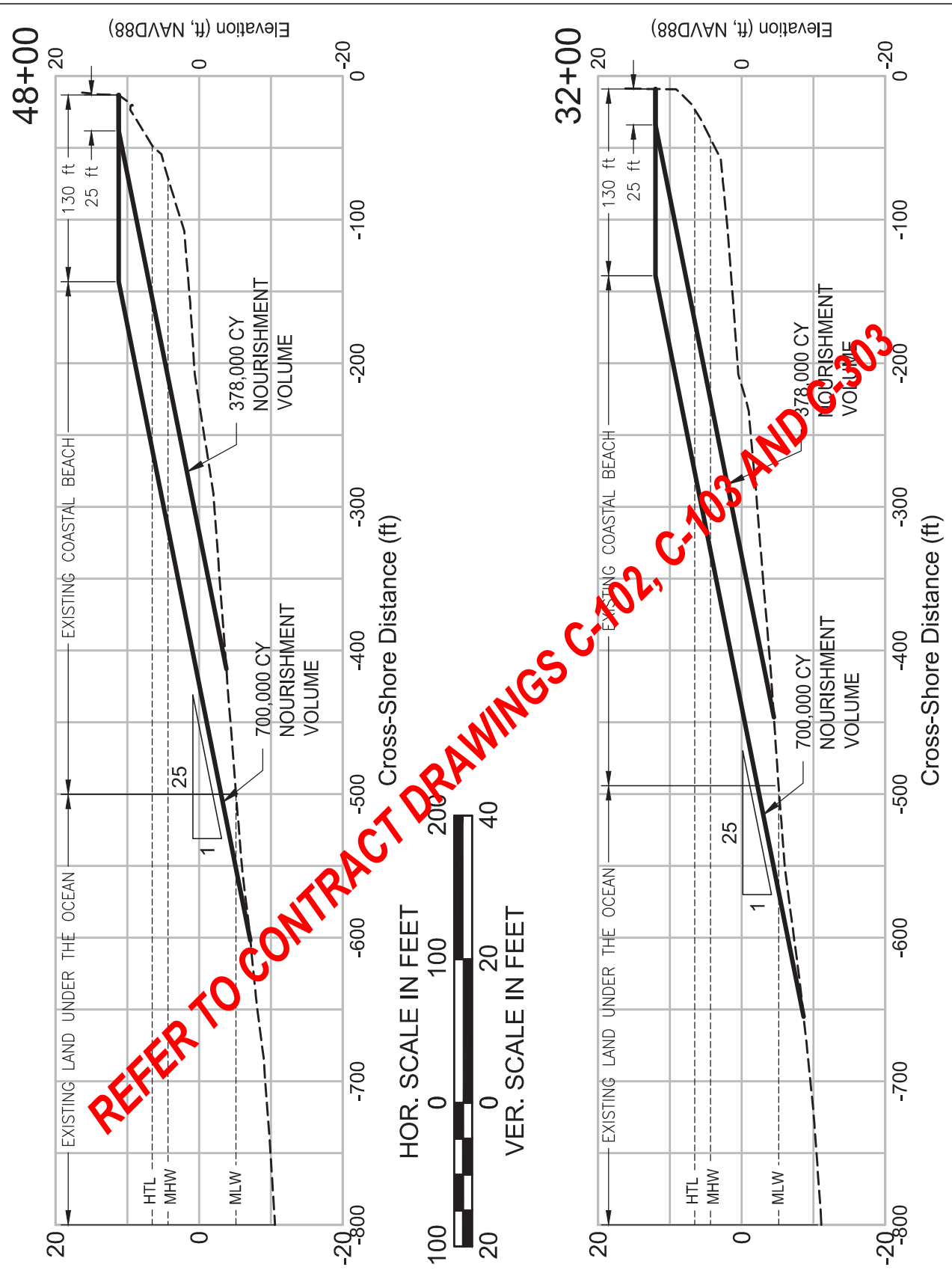
PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

CROSS SECTIONS
STA. 15+00 & 21+00

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

CROSS SECTIONS
STA. 32+00 & 48+00

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS

REFER TO CONTRACT DRAWINGS C-102, C-103 AND C-303

APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

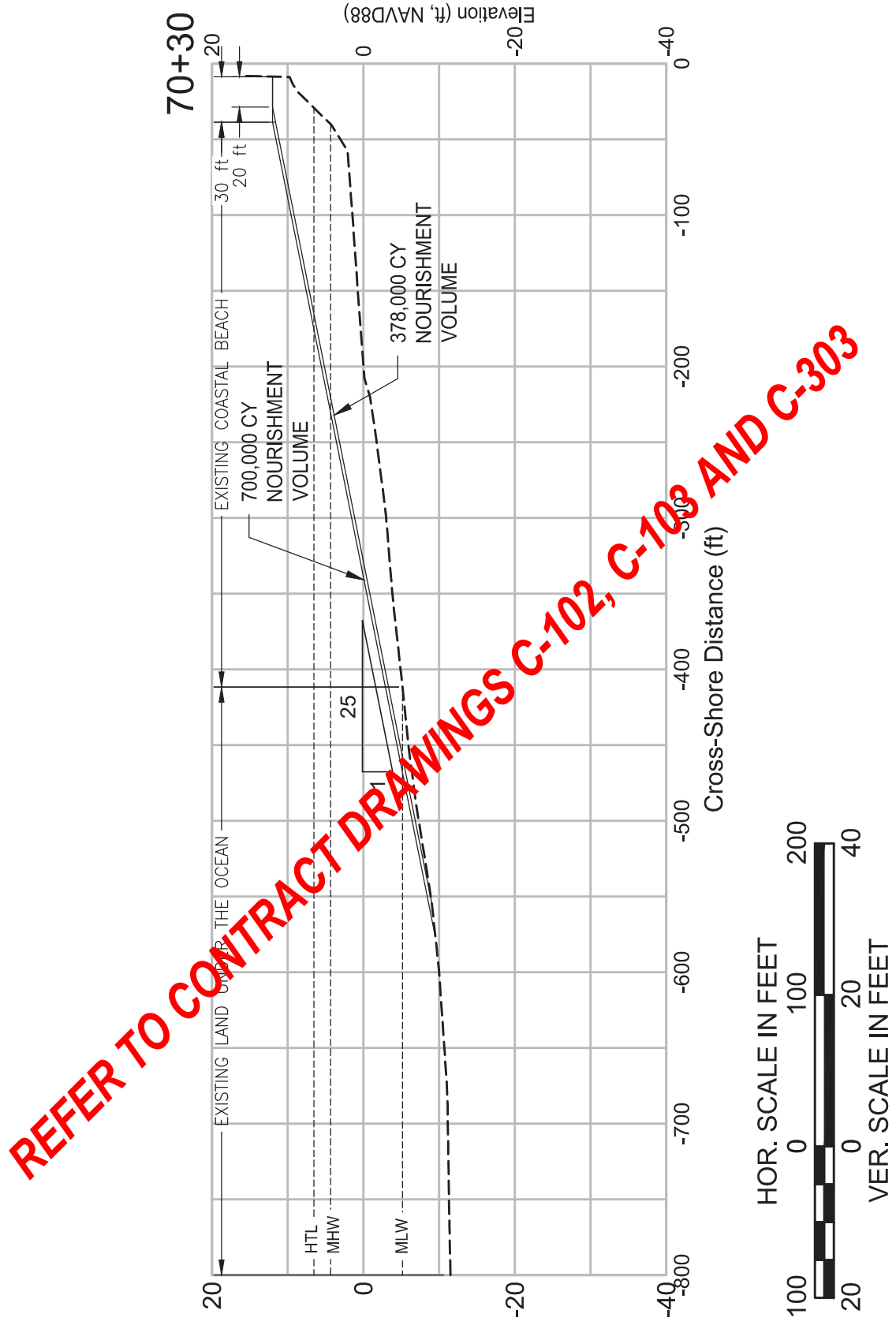
PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

CROSS SECTIONS
STA. 54+00 & 65+00

NANTASKET BEACH
COASTAL STORM DAMAGE REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS



APPLICATION BY:
MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

PREPARED BY:
LOUIS BERGER

APRIL 24, 2018

CROSS SECTION
STA. 70+30

NANTASKET BEACH
COASTAL STORM DAMAGE
REDUCTION PROJECT PHASE 2:
BEACH NOURISHMENT

HULL, MASSACHUSETTS

US Army Corps of Engineers®
New England District

WORK-START NOTIFICATION FORM

(Minimum Notice: Two weeks before work begins)

****

* EMAIL TO: cenae-r@usace.army.mil; or *

*

* MAIL TO: U.S. Army Corps of Engineers, New England District *

* Permits and Enforcement Branch A *

* Regulatory Division *

* 696 Virginia Road *

* Concord, Massachusetts 01742 *

****

Corps of Engineers Permit No. NAE-2018-00495 was issued to the MA DCR. The work is located on Massachusetts Bay/Nantasket Beach from State Park Rd. to Phipps St., Hull, Massachusetts. The permit authorized the placement of 372,900 cubic yards of sand below the high tide line (HTL) on Nantasket Beach covering 2.26 million square feet (52 acres) below the HTL at depths ranging up to 3.6 feet.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

_____

_____

Telephone Number: (____) _____ **Email:** _____

Proposed Work Dates: **Start:** _____ **Finish:** _____

Permittee/Agent Signature: _____ **Date:** _____

Printed Name: _____ **Title:** _____

Date Permit Issued: July 2018 **Date Permit Expires:** July 2023

****

FOR USE BY THE CORPS OF ENGINEERS

PM: Wilkinson **Submittals Required:** _____

Inspection Recommendation: _____

_____

US Army Corps of Engineers®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2018-00495

Project Manager Wilkinson

Name of Permittee: MA DCR

Permit Issuance Date: July 2018

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Policy Analysis/Technical Support Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742 *
****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

_____ _____
Printed Name Date of Work Completion

(_____)_____ _____
Telephone Number Email address

SECTION TABLE OF CONTENTS

DIVISION 35 - WATERWAY AND MARINE CONSTRUCTION

SECTION 35 25 00

UNDERWATER DIVING WORK

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1.1.2 Underwater Work
1.1.3 Time of Year and Weather
1.1.4 Depths of Diving Operations and Visibility
1.1.5 Types of Diving Operations
1.1.6 Diving Tasks
1.1.7 Measurement and Payment
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1.5.3 EMERGENCY MANAGEMENT PLAN
1.5.4 DIVE PERSONNEL QUALIFICATIONS
1.6 REGULATORY REQUIREMENTS
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1.8 MANNING LEVELS FOR DIVE TEAMS

PART 2 PRODUCTS

2.1 DIVING EQUIPMENT REQUIREMENTS

PART 3 EXECUTION

3.1 SURFACE SUPPLIED AIR OPERATIONS
3.2 MIXED GAS DIVING OPERATIONS

-- End of Section Table of Contents --

SECTION 35 25 00

UNDERWATER DIVING WORK

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Location of Diving Operations

The location of services to be performed under this contract is the Piscataqua River at the upper limits of Portsmouth Harbor, New Hampshire and Maine.

1.1.2 Underwater Work

Provide diving services and equipment as necessary to perform the work of this contract.

1.1.3 Time of Year and Weather

Diving operations may be conducted year round and in all weather conditions.

1.1.4 Depths of Diving Operations and Visibility

Depths of diving operations may range from 5 to 45 feet, and may include both clear and limited visibility conditions.

1.1.5 Types of Diving Operations

The surface supplied air mode of diving shall be used for all underwater work.

1.1.6 Diving Tasks

A partial list of potential underwater tasks that may be necessary due to the work performed under this contract are as follows:

a. Diving operations may be required to charge drill holes manually.

b. Services may include conducting underwater surveys to see what is on the bottom prior to dredging.

c. Diving operations may be necessary for the attachment of rigging equipment for removal of debris and obstructions.

d. Diving operations may be necessary for locating and marking underwater utilities with buoys to reduce the risk of damage due to the dredging operation.

e. Diving operations may be necessary for assisting in retrieving dredge equipment lost in the water during the dredging operation.

1.1.7 Measurement and Payment

No separate measurement or payment will be made for the work of this section. All costs associated with underwater diving work shall be included in the unit and job Bidding Schedule payment items most closely associated with the work involved.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Safe Practices Manual; G, DO

Pre-Diving Submittals

Diving Operations Plan; G, DO, DDC

Activity Hazard Analysis; G, DO

Emergency Management Plan; G, DO

Dive Personnel Qualifications; G, DO

1.4 CONTRACTOR SAFE PRACTICES MANUAL

The Contractor shall develop and maintain a safe practices manual. The safe practices manual shall contain all of the information required by 29 CFR 1910.420 and the additional information as specified below. This manual shall encompass the Contractor's entire diving program and be available at all times at the dive location to each dive team member and the Government representative. The safe practices manual shall include the items listed in paragraph 30.A.16 of EM 385-1-1, Section 30, and verification of dive team qualifications and experience. Verification of dive team qualifications and experience includes divers, diving supervisor, and tenders. Evidence that each dive team member has current certification in cardiopulmonary resuscitation (CPR) and first aid shall be submitted. A lack of experience or qualifications to perform the tasks stated in the dive plan will be cause for rejection or cessation of operations.

1.5 PRE-DIVING DOCUMENTS

In accordance with EM 385-1-1, Section 30, develop a site specific Diving Operations Plan, Activity Hazard Analysis (AHA), Emergency Management Plan, and a dive personnel list that includes qualifications, for each separate diving operation. Submit these documents to the District Dive Coordinator (DDC) for review and acceptance at least 45 working days prior to commencement of diving operations. These documents shall be at the diving location at all times. The Government will have a minimum of 30 calendar days to review pre-diving documents.

1.5.1 DIVING OPERATIONS PLAN

The Contractor shall develop a site specific diving operations plan for each separate diving operation. Prior to commencement of each diving operation the plan shall be submitted to the Contracting Officer for review and acceptance by the New England District Designated Dive Coordinator (DDC). The accepted plan shall be at the diving location at all times and be made available to the Government diving inspector upon request. As a minimum, the plan shall contain the information required by EM 385-1-1, Section 30, Paragraph 30.A.17.

1.5.2 ACTIVITY HAZARD ANALYSIS (AHA)

The Contractor shall develop and maintain an AHA plan for each separate diving operation that represents the dive team's effort to anticipate and mitigate or prevent the adverse effects of equipment failure, extreme weather and environmental conditions, or other hazardous or unexpected situations. The AHA shall contain information required by EM 385-1-1, Section 30, Paragraph 30.A.18. Prior to commencement of each diving operation the AHA shall be submitted to the Contracting Officer for review and acceptance.

1.5.3 EMERGENCY MANAGEMENT PLAN

The Contractor shall develop and maintain an emergency management plan for each separate diving operation. The plan shall contain information required by EM 385-1-1, Section 30, Paragraph 30.A.19. Prior to commencement of each diving operation, this plan shall be submitted to the Contracting Officer for review and acceptance.

1.5.4 DIVE PERSONNEL QUALIFICATIONS

Prior to commencement of each diving operation, the Contractor shall submit to the Contracting Officer the name and qualifications of each diver to participate in each diving operation. Information shall be as required by EM 385-1-1, Section 30, Paragraphs 30.A.06 through 30.A.10.

1.6 REGULATORY REQUIREMENTS

All diving operations performed under this contract shall comply with EM 385-1-1, Section 30.

The New England District may elect to implement and enforce more stringent diving requirements than stated in the above reference, but under no circumstances will the operational requirements be less than specified in the reference.

1.6.1 Policy

It is the policy of the Corps of Engineers that all contract diving operations be conducted in a prudent manner that will provide for maximum efficiency and minimize the potential for personal injury, loss of life, occupational illness and/or property damage. The Contractor shall not utilize divers if the objective can be more safely and efficiently accomplished by another means, e.g., using remote controlled television systems in lieu of divers.

The Contractor shall demonstrate that each diver is:

(1) Medically fit to dive and meets the medical requirements of EM 385-1-1, Section 30.

(2) Adequately trained and have the required proficiency for the work assigned.

(3) Provided with and adheres to prescribed safe operating procedures.

(4) Trained with and required to use all equipment and/or tools to safely perform the assigned tasks.

1.7 PRE-DIVE CONFERENCE

See EM 385-1-1, Section 30, Paragraph 30.A.20.

1.8 MANNING LEVELS FOR DIVE TEAMS

See EM 385-1-1, Appendix O.

PART 2 PRODUCTS

2.1 DIVING EQUIPMENT REQUIREMENTS

See EM 385-1-1, Section 30, Paragraph 30F.

PART 3 EXECUTION

3.1 SURFACE SUPPLIED AIR OPERATIONS

See EM 385-1-1, Section 30, Paragraph 30D.

3.2 MIXED GAS DIVING OPERATIONS

Mixed gas diving operations shall not be permitted for the work of this contract.

-- End of Section --

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DIVISION 35 - WATERWAY AND MARINE CONSTRUCTION

SECTION 35 30 00

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1.4.3 Responsibilities
1.4.4 Qualifications
1.4.4.1 Blaster(s)
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-- End of Section Table of Contents --

SECTION 35 30 00

UNDERWATER DRILLING AND CONFINED BLASTING

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety and Health Requirements Manual
EM 1110-2-3800	(2018) Blasting for Rock Excavations Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1926	Safety and Health Regulations for Construction
33 CFR Part 6	Protection and Security of Vessels, Harbors, and Waterfront facilities
33 CFR Part 126	Handling of Dangerous Cargo at Waterfront Facilities
46 CFR Part 147	Hazardous Ships' Stores
46 CFR Part 148	Carriage of Bulk Solid Materials that Require Special Handling

1.2 RELATED WORK SPECIFIED ELSEWHERE

a. Measurement and payment for rock material removal and disposal is specified Section 01 22 00 MEASUREMENT AND PAYMENT.

b. See also EM 385-1-1, U.S. Army Corps of Engineers, Safety and Health Requirements Manual, Section 29 for additional requirements relative to blasting.

c. See also Sections 00 32 00 GEOTECHNICAL DATA, 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS, and 35 20 23 MECHANICAL DREDGING.

1.3 DEFINITIONS

1.3.1 Confined Blasting

The use of small quantity of explosives confined in drilled blast holes substantially reduces the effects of shock waves on submerged structures and objects in water.

1.4 PERFORMANCE REQUIREMENTS

1.4.1 General

a. When the nature of the material to be dredged requires blasting, the Contractor's blasting program and methods shall be those necessary to accomplish the excavation shown on the contract drawings in accordance with the procedures specified in this section. The Contractor shall be required to make necessary plans, examinations, surveys, and test blasts to determine the quantity of explosives that can be fired without injuries to persons, and fish, marine mammals, and other aquatic wildlife, or damage to personal or public property. Test blasts shall be performed to verify that the monitoring network performs as designed and material is adequately loosened for removal. Use the results to optimize remainder of work. The Contractor's blasting program shall abide by all applicable codes and regulations including, but not limited to, the following. Where conflicts are found between the documents below, the most stringent requirement applies.

- Title 29 Code of Federal Regulations Part 1926 (29 CFR 1926), Safety and Health Regulations for Construction.

- Federal Occupation Safety and Health Act of 1970.

- Institute of Makers of Explosives (IME); Safety Publications.

- Army Corps of Engineers, Safety & Health Manual EM 385-1-1 (2014)

- Army Corps of Engineers, Blasting for Rock Excavations Manual EM 1110-2-3800 (2018)

- U.S. Coast Guard - Title 33 Code of Federal Regulations, Parts 6 & 126, Title 46 CFR, Parts 146, 147 & 148

- State of Maine - Title 25, Part 6, Chapter 318, Subchapter 1: Explosives

- State of Maine Blasting Regulations 16, 219, Chapter 31: Rules for the Manufacture, Transportation, Storage and Use of Explosive Materials.

- State of New Hampshire - Code of Administrative Rules, Chapter Saf-C 1600, Explosives.

- Town of Newington, NH, General Provisions, Article I: General Provisions, Chapter 202 Blasting Ordinance.

- Town of Eliot, ME, General Provisions, Planning and Development, Division 6 Specific Activities, Section 33-181 Earth Material Removal Ordinance.

b. The Contractor shall assume all liability and hold and save the Government, its officers, agents, and employees harmless for any and all claims for personal injuries, property damages, or other claims arising out of, or in connection with, the transportation, storage, and use of explosives under the contract.

c. The Contractor shall, in addition, process any and all claims of

public entities, companies and private citizens arising out of said use of explosives promptly in an acceptable time period set by the Contracting Officer's Representative (COR); in particular, all property damage claims shall be acknowledged by the Contractor, or the Contractor's representative, and be submitted immediately as directed by the COR to the Contracting Officer providing name of claimant, location, time and description of alleged damage, and estimated value. The claimed damage shall be inspected by the Blasting Vibration Consultant within 48 hours following initial notification, and processed to a conclusion (honored, denied, or compromised) within 90 days after cessation of all blasting on the contract; but, in no case shall the claims remain unresolved for a period exceeding 6 months (180 calendar days). The Contractor shall submit inspection results and actions taken to the Contracting Officer on a weekly basis.

1.4.2 Transportation, Storage, and Use of Explosives

The Contractor will be held responsible to perform the work in compliance with all applicable Federal, State, and local codes and regulations, including, but not limited to, those cited above and in 33 CFR Part 6, 33 CFR Part 126, 46 CFR Part 147, and 46 CFR Part 148. The Contractor shall have available the documents for inspection at all times, which will pertain to the blasting operation. In case of conflict between codes and regulations, the more stringent will apply. The Contractor shall be responsible for securing a location for, and all necessary permits related to, explosives storage.

1.4.3 Responsibilities

1.4.4 Qualifications

1.4.4.1 Blaster(s)

The Contractor shall provide full-time experienced blaster(s) on site with direct responsibility for executing the blasting plans. Blaster(s) shall have a minimum of 5 years experience as a licensed blaster and 3 years experience with underwater blasting. Blasters shall be licensed in New Hampshire and Maine. The Contractor shall submit the licenses for all blasters to be used for this work.

1.4.4.2 Seismic Specialist/Blasting Vibration Consultant

a. Provide the Contracting Officer with the credentials of the Independent Seismic Specialist/Blasting Vibration Consultant to be utilized in conjunction with this work.

b. Employ an Independent Professional Seismic Specialist/Blasting Vibration Consultant experienced in underwater blasting for rock excavation that meets the following criteria:

(1) They are an expert in blasting and underwater blasting and derive their primary source of income from blasting and blasting consultation.

(2) They are not an employee of the Contractor nor the explosives supplier or manufacturer.

(3) They provide a list of relevant projects and their roles and responsibilities demonstrating experiences on at least 3 projects of similar scope and complexity, with regards to removing the amount rock

to the depths required under this contract.

(4) The Seismic Specialist/Blasting Vibration Consultant shall have training, and education, and have working a knowledge of State and local laws and regulations which pertain to blasting.

(5) A minimum of 30 days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with credentials of the Seismic Specialist/Blasting Vibration Consultant.

c. The Seismic Specialist/Blasting Vibration Consultant shall coordinate with the blasters to develop safe and efficient blasting procedures that will meet the requirements of the work. The Seismic Specialist/Blasting Vibration Consultant shall provide assistance in performing pre-blast surveys, supervise and oversee the blasting of the Test Blast and participate in developing the production blast plan based upon the assessment of the test blasting. The Seismic Specialist/Blasting Vibration Consultant shall visit the site following the start of blasting as needed in order to assist in resolving issues related to blasting at the request of the Contracting Officer.

1.4.4.3 Undersea Noise and Pressure Monitoring Consultant

a. Provide the Contracting Officer with the credentials of the Undersea Noise and Pressure Monitoring Consultant to be utilized in conjunction with this work.

b. The Undersea Noise and Pressure Monitoring Consultant shall meet the following qualifications:

(1) They are an expert in undersea noise and pressure monitoring related to underwater blasting activities.

(2) They are not an employee of the Contractor nor the explosives supplier or manufacturer.

(3) They provide a list of relevant projects and their roles and responsibilities demonstrating experiences on at least 3 projects of similar scope and complexity.

c. A minimum of 30 days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with credentials of the Undersea Noise and Pressure Monitoring Consultant.

1.4.5 Coordination

1.4.5.1 Schedules

The Contractor shall thoroughly coordinate his schedules for blasting with the proper authorities, Federal, State, local. No blasting shall be done unless the Contractor is notified by all concerned parties that he may blast. In addition, if channel restrictions are required for drilling and confined blasting, the Contractor shall coordinate with the United States Coast Guard.

1.4.5.2 Permits

The Contractor shall be responsible for obtaining all licenses, necessary

permits from the State and Local authorities to perform blasting operations, any and all fees, and the keeping of accounts and records, as well as arranging the transportation and protection of all explosives on the contract. Should the Contractor fail to comply with above requirements, the Contracting Officer may order a suspension of that part of work involved until the deficiencies are corrected. The Contractor shall submit to the Contracting Officer all permits, licenses and approvals which are necessary for this contract as required by the regulations cited above. The Contracting Officer shall be notified in writing that all permits have been obtained.

1.5 WORK RESTRICTIONS AND REQUIREMENTS

1.5.1 General

The following restrictions and requirements assure that there are no adverse impacts to the public and the smallest effect upon commerce, and to avoid harm to surrounding structures and the environmental habitat upon blasting.

1.5.2 Protection of Fish and Marine Mammals

For the protection of fish and marine mammals, blasting work shall comply with the following:

a. Complete all blasting work within the designated environmental window as specified in See Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

a. All blasting operations are contingent upon using sonar and the presence of a fisheries observer and endangered species and marine mammal observer. See Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for fisheries observer and endangered species and marine mammal observer criteria and requirements.

b. Blasting is prohibited during the passage of schools of fish, or in the presence of marine mammals, unless human safety is a concern. In the event that schools of fish are detected, or marine mammals are detected and within visible range, the Contractor shall temporarily stop blasting operations when so advised by the fisheries observer and endangered species and marine mammal observer.

c. A fish detecting and startle system or scare charges shall be used to avoid blasting when fish are present or transiting through the area, including placing the fish detecting and startle system on a separate boat. See Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for sonar and fish detecting and startle system or scare charges equipment requirements.

d. Blast pressure waves and blast noise shall be monitored through the use of appropriate hydroacoustic and underwater pressure monitoring equipment. An upstream station and a downstream station located approximately 250 feet from the edges of the blasting area will be monitored.

e. To reduce fish mortality, all blasting shall be conducted using inserted delays of a fraction of a second per hole and by placing stemming material at the top of the bore-hole to deaden the shock-wave reaching the water column.

1.5.3 Blasting Work Hour Restrictions

Refer to Section 01 11 00 SUMMARY OF WORK under subpart "Hours of Operations".

1.5.4 Confined Detonations

Fracture and displace the rock at the project site for the rock's excavation and removal by confining each loaded drill hole with stemming within sound rock. Confine the delayed shot of each drill hole so that no rifling plume is produced. Conduct drill logging to recognize the depth of the hard overburden and sound rock and adjust the planned loading of that drill hole with explosives and blasting agents accordingly to the position of sound rock relative to the paid elevation of removal.

1.5.5 Repelling Noises

Initiate a series of small charges immediately prior to any blast detonation to scare fish away from the immediate zone of the shot pattern. The procedure is detailed in the subpart "REPELLING NOISE PROCEDURES".

1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Pre-Blast Structural Condition Survey Report; G,DO

Submit a pre-blast structural condition survey report.

Blasting Safety Plan; G, DO

Operational Blasting Plan; G, DO

Test Blast Plan; G, DO

Contingency Plan

Submit the Contingency Plan in Case of Misfire, Inadvertent Initiator Extraction, or Accidental Loss of Down Lines

The Blasting Safety Plan, Operational Blasting Plan, Test Blast Plan, and Contingency shall be submitted concurrently.

Shot Plan; G, DO

Undersea Noise and Pressure Monitoring Plan; G, DO

Licenses

Prior to blasting, submit a list of blasting license holders and their responsibilities for this project, as well as any required permits required for blasting.

Permits

Prior to blasting, submit all required permits required for blasting and storage/transfer of explosives.

Seismic Specialist/Blasting Vibration Consultant

Submit the credentials of the Seismic Specialist/Blasting Vibration Consultant to include past experience, training, and education.

Undersea Noise and Pressure Monitoring Consultant

Submit the credentials of the undersea noise and pressure monitoring consultant to include past experience, training, and education.

SD-03 Product Data

Blasting Product Specification Sheets

Submit for all explosives, primers, boosters, initiation systems, and delays.

SD-06 Test Reports

Post Test Blast Evaluation Report; G, DO

Daily Explosive Material Summary; G, DO

Daily Blasting Log; G, DO

Submit the required daily blasting log of operations on a weekly basis.

Blast Report; G, DO

Blast Monitoring Report; G, DO

Underwater Overpressure Monitoring Report; G, DO

Vibration Monitoring Report

SD-07 Certificates

Blaster(s) Qualifications; G, RO

Submit qualifications for each blaster responsible for blasting work on this project.

Protection Plan

Prior to blasting, submit a plan for protection of surrounding structures, equipment, and vessels.

SD-09 Manufacturer's Field Reports

Post Blasting Surveys

The Contractor shall submit the results of the post blasting survey.

1.7 PROJECT REQUIRED PLANS AND REPORTS

1.7.1 Pre-Blast Structural Condition Survey Report

a. The Contractor is responsible for pre-blast structural condition surveys and for the identification and classification of structures requiring pre-blast structural condition surveys, and the preparation of a pre-blast structural condition survey report. A copy of the pre-blast structural condition survey report shall be submitted for Contracting Officer's approval in conjunction with the Operational Blasting Plan.

b. Arrange for a pre-blast structural condition survey of any nearby piers, docks, houses, buildings and miscellaneous structures, sensitive and historic structures, and utilities that may potentially be at risk from blasting. The pre-blast structural condition survey of the interior and exterior of all structures shall be made within a one thousand five hundred (1,500) foot radius from the any blasting area. The Contractor must notify the property owners within the 1,500 foot radius of the blasting areas of the pre-blast survey as defined below. All structures that may be affected by the blasting, will be inspected and their condition documented. Any existing outstanding architectural defects such as broken or fallen plaster or broken windows shall be documented by video and with digital zoom capabilities. Provide methodology to be used in conducting the pre-blast structural condition survey and listing of structures, determined from the survey to be sensitive, with reasons for these structures being sensitive, within 1500 feet from the blasting areas. Photographs will be taken of all the surveyed structures. Determine the elevation of all piers and record with photographs all floating vessels that are in the vicinity and that are vulnerable to wave propagation. Include photographs and video of the historic structures. The Contractor shall certify that the survey was prepared prior to the start of any blasting under this contract.

c. Pre-blast property inspections are to be performed for all requests from property owners no matter where they live.

d. During blasting activities, the process for addressing complaints will be as specified below under subpart "Public Complaints".

e. Inspection results, actions taken and all correspondence regarding the complaints shall be furnished to the Contracting Officer.

1.7.2 Blasting Safety Plan

a. No later than 30 days after receipt of Notice to Proceed, submit a Blasting Safety Plan for review. The Blasting Safety Plan shall be in accordance with EM 385-1-1, Section 29, and any other Federal, state and local regulations. The Blasting Safety Plan shall also include, as a minimum, the following items:

(1) All onboard magazines shall be permanently secured to the deck as required by the Coast Guard.

(2) No high explosives shall be stored on the boat or barge deck in

the open except for the one case that is to be loaded immediately into the bore holes. Any explosives remaining on deck shall be returned to the day magazine prior to the firing of any blast.

(3) The firing line reel or spool shall be mounted on the rig in a manner that it cannot be lost overboard. An electric or electronic blasting system shall not be used.

(4) The number of explosives permitted aboard the drill boat at any one time will be in accordance with the amount permitted by appropriate codes and regulations.

(5) Make necessary arrangements to prevent damage to any vessel, moored or underway, building or structure and preserve the crew or occupants thereon from exposure to injury as a result of the Contractor's operations. The Contracting Officer may require additional arrangements.

(6) Perform a certified marine survey of all floating plant proposed for underwater blasting work on this contract performed prior to starting any work and provide the results to the Contracting Officer.

(7) Automatic fire extinguishers of an appropriate type shall be installed on air compressors and in all engine compartments aboard vessels including but not limited to (drill boats, barges) where explosives are stored, handled, and used.

(8) Remote fuel shut-offs and fire signaling devices shall be provided aboard the drill boats.

(9) Coordination Plans with the local Coast Guard office to provide notice of blasting and for vessel traffic control, as applicable.

(10) Alert sequence signals and public notice of blasting and all clear.

b. All other applicable safety requirements shall be implemented in addition to that required above. Submit one electronic copy and three hard copies of the Blast Safety Plan for review. The Contracting Officer shall have 20 days for review after receipt. The Contractor may be required to revise and resubmit the plan. The Contracting Officer shall have 10 days for review of the revised plan. Concurrence with the revised plan will not relieve the Contractor of his/her responsibility to produce safe and satisfactory results as set forth by these specifications.

1.7.3 Test Blasting

1.7.3.1 Test Blast Plan

a. No later than 30 days after receipt of Notice to Proceed, submit to the Contracting Officer and prior to the initiation of production blasting, a Test Blast Plan to establish safe limits of vibration, underwater noise, underwater pressure, and airblast overpressure, and demonstrate the satisfactory performance of the drill boats and develop the Operational Blasting Plan. The type of explosives and firing systems shall adhere to all applicable codes and regulations including, but not limited to, those cited above in subpart titled "Responsibilities". Submit one electronic copy and three hard copies

of the Test Blast Plan for review. The Contracting Officer shall have 20 days for review after receipt. The Contractor may be required to revise and resubmit the plan. The Contracting Officer shall have 10 days review of the revised plan. Concurrence with the revised plan will not relieve the Contractor of his responsibility to produce safe and satisfactory results as set forth by these specifications. The Test Blast Plan shall include at least three test blasts with increasing charge weight per delay.

b. The Test Blast Plan shall document the following:

(1) Estimate the values of ground vibration, underwater sound and overpressure, and airblast overpressure.

(2) Demonstrate the satisfactory performance of the drills, boats, barges and other equipment to be used.

(3) Determine the maximum charge weight per delay for the project.

(4) The refining of the repelling noise procedure for this project.

(5) A discussion on the proposed subdrill depths, diameter and spacing in order to achieve the required rock breakage and sufficient overbreak to facilitate excavation of spoils. Describe sequence and stages of work including equipment and manpower for excavating spoils following blasting.

(6) A discussion on the blasting methods to be used during the project, including explosive charge, size, charge configuration, charge separation, delays, proposed maximum charge weight per delay for each test shot, initiation methods, stemming materials and procedures, and anticipated emplacement conditions to be encountered during operational blasting.

(7) A discussion on the methods to be used to monitor vibration (peak particle velocities), underwater noise, underwater pressure, and airblast overpressure generated during the test blasts, and methods to monitor the water for the protection of fish and marine mammals. The limits for peak particle velocity are referenced below under subpart titled "Vibration Control". The required procedures prior to every blast for moving fish away from the shot pattern are referenced below in subpart titled "REPELLING NOISE PROCEDURES" AND 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

c. The primary purposes of the Test Blasting is to assure safe practices are being followed for explosive materials (including their handling and temporary storage procedures) and that on-site equipment and shot methodology are appropriate. Additionally, the test blast shall be used to develop a maximum charge weight per delay, which is efficient for performing rock breakage for production blasting at or below the limited value (and as limited as practical to avoid fish kill), and document that no rifling plumes are emitted from the detonated shot holes to confine the gaseous products for their most effective work production and lowest energy release into the water column in order to lessen fish kill.

d. Use the type of explosives and firing systems that adhere to all applicable codes and regulations including, but not limited to, those cited in subpart "PERFORMANCE REQUIREMENTS". A minimum of three shots

are required for the Test Blasting. Complete a Shot Plan, which is referenced below under subpart titled "Shot Plan", for every shot, including these test blasts. Increase the number of shot holes loaded and the maximum charge weight per delay of subsequent test and production shot patterns only if the early shot pattern was apparently successful. An apparently successful shot pattern is defined as a properly fired pattern that has seemed to have been effective prior to spoil excavation and has remained below both the maximum and peak particle velocity value, as prescribed in Subpart "Vibration Control" of this specification section.

e. For the next immediate next shot pattern, use a smaller number of loaded drill holes and a smaller maximum charge weight per delay, if the prior shot pattern had a rifling plume or under estimated the recorded, peak particle velocity by 25% at any monitoring location or had any type of misfire, damage or injury or accident.

f. Limit the first test shot to three drilled shot holes in a single row and have a maximum charge weight per delay of 6 pounds of explosive materials per 25-ms delay. Limit the second test shot to nine holes in a shot pattern of the Contractor's choosing and to a maximum charge weight per delay of double the first shot's maximum charge weight per delay, as long as the first test shot was completely satisfactory. The third test and other production shot patterns may use any number of drilled holes and a maximum charge weight per delay of double the pounds of explosives and blasting agents per 25-ms delay to the limit of 25 pounds, as long as the preceding test shot was completely satisfactory.

g. Submit a Blast Report and a Blast Monitoring Report, as described below under subparts "Blast Report" and "Blast Monitoring Report", for each test blast. Do not conduct drilling for subsequent test blasts until both the Blast Report and the Blasting Monitoring Report of the prior test blasts have been submitted to and reviewed by the Contracting Officer.

h. Provide data to revise the Operational Blasting Plan. Document in the Test Blast Plan, which is a separate document from the Operational Blasting Plan, how the test shot patterns will be conducted and assessed to proceed to larger subsequent blasts.

i Provide all data from conducting the Test Blasting within 5 days of conclusion of the test as the Post Test Blast Evaluation Report. Provide the Post Test Blast Evaluation Report in the format of the Blast Report, which is referenced in subpart titled "Blast Report". A revision to the Operational Blasting Plan may be warranted by the findings within the Post Test Blast Evaluation Report.

1.7.4 Operational Blasting Plan

a. No later than 30 days after receipt of Notice to Proceed, submit the Operational Blasting Plan for review. Following completion of the Test Blasts, the Contractor shall submit to the Contracting Officer revisions to the Operational Blast Plan, based on the recommendations developed as part of the Test Blast Plan. The Contracting Officer shall have 10 days for review after receipt. The Contractor may be required to revise and resubmit the plan. The Contracting Officer shall have 10 days review of the revised plan.

b. No drilling shall be started before the Contracting Officer reviews and concurs with the Final Operational Blasting Plan or any revisions to that plan.

c. Any changes to the blasting or monitoring procedures, equipment, plant, products or personnel must be reflected in a revised Operational Blasting Plan or supplement and must be approved by the Contracting Officer prior to implementation.

d. The Operational Blasting Plan shall include, as a minimum, the following items:

(1) Proposed method of transportation, storage, and handling of explosives.

(2) Procedure for monitoring the blast operations and handling misfires.

(3) Plan showing layout of drill hole pattern, timing and sequence, anticipated burden dimensions and depth of sub-drilling.

(4) Location, size, depth, and spacing of blast holes; type of explosive and method of loading and detonating, and maximum number of holes to be detonated per blast.

(5) Plan for the fragmentation of large boulders and blast rubble Specific gravity of explosives and manufacturer's technical literature.

(6) Initiation system to be used and explosive loading in pounds of explosive per delay.

(7) Sequencing of delays that will be employed during blasting.

(8) Indication as to whether decking or boosters will be used and the depths of required stemming.

(9) Type and number of drill frames, including drill hole diameter, and expected production rates/day.

(10) Type of instrumentation to be used, manufacturer, and when last calibrated and/or certified.

(11) List of licenses, permits, and/or clearances required, including permit numbers, when applied for, and date of approval or anticipated approval by Federal, State, and local concerns.

(12) A format for maintaining a record of individual blasts (i.e. the "Daily Blasting Log") throughout the life of the project designed to record pertinent data before, during, and after the blasting operation. Pertinent information shall include, but not be limited to, those items specified in part "Daily Blasting Log" (see Record Keeping).

(13) Names, qualifications, and addresses of all certified blasters and users.

(14) Names and qualifications of specialists for vibration control analysis, underwater noise monitoring, underwater pressure monitoring, and airblast over-pressure measurements.

(15) Navigation Control Plan showing location of warning signs and signals to be used, land and marine spotters, and method of controlling vessel traffic and communications.

(16) Name and address of Contractor's representative (Blasting Vibration Consultant) to which any claims for damage due to blasting should be addressed.

(17) Location plan, manufacturer's literature, and parameters to be used in site selection for seismic instrumentation, when used.

(18) The location of monitoring equipment, when used.

(19) The methods that will be used for the protection of the Atlantic and Short-nosed sturgeon, during the blasting activities.

(20) Complete list of floating plant involved in production blasting operations.

(21) Contingency Plan for Lightning Hazard.

(22) Complete Project Team Organization with duties, responsibilities and authorities clearly defined. This organizational outline shall also identify the on-site safety officer and include a listing of all personnel authorized to sign for, receive and use explosives on this contract.

(23) The blasting plan shall also consider the multiple commercial vessels that will be on the water at that time of the year. The Contractor shall notify the sail/yacht clubs, etc., of his plans to blast in advance and what traffic control and proximity restrictions will be implemented.

(24) Submit the blasting plans showing the location(s) and extent of the blasted areas. The blasting plans shall include the blasting patterns and the locations of patterns shall be drawn on the maps in scale by providing coordinates of all corners of blasted areas.

(25) The plan shall be signed off by the Contractor's "Contractor Quality Control System Manager".

1.7.5 Shot Plan

a. Provide a Shot Plan to the Contracting Officer, with the anticipated plan for the next shot pattern prior to drilling the shot holes, is for information only. Furnish each submitted Shot Plan as a signed paper copy and in digital form to the email listing required by the Contracting Officer. This will be provided at the pre-construction meeting. The Shot Plan may be developed in a format that easily provides data that remains the same for the actual shot information in the Daily Blasting Log, Blast Report and Blast Monitoring Report. Submit the required daily blasting log of operations on a daily basis.

b. The Shot Plan includes, as a minimum, the following items:

(1) The Blast Designer's name, the shot name/number, coordinate locations of the outermost holes of the shot pattern, any specific purpose for the shot, the anticipated time, date, weather conditions,

water conditions and elevation at the time of the shot;

(2) The total number of holes to be shot, the shot-hole diameter, the total weight of explosives, number of delays, load density and powder factor for the shot, the maximum charge weight per delay, the closest approach, scaled distance and estimated particle velocities and airblast overpressures;

(3) A tabular listing by hole in the ascending time order of delays by the describing: row and number within the row of the shot hole, total delay time, the total charge weight of explosive materials for the entire hole, top of sound rock elevation, bottom hole elevation, stemming elevations, and detonator, primer and booster elevations in the hole;

(4) A large-scale plan map depicting the proposed layout of drill hole pattern relative to the project using northing/easting, distance to closest structures and monitoring equipment, timing and delay sequence;

(5) An elevation sketch showing a typical hole's loading from the water surface to the bottom of the drill hole with an elevation scale, including the elevation of the removal grade, the top of sound rock, the top and bottom elevation of stemming, the top and bottom position of explosive materials, and the position of all detonators, boosters and primers in the hole; and

(6) The name and signature of the Blaster providing the form with the date of the signature.

1.7.6 Undersea Noise and Pressure Monitoring Plan

Prior to blasting, the Contractor shall submit a noise and pressure monitoring plan outlining the procedures and equipment to be used. Details of the monitoring are as follows:

The Contractor shall monitor each blasting event for undersea noise and pressure. Measurements shall be made at two locations during each blast event, one 250 feet upstream of the blast event and one 250 feet downstream of the blast event. Undersea sound measurements will be made with a calibrated hydrophone connected through a charge amplifier to a calibrated sound analyzer . The hydrophones shall be positioned in the lower third of the water column and shall log sound levels at least 1 minute prior to the blast event and continue 1 minute after the blast event. The sampling train should be designed to measure undersea sound over a spectrum of 12 Hz to 20 kHz, which covers the hearing range of most marine mammals. The equipment shall measure sound pressure levels (rms) in dBL.

1.7.7 Pre-Blast Public Information Meetings

a. Schedule, publicize, coordinate, secure adequate facilities for, and conduct Pre-Blast Public Information Meetings prior to finalizing his Operational Blasting Plan. As a minimum, the meetings shall be publicized in advertisements in local newspapers for Newington, New Hampshire and Eliot, Maine, including the Portsmouth Herald (NH) and Portland Press Herald (ME). The advertisement shall be publicized not less than two weeks prior to the scheduled meeting for a period of not less than one week. State and Local agencies likely to express an

interest in the project shall be contacted in writing directly, including law enforcement, fire prevention, and environmental authorities. The Contracting Officer will solicit interest from appropriate Federal agencies. In addition, all property owners whose properties border a portion of the contract limits shall be contacted in writing directly. A posttest blast public information meeting shall be conducted at the above location, if requested by the Contracting Officer.

b. The contents of the advertisements shall be approved by the Contracting Officer prior to advertisement. Copies of all correspondence publicizing the meetings shall be furnished to the Contracting Officer.

c. The purpose of the meetings is to disseminate basic project information to interested members of the public, to solicit comments from the public and evaluate proposed blasting methods in light of any valid concerns, and to identify key Contractor and Corps of Engineers representatives who may be contacted for current project information or to report complaints. The Contractor, in conjunction with the Contracting Officer, or his representative, shall prepare an agenda for each meeting to address these purposes. A public question-and-answer period shall be held at the conclusion of the public presentation if required by the Contracting Officer.

d. Representatives of the Contracting Officer will participate in each meeting, and will provide reasonable assistance in planning, scheduling, and coordination with the public.

e. The proceedings of each meeting shall be recorded verbatim by the Contractor, and transcripts thereof shall be provided to the Contracting Officer. The Contracting Officer, or his representative, will review the transcripts, as well as any written comments that may be received, with the Contractor, and may require the Contractor to address specific comments in an amendment to the Operational Blasting Plan for submission and approval.

1.8 RECORD KEEPING

1.8.1 Data Deliverables

a. The data deliverables shall include both hard copy originals and scanned pdf files of all field records, including field forms, logs, and notes; and native data files (Excel, Access, etc.) of blasting records. Drilling and blast hole loading data entered into a spreadsheet, or into a database program, (such as Access, Equis, or gINT), shall be transmitted in its native file format onto a DVD or external hard drive.

b. Electronic format shall be agreed upon by the Contractor and USACE before mobilization. Data files will be categorized using clearly labeled sub-folders. A README file shall accompany the data, explaining database organization, access, positional data and associated errors, and observations. A location map in native file and PDF formats shall accompany the data set, showing all locations generating data contained on the DVD or external hard drive (scale, datums, north arrow, labeled locations, etc., shall be shown).

1.8.2 Transportation, Storage, and Use of Explosives

The Contractor will be held responsible to perform the work in compliance with all applicable Federal, State, and local codes and regulations, including, but not limited to, those cited above in subpart titled "Responsibilities" under part titled "Performance Requirements". The Contractor shall have available the documents for inspection at all times, which will pertain to the blasting operation. In case of conflict between codes and regulations, the more stringent will apply. The Contractor shall be responsible for obtaining all licenses, permits, any and all fees, and the keeping of accounts and records, as well as arranging the transportation and protection of all explosives on the contract. Should the Contractor fail to comply with above requirements, the Contracting Officer may order a suspension of that part of work involved until the deficiencies are corrected. The Contractor must supply to the Contracting Officer all permits, licenses and approvals which are necessary for this contract as required by the regulations cited above.

1.8.3 Daily Explosive Material Summary

The Contractor shall keep a daily record of transactions, to be maintained at each storage magazine. The inventory records shall be updated at the close of business each day and furnished to the Contracting Officer on a weekly basis.. Records shall show class and quantities received and issued, and total remaining on hand at end of each day. The remaining stock shall be checked each day, and any discrepancies that would indicate a theft or loss of explosive material shall be reported immediately.

1.8.4 Report of Loss

Should a loss or theft of explosives occur, all circumstances and details of the loss/theft will be immediately reported to the nearest office of the Bureau of Alcohol, Tobacco and Firearms (ATF), as well as to the local and State law enforcement authorities and the Contracting Officer's Representative.

1.8.5 Licenses

a. The Contractor shall provide the Contracting Officer with a list of Contractor's blasting license holders, and only these personnel shall be permitted to handle explosives and conduct blasting operations.

b. Blasters shall obtain or hold a blasting license issued from the state of Maine. Blasters who will be handling or loading explosives in New Hampshire shall obtain or hold a blasting license issued from the state of New Hampshire.

1.8.6 Daily Blasting Log

a. The Contractor shall provide the Contracting Officer, on a weekly basis, a daily log of blasting operations. The log shall be updated at close of business each day. The log shall include but is not limited to number of holes, bottom and top elevations of holes, coordinates of each hole, amount of explosives and stemming per hole, type of delay in holes, sequence and pattern of delays, the number of blasts; time and date of blast; the blast locations and patterns; the pounds of explosive used per hole; average water and substrate depth; millisecond delays used; the drill tip elevation at the top of bedrock for each hole drilled as recorded by the Contractor under the

direction of the Contracting Officer's representative; the occurrence of any fish kills; drill hole pattern map and blast hole drilling logs (used to plan charges), rock types present, burden and stemming, instrumentation and monitoring data (printouts, raw and processed electronic data), and photographs or videos documenting observations in the area after blasting.

b. Each drill hole must have a log showing the following:

- Hole Number, date and time drilled, hole diameter;

- Depth Reference (field and MLLW); Tide recording

- Casing total depth, size, number of blows to set;

- Mud Line Depth;

- Soft Sediment Depth, and penetration rate if drilled;

- Hard Sediment Depth and penetration rate;

- Bedrock Depth and penetration rate;

- Soft spots depths within the hard bedrock;

- Total Depth;

- Drill rig type, drill steel diameter, bit time and diameter;

- Changes in air flow/pressure during drilling (assuming air drilling rig is used);

- Depth of bit drops or soft spots within the hard material or bedrock;

- Drilling problems encountered; and

- Name, date and signature of driller.

c. Submit a summary map showing the pattern and location of each blast hole, north arrow, scale bar, how each hole was loaded. Utilize RTK GPS method for locating blast holes. DGPS will not be an acceptable method.

1.8.7 Blast Report

The minimum information required in the Blast Report is as follows:

- Permitee;

- Permit Number;

- Operator Name;

- Date/Time;

- Company conducting blast;

- Blast location (coordinates, reference number on bid drawings,

distance and directions to nearest marine and onshore structures, and nearest seismograph);

- Weather, water conditions, and water elevation;

- Types of materials blasted;

- Protection measures used;

- Types of explosives used, total weight;

- Powder column and stemming;

- Delay Type, Brand, and Delay Periods;

- Maximum weight of explosives allowed per delay period;

- Maximum weight of explosives used per delay period;

- Weight of explosives used per hole or deck;

- Method of firing and Type(s) of circuits;

- Any Blast Log Discrepancies will require additional in-depth investigations;

- Every Blank Space of the report shall be filled;

- Assure Accuracy of Blast Log Information;

- In the event of a fish kill, the Contractor shall also notify the Contracting Officer and the appropriate resource agencies as soon as possible after the event. Additional communication will occur as soon as all pertinent facts and issues surrounding the event have been determined. The resource agencies shall receive a copy of the fish observers report along with other factual information. If determined necessary, a meeting and/or conference call shall be scheduled between the Corps and the resource agencies to discuss and identify potential corrective measures. These measures will then be forwarded along with the fish observer report to the agencies.

- The fisheries observer shall prepare an after action report for all blast events monitored, regardless of whether the event resulted in a fish kill. The report shall include the date and time monitoring was initiated, deployment and retrieval of the fish startle system or scare charges, the time of the blast, current speed and direction, tidal conditions, and weather observations throughout the day, and other pertinent observations. The fisheries observer shall note if fish were observed in the project area prior to blasting and if there were any dead or injured fish after the blast. The fisheries observer shall record locations of fish observations, time of day, species, numbers, behavior, weather, tide, when blasting occurred, number and pounds of blast, the number of fish killed or injured, species including representative sizes and weights, and any other pertinent information. Any equipment or operational issues that may have contributed to the fish kill shall also be noted. The fisheries observer shall report his/her findings to the Contracting Officer for each day of blasting. Based on the fisheries observer's report, the Contracting Officer will convene a meeting with the Contractor and

appropriate personnel to discuss events and to determine what, if any, corrective actions can be taken to reduce the changes of further fish kills.

1.8.8 Blast Monitoring Report

The Contractor shall develop Blast Monitoring, which will require the use of seismographs, to measure the vibration created from the blasting activities, and hydrophones and pressure transducers to measure underwater noise and pressure. The minimum required information to be collected includes:

- Date and time of Recording from the Seismographs;

- Type (brand and model) of instruments (three component seismograph) used;

- Sensitivity;

- Company and employee who installed equipment;

- Name of employee monitoring recording;

- Name of employee processing and interpreting the data, and their signature;

- Seismograph location using the project datums and depth below water if applicable;

- Seismograph installation procedures to prevent disturbance during monitoring, vandalism, and damage;

- Trigger Levels;

- Vibrations Recorded;

- Frequency;

- Blast pressures within water columns, and overblast overpressures;

- Results from noise tests before blasting;

- Blast description, abnormalities, site conditions when inspected;

- Blaster in Charge information.

1.8.9 Underwater Overpressure Monitoring Report

Submit a draft 'Underwater Overpressure Monitoring Report' for review by the Contracting Officer within two weeks of recording the last shot pattern. Submit a final Underwater Overpressure Monitoring Report correcting, or amending, the draft report, to the Contracting Officer within one week of receiving the inquiries and revisions from the Contracting Officer. The minimum required information to be provided in the draft and final reports includes:

a. The specialists performing the overpressure monitoring at the project and their qualifications;

b. Type (brand and model) of the underwater overpressure sensors deployed;

c. An appendix containing the calibration data sheets of each sensor within the 10 months preceding the first use at this project;

d. A narrative discussing the sensors and their recording systems and their deployment at the project with the location means laterally and at depth along with a table of the closest shot-hole's and sensors' GPS coordinates;

e. A narrative explaining the range of sensor data and the underlying accuracy from the verification procedures;

f. A narrative developing the overpressure data taken from the verification shot pattern and the two production shot patterns with a table of shot date, maximum charge weight per delay, closest approach distance from the nearest shot hole to a specific sensor, cube-root scaled distance, sensor number, and peak overpressure for that sensor;

g. A logarithmic-logarithmic graph of each sensors' peak overpressure versus cube-root scaled distance for the verification shot pattern and both production shot patterns;

h. An appendix with the waveform-time history recording graphs printed for each sensor for each of the three verification procedures and both production shot patterns; and,

i. A digital copy in, a mutually-agreed upon format, of each sensor waveform time-history for each of the three verification procedures and both production shot patterns.

1.8.10 Vibration Monitoring Report

Both a written and telephone Vibration Monitoring Report shall be submitted within 24 hours when specifically requested by the Contracting Officer or, without request, when such intensity exceeds the peak particle velocity limits, as described below under subpart titled "Vibration Limits", for any one of the 3 perpendicular planes of motion.

1.9 POST BLASTING SURVEYS

The Contractor shall perform post blast bathymetric surveys of areas that have been subject to blasting immediately after blasting to ensure no hazards to navigation have been created due to blasting. These surveys shall be performed as soon after blasting has been completed as practicable, prior to removal of the blasted material, with results submitted to the Contracting Officer prior to demobilization of the blasting plant, equipment, and personnel. Except for the requirement to perform these surveys as soon as practicable after blasting, in all other respects these post blast surveys shall be performed in accordance with the requirements for Contractor Quality Control Surveys as specified in Section 01 71 23 FIELD ENGINEERING FOR DREDGING.

1.10 SAFETY

1.10.1 Explosive Safety

Take all reasonable precautions for the protection of individuals and

property exposed to his operations. Such precautions shall include, but are not limited to:

a. Look out for and take all precautions necessary to warn and/or protect swimmers, divers, or other individuals in the water exposed to his operations prior to blasting.

b. The handling, storage, and use of explosives shall be governed by the applicable provisions of the section on "Blasting" in EM 385-1-1. In addition, make necessary arrangements as may be required by the applicable U.S. Coast Guard, State, County, Municipal, or Port Authority codes, rules, regulations, and laws, and shall be responsible for compliance therewith, including storage of explosives.

c. All handling, use, and storage of explosives will be under the personal supervision of a Licensed Blaster.

d. No blasting is permitted when visibility is less than 1,500 feet in fog or rain, and between beginning of evening nautical twilight, and ending of morning nautical twilight, as defined above in Subpart titled "Schedule Restrictions".

e. A 1,500-foot safety zone on either side of the blast site shall be free of vessels on route in the Channel prior to each blast.

1.10.1.1 Delivery, Storage, and Handling

a. The handling, storage, and use of explosives shall be governed by the applicable provisions of the section on "Blasting" in EM 385-1-1 and EM 1110-2-3800. In addition, the Contractor shall make necessary arrangements as may be required by the applicable U.S. Coast Guard, State, County, Municipal, or Port Authority codes, rules, regulations, and laws, and shall be responsible for compliance therewith, including storage of explosives.

b. All handling, use, and storage of explosives will be under the personal supervision of a Licensed Blaster.

1.10.2 Drill Boat or Barge Safety

Refer above to subpart titled "Blasting Safety Plan".

1.10.3 Lightning

Furnish, maintain, and operate lightning-detection equipment during the entire period of blasting operations and during the periods that explosives are stored at the site. The equipment shall be installed where approved by the Contracting Officer. A lightning detector GPS/compass shall be operated at all times to detect lightning within a 40-mile radius with supplemental online lightning data. When the lightning-detection device indicates a blasting hazard potential, the Contractor shall perform the following:

a. Notify the Coast Guard and the Contracting Officer of the potential hazard.

b. Clear the buoyed area of all vessels and personnel.

c. Terminate all loading of holes and return unused explosives to the day

storage area/day magazine.

d. Monitor the blast area to prevent any boat or vessels from inadvertently entering the blasting area during the lightning hazard.

e. Remove the lightning detector from the drill barge with the last evacuation vessel and continuously monitor the potential hazard until the danger has passed.

f. After sounding the All Clear Signal, notify the Coast guard and the Contracting Officer, or his representative, that the potential hazard has passed.

g. Resume operations only after all potential of hazard has passed. Contractor shall obtain approval from the Contracting Officer to resume operations.

1.10.4 Navigation Control during Drilling, Loading, and Blasting Operations

a. Develop a Navigation Control Plan, which is incorporated into the Operational Blast Plan that shall provide the procedures required to maintain safe passage of all vessels within the Channel and Turning Basin, during the project.

b. The Contractor shall buoy the area with warning signs. The warning signs shall be legible from a distance of 200 feet and shall contain the message:

"DANGER - EXPLOSIVES IN USE" visible on either side of the sign.

c. Operate two or more patrol boats during blasting operations equipped with a visible yellow flashing light, audible horn, and radio with a hailer, whose sole function shall be to monitor and maintain security in the blast area. A patrol boat shall be stationed at the drill barge and remain in the blasting area during all blasting operations. Land oriented access control and visual observation locations should be determined and approved by the Contracting Officer. Inspect and insure there is no boat traffic within the buoyed work area prior to the firing of the blasting caps and until such time as the "All Clear Signal" has sounded. Establish and maintain a warning system as required by EM 385-1-1. Equip and maintain floating plant with radio equipment capable of communications with the Coast Guard. After each blast, upon inspecting the area, immediately notify the Coast Guard and the Contracting Officer if all clear or misfire is noted.

d. Conduct surveys of each area after blasting to ensure that the rock and blasted rock is below -39.0 feet MLLW prior to removal.

1.10.5 Coordination with the U.S. Coast Guard

Notify the Coast Guard 24 hours prior to a scheduled shot and 2 hours prior to the actual shot. The Channel must be kept open to vessel traffic at all times except as permitted by the Coast Guard and the Contracting Officer. Specific requirements for notifying the Coast Guard shall be included in the Navigation Control Plan. Contact should be made with:

Commander, First Coast Guard District
408 Atlantic Avenue, Boston, Massachusetts 02110-3350
Telephone: (617) 223-8356

24 Hour FAX: (617) 223-8291

1.10.6 Contingency Plan in Case of Misfire, Inadvertent Initiator Extraction, or Accidental Loss of Down Lines

All loading of blasting holes shall be done early enough each day to allow time, in case of a misfire, inadvertent initiator extraction, or accidental loss of down lines, to implement a contingency plan for removing or detonating the explosives before dark. Submit a contingency plan to the Coast Guard and Contracting Officer prior to initiation of any blasting and shall notify both parties in the event of a misfire, inadvertent initiator extraction, or accidental loss of down lines. All undetonated explosives due to misfire, inadvertent initiator extraction, or accidental loss of down lines must be detonated. Immediately notify the Coast Guard upon giving the "All Clear Signal" after correcting the misfire, inadvertent initiator extraction, or accidental loss of down lines.

1.10.7 Contact Information and Notification Requirements

a. Notify the public at least 24 hours prior to any scheduled blast, and at least 2 hours prior to an actual blast. As a minimum the following shall be notified:

(1) Pease Development Authority, Division of Ports and Harbors
555 Market Street, Portsmouth, NH 03801
Office Telephone: 603-436-8500

Mr. Tracy Shattuck (Primary Contact)
Chief Harbor Master
Mobile Telephone: 603-365-0505
Email: t.shattuck@peasedev.org

Mr. Grant Nichols (Secondary Contact)
Deputy Chief Harbor Master
Mobile Telephone: 603-817-0433
Email: g.nichols@peasedev.org

(2) Police Department

Town of Newington Police Department
71 Fox Point Road
Newington, New Hampshire 03801
Main Telephone: 603-431-5461

Town of Eliot Police Department
27 Dixon Road
Eliot, Maine 03903
Main Telephone: 207-439-1179

(3) Fire Department

Town of Newington Fire Department
80 Fox Point Road
Newington, New Hampshire 03801
Main Telephone: 603-436-9441

Town of Eliot Fire Department
1333 State Road

Eliot, Maine 03903
Main Telephone: 207-439-0162

b. The public within a radius of 1,500 feet of the blasting location shall be notified by means of printed information sheets.

1.11 PUBLIC COMMUNICATION

1.11.1 Public Complaints

During blasting activities, the process for addressing complaints from the public will be as follows:

a. Complaints will be received through the Contractor, but the Contractor shall be required to provide a notification of any complaints to the Contracting Officer within 3 days of receiving the complaint.

b. The caller's name, address, phone number, and pertinent information will be recorded in a master complaint log to be maintained by the Contractor.

c. Schedule and perform an inspection of the complainant's property within 5 calendar days of the date of the complaint.

d. Issue an acknowledgement letter no later than 7 days from the inspection date as a follow up to the inspection and update the complainant as to the status of the final determination of the inspection results.

e. Provide to the complainant a final determination letter honoring or denying the claim within 90 days after cessation of all blasting on the contract. In no case shall the claims remain unresolved for a period exceeding 180 calendar days.

f. Pre-blast property inspections are to be performed for all requests from property owners no matter where they live.

1.12 PROJECT/SITE CONDITIONS

See Section 00 32 00 GEOTECHNICAL DATA and Section 35 20 23 MECHANICAL DREDGING, part "Material to be Dredged", for a description of material to be removed as part of this contract.

PART 2 PRODUCTS

2.1 General

Follow the appropriate regulations for the transportation, storage and handling of all explosives that shall be used for the project. Whenever explosives are used, they shall be of such types and quantities that are permitted by the State and Local regulations. Provide to the Contracting Officer Blasting Product Specification Sheets, for all explosives, primers, boosters, initiation systems, and delays.

2.2 BLASTING PRODUCT SPECIFICATIONS

Blasting products to be utilized for this project shall be appropriate for underwater blasting and shall be economical to use. Characteristics to evaluate the explosive that concern environmental factors include,

sensitiveness, water resistance, fumes, flammability, and temperature resistance.

2.2.1 Explosives

The following shall be required when bulk or cartridge explosives are used:

a. Explosives delivered to the work area shall be inventoried or weighed by a certified weigh master at the transfer location nearest the work area to determine the actual quantity of explosives delivered each day.

b. Explosives are known to deteriorate with age. All explosives used on the project are required to be one year or less of age. Date codes on cartridge explosives shall be used to determine age of product. No blasting product will be brought on the project if the date codes are missing.

c. Bulk explosives such as ammonium nitrate and fuel oil may, due to evaporation or improper mixing, not contain the proper amount of diesel oil. Other explosives such as emulsions and watergel explosives may not be properly mixed and produce a low energy release. Product that does not meet the manufacturer's specifications shall not be used on the project.

d. Storage of all explosives, blasting agents or detonators, shall comply with all Federal, State and local regulations governing explosive storage. The Contractor shall include storage plans along with the type of magazine or explosive storage facility to be used for the project. The Contractor shall be required to conform to record keeping, placarding, safe distances, and all other requirements concerning storage.

e. Each drill frame shall measure the quantity of explosives loaded in all holes with weigh scales or flow metering devices to within 0.5 percent of the design quantity for each hole. The total of all loaded holes shall be checked with the total quantity delivered prior to subsequent bulk deliveries. Should the bulk quantity delivered vary from the recorded quantity loaded and detonated, all measuring devices and or meters shall be recalibrated to within the specified accuracy.

2.2.2 Primers

Primers are explosive units that contain an initiator and are used to detonate the borehole charge. Each hole loaded with emulsions or slurry shall be initiated with two separate downlines and two primers. At least one primer shall be secured in the hole with a mechanical lock-in system or spider to prevent extraction of the priming charge.

2.2.3 Boosters

Boosters are explosive units that are placed in the borehole along with the borehole charge to add additional energy into blast.

2.2.4 Delays

a. The Contractor shall incorporate the use of delays, greater than or equal to 25 milliseconds, into the blast pattern design to reduce the peak particle velocities generated during blasting. All delays between holes in a row shall be sequential with at least 25

milliseconds between holes in a row.

b. Delay elements in blasting caps are known to deteriorate with age. All blasting caps used on the project are required to be one year or less of age. In addition, to ensure the accuracy of firing times of blasting caps, it is required that each cap period come from one lot number. Mixing of lot numbers for any one cap period is prohibited.

2.2.5 Initiation Systems

The initiation system transfers the detonation signal to the blast pattern at a precise time. Employ a non-electric/non-electronic initiating system for use during blasting activities. Electric or electronic initiating systems and detonating cord shall not be allowed at any time.

2.2.6 Stemming

Use appropriate size stemming material and appropriate stemming distance, to maximize the blast design. The stemming material shall consist of clean, crushed stone of gravel size. The minimum length of tamped stemming within a hole exceeds the hole diameter by three times or 0.2 times the burden thickness.

PART 3 EXECUTION

3.1 BLASTING METHODS AND PROCEDURES

3.1.1 General

The blasting program and methods shall be those developed by the test blasting program and procedure to accomplish the excavation shown on the contract drawings in accordance with the procedures specified herein. The Contractor shall also take appropriate measures for controlling blast damage which shall include but are not limited to:

a. Choosing a suitable ignition pattern with 25 milliseconds (or greater) delay detonators to minimize the instantaneous impulse.

b. Using appropriate charges in each delay to control vibrations and manage breakage.

c. Taking precautions to avoid flashover, which shall include the following measure unless otherwise allowed by the Contracting Officer: Optimizing the depth at the top of hole left uncharged to prevent against flashover yet obtain necessary breakage.

d. One person shall be charged with overall development of pattern design, loading and connecting the explosives and may supervise subordinates, who also shall have blasting credentials to accomplish the same duties.

e. Proper lighting plant shall fully illuminate the drilling and loading barge(s) when work is being conducted without full daylight. Drilling shall be vertical with a hole diameter of 6-inches or smaller. Blast holes shall be accurately positioned using RTK GPS and recorded with electronic drill monitoring.

f. Determine a safe means to drill, load and connect the firing lines to the submerged borings. The vertical loading casing shall be seated

into rock and accurately positioned by modern survey procedures. The minimum horizontal distance between loaded and drilled boreholes shall be 8 feet per EM 385-1-1.

3.1.2 Firing

a. Prior to the firing of a shot, all persons in the danger area shall be warned of the blast and ordered to a safe distance from the area. Blasts shall not be fired until it is certain that every person has retreated to a safe distance and no one remains in a dangerous location.

b. Prior to the firing of a shot, a competent flag person shall be posted at all access points to danger areas.

c. Prior to the firing of a shot, drill boats and other vessels shall be moved a safe distance from the danger area.

(1) Prior to and while the drill boat or vessel is being moved from the danger area, a series of short signals by horn or whistle similar to the usual navigation warning signals shall be given.

(2) No blast shall be fired while any vessel under way is closer than 1,500 feet to the underwater blasting area. Those on board vessels or craft moored or anchored within 1,500 feet must be notified before a blast is fired.

(3) No blast shall be fired closer than 500 feet to a berthed or docked boat or vessel with no one on board. Prior approval must be given by the Pease Development Authority.

(4) No blast shall be fired closer than 250 feet to a boat or vessel containing an explosive magazine; personnel engaged in drilling operations on another drill boat within 500 feet shall leave the drill frames for cover if any holes have been loaded.

(5) No blast shall be fired while any swimming or diving is in progress near the blasting area.

(6) Whenever a drill boat is moved from the drilling setting, all loaded under water holes shall be fired.

3.1.3 Blasting Schedule

Refer above to subpart titled "Blasting Schedule Restrictions".

3.1.4 Repelling Noise Procedures

a. Prior to detonation of each blast, initiate a repelling noise procedure consisting of a procedures, means and methods noted herein to cause aquatic wildlife to move from the immediate vicinity of the blast.

b. Deploy "repelling charges" for each production blast in an effort to scare or repel fish from the blasting zone. Hang four #8 blasting caps near mid-water depth from a buoy (or float) placed in the approximate center of the blasting pattern. If there is a difficulty placing the repelling charges at the approximate center of the blasting pattern, then locate the repelling charges near mid-water depth just outside the

perimeter of the shot pattern near the center of longest side of the shot pattern. Each of the four blasting cap will be separately detonated at approximately 1-minute intervals. The rock removal detonation (first shot hole's initiation) will proceed 1 minute after the last blasting cap detonation.

3.1.5 Vibration Control

a. Where blasting is necessary, employ a seismic specialist/blasting vibration consultant qualified in vibration control methods capable of analyzing results obtained from seismograph readings. A minimum of 30 days prior to commencement of blasting operations, the Contractor shall provide the Contracting Officer with credentials of the Seismic Specialist/Blasting Vibration Consultant to include, but not limited to, past experience, training, and education, and have working a knowledge of State and local laws and regulations which pertain to blasting. The acceptability of the specialist is subject to the approval of the Contracting Officer.

b. The Contractor's seismic specialist shall place vibration monitors, consisting of three component seismographs, on all historic structures, identified during the Pre-Blast Structural Condition Survey, and shall determine the placement of at least 8 additional vibration monitoring machines per blast area (minimum 4 per shore), unless greater than 1,500 feet from blast area, with approval of the Contracting Officer and shall be retained for loss control should contract blasting operations result in claims or complaints. The vibration monitoring plan shall identify the type of anchoring devices to be employed at various monitoring sites.

3.1.5.1 Structures, Cables & Utilities

Structures that should have monitoring machines include, at least, bulkheads, hazardous materials storage areas and buried utilities. At least one vibration monitoring machine must be placed between the blast and the nearest structure on a natural ground surface. This may require utilizing underwater locations. The other machines must be secured in the ground near identified maximum vibration level at any vessel or structure which is vulnerable to damage should not exceed the peak particle velocity of the appropriate municipality and geographical jurisdictions, or be subject to an unacceptable vibration frequency.

3.1.5.2 Vibration Limits

a. Blasts shall be designed and conducted to not exceed the acceptable noise and vibration levels at the closest building not owned or leased by the Contractor or its sub-contractor. The Contractor will perform test blasts, which will determine a safe peak particle velocity (PPV) for all structures and utilities within the blast areas. The Contractor is responsible for utility location and clearance. The Contractor shall follow the following vibration limits for the structures listed below:

Historic Structures - PPV <0.5 inch/second

Residential Structures - PPV <1.0 inch/second

Other Structures and Utilities - PPV <2.0 inches/second

b. The Contractor shall submit a copy of the record in tabular form for each blast to the Contracting Officer no later than 24 hours after each blast, with a written report on velocity and vibration effects. This should also include location of blast, size, spacing, number, top and bottom elevations of holes, type of explosives, amount of explosives and stemming per hole and delay, type of delays, sequence and pattern, distance from the blast to the vibration monitoring machine, and any other pertinent information.

-- End of Section --

EXAMPLE DAILY LOG

REPORT NO. _____ DATE: _____

PROJECT _____ TIME STARTED _____ FRAME HRS. WORKED _____

LOCATION _____ TIME FINISHED _____ FRAME IDLE _____

DRILL BOAT _____ TYPE OF DRILL _____ FRAMES USED _____

DELAYS	THIS DATE	CONTRACT TO DATE
MOVE ON/OFF SITE - WEEKEND, DAY END		
TEST FOR ROCK		
OFF ROCK - NO DRILLING		
WAIT OTHER FRAMES		
MOVE FRAMES		
CHANGE BITS & BARS		
CLEAN HOLES		
LOAD HOLES		
MOVE TO BLAST		
MOVE TO BLAST & NEW CUT		
MOVE TO NEW RANGE		
TRAFFIC		
WEATHER		
LIGHTNING		
REPAIRS		
GREASE		
LOAD/WAIT POWDER		
ANCHORS		
SURVEY		
OTHERS (Specify in "Remarks")		
TOTAL FRAME HRS. DELAYS		
TOTAL FRAME HRS. WORKED		
TOTAL FRAME REV. HRS.		
FRAME TIME EFFICIENCY %		
NO. TIMES MOVE TO BLAST		
NO. TIMES MOVE TO BLAST & NEW CUT		
NO. TIMES MOVE TO NEW RANGE		

WEATHER _____

WIND _____

SEASON _____

ATTENDANT PLANT HOURS

REMARKS ON DELAYS

CREW	U.S.	OTHER	TOTAL
SUPERINTENDENT			
CIVIL ENGINEER			
CAPTAIN			
DAY FORMAN			
NIGHT FORMAN			
DRILLER			
BLASTER			
HELPER			
WATCH ENGINEER			
MACHINIST			
OILER			
MATE			
DECK HAND			
TUG OPERATOR			
CLERK			
ROD MAN			
OTHERS			

DAILY OPERATING CONDITIONS

SECTION OR AREA (S) _____

CUT NUMBER (S) _____

CROSS RANGES (STATIONS) _____ TO _____

_____ TO _____ _____ TO _____

_____ TO _____ _____ TO _____

DRILLING GRADE _____ NO. OF HOLES DRILLED _____

PROJECT GRADE _____ NO. OF HOLES BLASTED _____

AVG. TOP MATERIAL _____ LBS EXPLOSIVE USED _____

AVG. FEET DRILLED _____ CAPS USED _____

BOOSTER USED _____

FUELS USED _____

BLAST HOLES ☐ LINE HOLES ☐ SPACING _____

TYPE OF DYNAMITE _____

TYPE OF WIRE _____

TYPE OF ROCK _____

REMARKS ON PRODUCTION OR CONDITIONS:

SUPERINTENDENT: DATE:

EXAMPLE DRILL LOG AND BLAST REPORT

CONTRACT NO.:
NAME OF DRILL BOAT:

Sheet -- of ---

DATE:
BLAST NO.:

FOR THIS BLAST

2 - HOUR WARNING	LBS. /HOLE
15 - MINUTE WARNING	LBS./DELAY
5 - MINUTE WARNING	LBS./BLAST
BLAST TIME	TOT. HOLES
REAL DISTANCE L.F.	MAX. POWDER/DELAY
TYPE OF POWDER =	

FOR THIS RANGE

	MIN.	MAX.		START	STOP
DEPTH			DRILL TIME		
SPACING			LOADED		
NO. OF HOLES			FIRED		
HOLE DIAMETER					

TOTAL ROCK DRILLED = LF. TOTAL POWDER LOADED= POUNDS

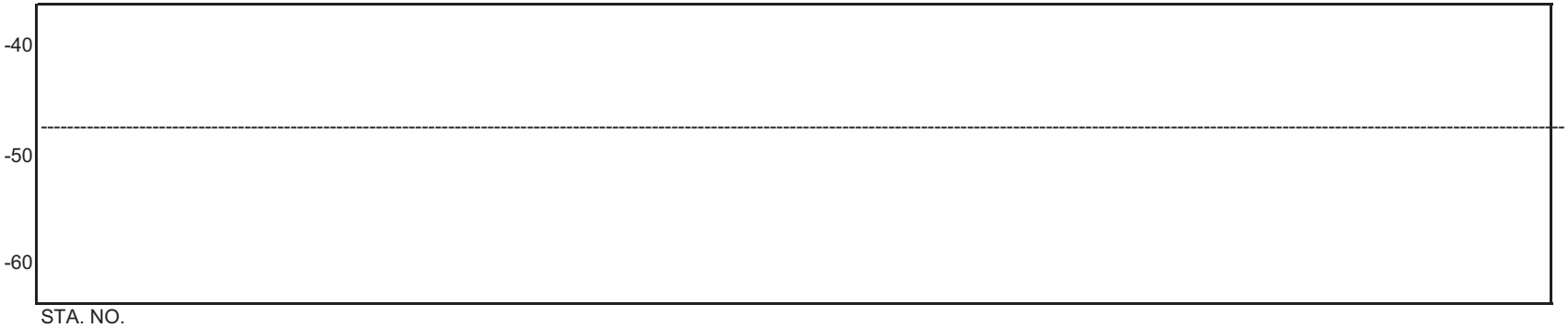
CONTACT SEISMIC @

HOLE NO.	START	STOP	STATION NO.	TIDE ELV.	DEPTH TO ROCK	T.C. TOP OF ROCK	T.C. OVER ROCK	ROCK TO - 47 MLW	*TOTAL ROCK	IN HOLE DELAYS NO.	IN HOLE DELAYS TYPES	BOOSTERS	SURFACE DELAYS NO.	SURFACE DELAYS TYPES	LOADED POUNDS
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

00901 - 4

* Includes Subdrill TC = Tide Correction

CROSS SECTION



ROCK ELEV. * OVERBURDEN

SUPERINTENDENT: _____ DATE: _____