September 30, 2014

Third Modification to EPA's Final Determination for the South Terminal Project – Additional Dredging to Widen Channel and Associated Blasting for Rock Removal

THIRD MODIFICATION SUMMARY: After completing consultation with other federal and state agencies, as required by federal and state law, and after reviewing additional submissions by the Commonwealth of Massachusetts ("the Commonwealth"), EPA has determined that the Commonwealth's request for a Third Modification to EPA's Final Determination for the South Terminal Project, issued on November 19, 2012, as modified by the First Modification dated February 4, 2013, and the Second Modification dated September 30, 2013, (altogether referred to as "the Final Determination, as modified" or "FD, as modified") is both protective of human health and the environment, meets the substantive requirements of applicable or relevant and appropriate federal environmental standards and, through the Commonwealth's determination, meets applicable or relevant and appropriate state environmental standards, as long as the conditions set forth in this Third Modification are met. Through this Third Modification, EPA is modifying the South Terminal Project portion of the State Enhanced Remedy ("State Enhanced Remedy" or "SER"), which is incorporated into the 1998 Record of Decision for the Upper and Lower Harbor at the New Bedford Harbor Superfund Site ("1998 ROD") so that it includes additional dredging to reconfigure the 225 foot wide approach channel and the 100 foot wide tug channel to a 300 foot wide channel ("the navigational channel"), eliminating the tug channel and deepening the entire channel to a uniform depth of -30 to -32 MLLW, along with additional associated blasting for rock removal and additional mitigation. This Third Modification also clarifies upland remediation activities at the Radio Tower parcel, including its changed use from ancillary to heavy load use, and incorporates minor changes to the Project: In January 2014, EPA authorized substitution of the use of clean parent material dredged from another source in the Harbor as material for mitigation purposes, and this document continues that authorization as long as certain conditions are met; and in March 2014, EPA authorized one additional blasting event.

The Commonwealth, through the Department of Environmental Protection ("MassDEP"), and the Massachusetts Clean Energy Center ("MassCEC") for the South Terminal Project, will continue to be the lead for conducting the SER work and is responsible for securing all funding for the SER work. EPA and other federal, state and local entities will continue to act as supporting regulatory agencies for the SER work.

Portuguese and Spanish translations of this document are available at the New Bedford Public Library.

The Administrative Record in support of this Third Modification to the Final Determination for the South Terminal Project will be available at the New Bedford Public Library, 613 Pleasant Street, 2nd Floor Reference Department, New Bedford, MA (508) 961-3067 and the EPA New England Records Center, 5 Post Office Square, 1st floor, Boston, MA (617) 918-1440 as well as online at www.epa.gov/nbh. The Administrative Records for EPA's Final Determination for the South Terminal Project, the Second Modification to EPA's Final Determination for the South Terminal Project, and for the New Bedford Harbor Superfund Site are incorporated by reference into this Administrative Record and may be viewed at the same locations.

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I. Introduction

A. The Third Modification At A Glance...

This is the Third Modification to the Final Determination for the South Terminal Project for the New Bedford Harbor State Enhanced Remedy ("the Third Modification") that EPA issued on November 19, 2012. The Final Determination included the South Terminal Project as part of the State Enhanced Remedy that was approved and integrated into the 1998 ROD, issued on September 25, 1998. This document, and its supporting Appendices and Administrative Record, provides the rationale for EPA's determination that additional dredging to reconfigure the navigational channel, associated blasting for rock removal,[1] elimination of the tug channel, and additional mitigation slightly increases the scope and detail of the South Terminal Project as approved in EPA's Final Determination, as modified, but does not fundamentally change the approved SER. It is consistent with the regulations at 40 C.F.R. § 300.515(f)(l(ii) (State enhancement of remedy) and with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 U.S.C. §§ 9601 et. seq.[2]

With this document, EPA determines that the South Terminal Project described in the Final Determination, as modified by the First and Second Modifications, and by the work described in this Third Modification, which consists of additional dredging to reconfigure the navigational channel (which expands the width of the navigational channel 25' to the west and 75' to the east for a total of 300' wide, with a uniform depth of – 30 to -32 feet MLLW), additional blasting for rock removal associated with the widening and deepening activities, elimination of the 100' wide tug channel, and additional mitigation, along with a clarification and some minor changes, is both protective of human health and the environment and meets the substantive requirements of applicable or relevant and appropriate federal environmental standards. EPA also accepts the Commonwealth's determination that the Project, as modified, meets the applicable or relevant and appropriate state environmental standards. The Project, as modified, does

[1] As explained below in section III.C, EPA approved the associated blasting with conditions on August 20, 2014, based on the lack of environmental or community impacts from prior blasting events and the smaller magnitude of this blasting compared to that which occurred in the winter of 2012-2013.

[2] While EPA does not believe that an Explanation of Significant Differences ("ESD") under CERCLA is required here, this Third Modification to the Final Determination meets the requirements for an ESD as EPA has complied with CERCLA §117(c) and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 ("NCP") §§300.435(c)(2)(i) and 300.825(a)(2). In addition, as with an ESD, this Third Modification to the Final Determination describes to the public the nature of the changes, summarizes the information that led to making the changes, and affirms that the revised action complies with the NCP and the statutory requirements of CERCLA.

not conflict with and is not inconsistent with the New Bedford Harbor Superfund remediation, and EPA reaffirms that the 1998 ROD, including the SER, remains protective of human health and the environment. EPA makes this determination after carefully reviewing the submissions provided by the Commonwealth and after completing its consultation requirements with other federal and state agencies. This Third Modification is subject to the conditions set out below in section II of this document and those contained in the Final Determination, as modified. Accordingly, the South Terminal Project, as modified, will continue to benefit from the CERCLA Section 121(e) permit exclusion.

This document also clarifies the upland remediation activities for the Radio Tower parcel, including its changed use from ancillary to heavy load use, reflects a minor change to the mitigation work, and describes one additional blasting event which occurred in March 2014. This Third Modification incorporates those changes. The First Modification, issued by EPA on February 4, 2013, corrected an inconsistency between section II.2 of the Water Quality Performance Standards (Appendix C of the Final Determination) and section 20.0 H.2 of the Final Determination of Compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (Appendix E of the Final Determination) with regard to employment of an environmental monitor for the Project. The Second Modification increased the width of the navigational channel by 50 feet (for a total of 225 feet) and the length of the deep draft berthing area by 200 feet (for a total of 800 feet). It also included reconfiguration of CAD Cell 3 and authorized the use of blasting in certain subtidal areas for rock removal, as well as a change to the PCB cleanup standard for the upland remediation (from less than or equal to ("≤") 25 parts per million ("ppm") to less than ("<") 50 ppm PCB concentrations in soil). Certain mitigation measures were revised and clarified as were certain traffic routes.

For more information about CERCLA and NCP provisions regarding the SER and its incorporation into the 1998 ROD, see discussion beginning at page 4 of EPA's Final Determination for the South Terminal Project.

B. Community Impacts

Similar to the additional channel dredging work authorized in the Second Modification, because neither the disposal of the dredged sediment or the construction schedule are changing, no additional impacts to the community are anticipated from this additional dredging work. Increased vessel traffic will likely occur as a result of having to dredge and dispose of up to approximately 105,000 additional cubic yards of dredged sediment. All measures referenced in EPA's Final Determination to reduce impacts to the community from the South Terminal work remain in place. (See page 13 of the Final Determination; also see the Commonwealth's Construction Management Plan which

provides a detailed discussion of, among other things, management of traffic, noise, and dust.[3])

Upland remediation of PCB-contaminated soil on the Radio Tower parcel will require the use of heavy equipment, may create increased truck traffic and potential air emissions from dust for a short period of time. Air monitoring will be conducted during these remedial activities and other site preparation work. Should levels exceed the action levels set forth in the South Terminal Air Monitoring Plan (Appendix A of the Final Determination), EPA will be notified and corrective action will be taken if necessary. Decontamination measures will prevent tracking of soil offsite, the Radio Tower parcel will be capped with Dense Graded Aggregate material, and land use will be restricted. In addition, the work will comply with all conditions contained in the Second Modification to the November 19, 2012 Toxic Substances Control Act ("TSCA") § 761.61(c) Determination for New Bedford South Terminal Marine Facility ("Second Modified TSCA Determination") (Appendix E of this document) and with the Massachusetts hazardous waste cleanup program (M.G.L. c. 21E).

For a number of reasons explained below in section III.C, including the smaller magnitude of the event in duration, charge weight and compliance with all community protection measures previously used, EPA authorized blasting with conditions on August 20, 2014. Based on the post-blasting report provided to date by the Commonwealth, all community and water-based precautions were implemented and vibrations recorded during blasting were well below the limits for residential and historical structures.[4]

C. Resource Impacts

The Project modifications will impact waters of the U.S. and aquatic life; however, EPA has determined that the additional impacts that would result from the Project modifications do not change EPA's determination that the Project, subject to the conditions in the Final Determination, as modified, and in this Third Modification, complies with the Clean Water Act ("CWA") § 404(b)(1) guidelines ("CWA guidelines"), or that the South Terminal site represents the Least Environmentally Damaging Practical Alternative ("LEDPA"), since other alternatives are either not practicable or not less environmentally damaging; nor do they change EPA's conclusions regarding the Project's compliance with the other elements of the CWA guidelines. See Section VI.B.1. (CWA) for further discussion. Similarly, EPA has concluded that the Project modifications would not result in significant adverse effects on Essential Fish Habitat

[3] The Construction Management Plan is found in the Administrative Record for the Second Modification at AR# 547287.

[4] See Weekly Blast Report #1 for week 8-31-14 through 9-06-14, attachment to the Commonwealth's September 25 - 26, 2014 submission.

("EFH") or resources protected by the Fish and Wildlife Coordination Act ("FWCA"). See Section VI.B.4. (EFH/FWCA) below for further discussion.

The Atlantic sturgeon, an endangered species potentially present in the area, is not likely to be adversely affected by the modified Project provided that the specified mitigative measures to minimize the potential for entrainment and turbidity, and to minimize acoustical (pressure and impulse) impacts and maintain a zone of passage, are employed.[5] See section VI.B.3 (Endangered Species Act "ESA") below for further discussion.

EPA has also concluded that the Project, as modified, will not affect the Palmer Island Light Station, a historic structure or the paleosol previously identified in the Final Determination. See Section VI.B.5 (National Historic Preservation Act "NHPA") below for further discussion.

Substituting the source of clean sand for use in mitigation measures at the OU3 pilot cap area, using clean sand generated from the additional channel widening dredging at the winter flounder mitigation area, and the use of appropriate clean parent material from any source in the Harbor will have no significant impact on aquatic resources or water quality provided the Commonwealth meets all the conditions in this Third Modification including continued compliance with the Final Mitigation Plan[6] requirements for maintenance, performance standards and monitoring.

Similarly, allowing PCB-contaminated sediment and soils with concentrations <50 ppm to remain on the Radio Tower parcel and capping activities will have little impact on resources as long as the conditions set out in the Second Modified TSCA Determination (Appendix E) are met and the cleanup is conducted in accordance with M.G.L. c. 21E.

D. Public Comment

No public comment is required by CERCLA and its implementing regulations (see 40 CFR §300.435(c)(2)), and EPA has decided that a discretionary additional public comment period was not needed with respect to the Third Modification for several reasons, including:

(1) the Draft Determination along with its supporting Administrative Record, which was issued for public comment, included some discussion of the additional dredging and blasting that occurred in the winter of 2012-2013 as well as an evaluation of certain potential impacts and associated mitigation measures; the additional dredging and blasting and associated mitigation

[5] In EPA's ESA consultation with the U.S. Fish and Wildlife Service as part of the Final Determination, which included consideration of blasting and the expanded dredging, EPA concluded that these activities were not likely to adversely affect the roseate tern, also an endangered species potentially present in the area.

[6] The Final Mitigation Plan can be found in the Final Determination Administrative Record at AR # 523889.

measures described in this Third Modification will be conducted within or adjacent to areas already authorized to be included in the Draft and Final Determination for the Project[7];

(2) the additional dredging and blasting are located within areas already authorized for dredging and blasting through the EPA's November 2012 Determination and the 2013 Second Modification;

(3) the construction schedule for completing the South Terminal facility remains the same;

(4) prior dredging work involving greater volumes, and blasting events in the winter of 2012-2013 of a greater magnitude in terms of duration, charge size, and thickness of rock, did not result in significant impacts to the community or land based structures or result in significant fish mortality; as such, EPA did not anticipate new or significant additional impacts to the surrounding community, land-based structures or significant fish mortality from this work;

(5) the proponent held public meetings to describe its request to EPA for this additional work[8]; and

(6) other consulting agencies were advised of the additional work and did not raise concerns.

E. Public Record

Since the issuance of the Final Determination, the Commonwealth has requested three modifications to the South Terminal Project. The First Modification, issued by EPA on February 4, 2013, corrected an inconsistency in the Final Determination between section II.2 of the Water Quality Performance Standards (Appendix C of the Final Determination) and section 20.0 H.2 of the Final Determination of Compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (Appendix E of the Final Determination) with regard to employment of an environmental monitor for the Project. That Modification is posted on EPA's New Bedford Harbor website at www.epa.gov/nbh and was incorporated into the Administrative Record for the Second Modification.

The Second Modification issued by EPA on September 30, 2013, increased the width of the navigational channel by 50 feet (for a total of 225 feet) and the length of the deep draft berthing area by 200 feet (for a total of 800 feet). It also included reconfiguration of CAD Cell 3 and authorized the use of blasting in certain subtidal areas for rock removal as well as a change to offsite disposal requirements for upland remediation of the main facility parcels (from greater than (">") 25 ppm to greater than or equal to ("≥") 50 ppm PCB concentrations in soil). Certain mitigation measures were revised and

[7]The Final Determination did not evaluate impacts from blasting on the New Bedford/Fairhaven Hurricane Barrier, the Palmer Island Light Station, or the Atlantic sturgeon or other aquatic species; those impacts were evaluated in the Second Modification.

[8] See the presentation slides from public meetings held by the Commonwealth on August 5 and September 2, 2014, at Attachment E of the Commonwealth's September 12, 2014 submission.

clarified as were certain traffic routes. The Second Modification, along with its Administrative Record, is also posted on EPA's New Bedford Harbor website at www.epa.gov/nbh and is available at the EPA Records Center and the New Bedford Public Library.

Documents submitted in support of the Commonwealth's request for this Third Modification as well as all documents EPA relied on are included in the Administrative Record for this Third Modification and can be found at www.epa.gov/nbh and at the EPA Records Center and the New Bedford Public Library. The Administrative Record for EPA's Final Determination for the South Terminal Project, the Administrative Record for the Second Modification, and the Administrative Records for the New Bedford Harbor Superfund Site are incorporated by reference into the Administrative Record for the Third Modification to EPA's Final Determination for the South Terminal Project.

F. *Summary of Third Modification*

- Expands the width of the navigational channel to the terminal from 225 feet to 300 feet, an expansion of 25 feet on the western edge of the channel and 50 feet on the eastern edge;
- Creates a uniform channel of -30 to -32 feet MLLW in the navigational channel;
- Eliminates the 100 foot wide, -14 MLLW tug channel;
- Incorporates the use of blasting for rock removal, which EPA authorized on August 20, 2014 and which began on September 3, 2014, within the previously designated navigational channel and tug channel subtidal areas;
- Creates 4.6 additional acres of winter flounder habitat at the winter flounder mitigation area;
- Clarifies upland remediation at the Radio Tower parcel to include offsite disposal of material containing PCB-concentrations greater than or equal to ("≥") 50 ppm, capping and a change from ancillary to heavy load use; and
- Incorporates two minor changes:
    - In January, 2014, EPA authorized substitution of the use of clean parent material dredged from another source in the Harbor as material for mitigation purposes, and this document continues that authorization provided certain conditions are met; and
    - In March EPA authorized one additional blasting event.

The expanded dredging work will result in dredging of approximately 4.2 acres of previously undredged areas and 2.3 acres of areas already permitted for dredging to -14 MLLW for a total of 6.5 acres of additional dredging, generating approximately 105,000 additional cubic yards of dredged sediment. Of that amount, approximately 30,000 cubic yards is contaminated with PCB concentrations within a range of 1 to 50 ppm and will be disposed in CAD cell 3; the remaining approximately 75,000 cubic yards of clean parent material may be used as part of the expanded mitigation efforts at the winter flounder mitigation area or may be disposed of offshore under existing permits.

Blasting in September 2014 reduced approximately 3,000 cubic yards of subtidal rock to a smaller size; it will be removed during dredging activities.

The dredging volume table originally attached as Table 1 to the Final Determination has been revised and is attached as Table 1 to this document. A map depicting the reconfiguration of the navigational channel and tug channel to a 300 foot wide channel is attached as Figure 1 to this document. A map of the subtidal blasting areas is attached as Figure 2. A map of the additional winter flounder mitigation area is attached as Figure 3.

II. EPA Approval and Conditions

A. Approval and Conditions for Third Modification

Subject to the conditions and understandings set out herein, after review and consideration of all the information submitted by the Commonwealth, and after completing required consultations with all federal and state agencies, EPA has determined that the South Terminal Project, as modified by this Third Modification, which consists of additional dredging to reconfigure the 225 foot wide navigational channel and the 100 foot wide tug channel to a 300 foot wide channel, eliminating the tug channel, deepening the entire channel to a uniform depth of -30 to -32 MLLW, and associated additional blasting for rock removal, along with the clarifications and minor changes, remains both protective and meets the substantive requirements of the applicable and relevant and appropriate federal environmental laws that would normally apply as part of a permitting process. In addition, EPA accepts the Commonwealth's determination that the Project, as modified by the Third Modification, meets the applicable and relevant and appropriate state environmental standards. The Project, as modified, does not conflict with and is not inconsistent with the remedy. EPA reaffirms that the 1998 ROD, including the State Enhanced Remedy, as modified, remains protective of human health and the environment.

As a result, EPA is approving inclusion of the Project, as modified by the Third Modification, into the State Enhanced Remedy at the New Bedford Harbor Superfund Site which is subject to the permit exclusion found in Section 121(e) of CERCLA provided that the Commonwealth meets the following conditions:

1. Maintain compliance with all applicable or relevant and appropriate requirements ("ARARs")[9] and performance standards in the Final Determination as modified by the First, Second and this Third Modification, including the

[9] For ease of understanding, throughout this Third Determination, federal ARARs are also sometimes referred to as "applicable or relevant and appropriate federal environmental standards" and state ARARs are also sometimes referred to as "applicable or relevant and appropriate state environmental standards."

Revised Water Quality Performance Standards (Appendix C of the Second Modification), and the conditions in the TSCA Determinations in the Final Determination (Attachments J1 and J2), the First Modified TSCA Determination (Appendix D of the Second Modification to the Final Determination) and the Second Modification to the TSCA Determination, attached to this document at Appendix E;

2. All conditions set out in Section VI.B.1. (Clean Water Act) below;

3. To protect the Atlantic sturgeon and other aquatic species, the conditions for dredging contained on page 2 of the April 18, 2013 consultation letter from EPA to the National Marine Fisheries Services ("NMFS")[10] (Appendix B of the Second Modification);

4. The Revised Water Quality Performance Standards (See Appendix C of the Second Modification, Section II.5.b);

5. Clean material used for mitigation measures from any source in the Harbor must be appropriate for the proposed use and meet all the objectives contained in the Final Mitigation Plan, and if from a source other than that authorized in the Final Determination, must have prior written approval from EPA, and, if necessary, a new permit or a modification to an existing permit for offshore disposal must be secured; and

6. Submission for EPA review and approval of any workplans required by the Final Determination that require revision as a result of this Third Modification and any workplans required by this Third Modification, including those required by the Second Modified TSCA Determination.

In addition to the above, after receiving assurance from the Commonwealth that there would be no dredging below previously approved depths, EPA imposed the following conditions on the additional blasting in its August 20, 2014, approval letter[11]:

1. The additional blasting events remain as described in MassCEC's July 25 and August 14, 2014 submissions (with approximately 60 – 80 boreholes with delays, with a maximum total explosive charge of 136 lbs. per borehole) and includes a minimum 25 millisecond delay between charge detonations;

2. For compliance with TSCA, all contaminated material is removed and properly disposed in accordance with EPA's prior determinations for South Terminal;

[10] The conditions for blasting in the April 18, 2013 letter were superseded by those set out in EPA's August 20, 2014 approval letter and Section VII.B.1(CWA) of the Second Modification.
[11] See section III.C of this document for more complete discussion.

3. Implement all mitigation and monitoring measures that are required prior to blasting events as described in EPA's Second Modification[12] to protect aquatic resources, including water quality monitoring, the fish deterrent system (including silt and bubble curtains), a fisheries observer on site, and monitoring for fish pre- and post-blasting except as modified below:

    a. Condition No. 1: A final blasting plan must be submitted to and approved by EPA before blasting commences;
    b. Condition No. 2: Blasting shall only be conducted in the locations depicted on Attachment B of the Commonwealth's August 14, 2014 letter to EPA (See Figure 2 of this document); the remainder of this condition is not applicable to the current blasting request;
    c. Condition No. 7: The second paragraph of this condition is not applicable to the current blasting request;
    d. Condition No. 8: No more than 136 pounds of explosive per delayed charge, with a minimum time delay of 25 milliseconds between charges shall be used; and
    e. Condition No. 13: To protect the Hurricane Barrier, blasting must also be conducted consistent with the email dated August 15, 2014 from Michael Bachand , USACE to Chet Myers (see Attachment 6 of EPA's August 20, 2014 approval letter);

4. Implement all impact parameter and monitoring measures required for prior blasting events as described in EPA's Second Modification for impact on land structures and in water structures, including the historic Palmer Island Light Station and the Hurricane Barrier;

5. Implement all measures for public notice to landowners and mariners required for prior blasting events in accordance with EPA's Second Modification; and

6. MassCEC provides EPA with a post-blasting report similar to the weekly blasting reports provided from prior blasting events.

All deliverables required for EPA review and approval shall be submitted to Ginny Lombardo with copy to Cynthia Catri as directed in Section 20 of Appendix E of the Final Determination.

[12] See Section VII.B.1.2.e of the Second Modification.

III. Background and Description of Work

For a description of the State Enhanced Remedy (SER) process and the inclusion of navigational dredging and disposal as an enhancement in the 1998 ROD, see the 1998 ROD and the Final Determination.

Below is specific background information relative to the Commonwealth's third request to modify the Final Determination, as modified, to incorporate additional dredging work for the channel reconfiguration and associated blasting for rock removal. Information clarifying upland remediation work on the Radio Tower parcel and its changed use, and concerning minor changes relating to mitigation activities and the March 2014 blasting event are also provided in this section

A. Additional Dredging - Background

Based on safety concerns raised by maritime experts about the 225 foot wide navigational channel, the Commonwealth, on July 25, 2014, requested EPA approval of additional dredging to expand the width of the navigational channel to 300 feet and depth to a uniform -30 to -32 feet MLLW, elimination of the authorized tug channel, and approval to conduct blasting associated with these activities.

During design and construction of the South Terminal Project, the Commonwealth engaged a variety of maritime experts and professionals, including the U.S. Coast Guard and the Northeast Marine Pilots Association ("the Pilots"), in discussions about the design of a safe navigational channel for the terminal facility for its intended use to support the offshore wind industry and anticipated future cargo vessels.[13] The Commonwealth states that the originally authorized 175 foot channel at -30 to -32 MLLW and 100 foot tug channel at -14 MLLW, was designed with input from the Pilots, tug operators and other maritime professionals and in accordance with U.S. standards for navigational channel design using the dimensions of a representative vessel (BBC Mississippi) that was 469 feet long and 75 feet wide, which was adequate to transport the type of wind industry components and cargo anticipated at the terminal. While the Pilots preferred as wide a channel as possible due to concerns about crabbing, the difficulty discerning between the deep draft channel area and shallower tug channel, and about buoy placement, a safe, commercial channel that minimized impacts on the environment was determined to be the 175 foot channel and 100 foot tug channel. See EPA's November 2012 Final Determination for the South Terminal Project for further discussion.

[13] Massachusetts state law requires pilots to guide ships of certain size and with certain cargo, among other things, into areas of special interest within the waters of the Commonwealth. See M.G.L Chapter 103, Section 21; see also discussion on pages 3-4 of the Commonwealth's July 25, 2014 submission. In addition, the U.S. Coast Guard can impose safety measures on vessels if it determines they are necessary. See letter dated September 22, 2014, from Edward LeBlanc, U.S.C.G., attached to the Commonwealth's September 25 - 26, 2014 submission.

Subsequently, the Commonwealth acquired information about future vessels representative of both the offshore renewable energy industry (international and installation vessels) and anticipated future cargo vessels, which were larger and required deeper draft. Expressing its desire to accommodate such vessels and with adequate funding accessible, the Commonwealth again consulted with the Pilots and other maritime experts on the channel design, with the Pilots continuing to raise the same safety concerns with maneuvering such vessels in the channel.

As a result, the Commonwealth requested EPA approval to expand the deep draft dredging area an additional 200 feet to the north of the approved 600 foot area (at -30 to -32 MLLW) and to widen the channel an additional 50 feet to the west for a total channel width of 225 feet.

As explained in its March 2013 submission, a wider channel at deeper depths allows vessels to safely pass with a buffer on either side to accommodate drift caused by currents, wind forces, or navigational error or navigational drift and to avoid running aground when such forces could drive them off of the center of the channel. Similarly, a longer deep draft berthing area would be necessary to safely accommodate such vessels. On September 30, 2013, EPA approved the channel expansion to 225 feet wide. See EPA's Second Modification to the South Terminal Project.

In its July 25, 2014, submission in support of its request to expand the channel to a total width of 300 feet wide, the Commonwealth presented two significant developments that occurred during the last year. First, the Commonwealth stated it received confirmation in the winter of 2014 that a specific vessel, the Hansa Heavy-Lift P-2 Series (553 feet long and 83 feet wide), would be transporting monopoles and other foundational components of the wind turbines to the terminal. Second, the Commonwealth, in cooperation with the Pilots, commissioned the Maritime Simulation Institute ("MSI") to create a simulation model for the new terminal on which the Pilots conducted practice sessions to evaluate the methods for berthing and transiting vessels to the terminal. A variety of modelling scenarios were run in January, May, and August, 2014, the results of which are presented in the Commonwealth's July 25, 2014, and September 12, 2014 submissions. Essentially, the modelling confirmed the Pilot's safety concerns.

The January 2014 modelling effort simulated runs in a 225 wide channel with the 100 foot tug channel based on the representative BBC Mississippi vessel[14] with 15 knot winds using both local 1000 horsepower, single screw tugs and using 3,000 horsepower twin screw tugs (which need deeper draft than 14 feet). Because the cranes are located on the left side of the vessel, the vessel was simulated entering the navigational channel

[14] While unclear, it appears that the Commonwealth, at the time of the January 2014 modelling, had not yet received confirmation that the Hansa-Heavy Lift vessel would be used.

stern first to the terminal. The Pilots concluded the 225 foot channel with either tug did not provide an adequate margin of safety due to wind effects on the ship as it navigated the channel. The Pilots, upon review, asked that a southern turning basin be included in the channel design and that a navigational channel design expert review the existing design. Other maritime experts present during the modelling opined that 5,000 horsepower tractor tugs were needed. Tractor tugs have Z-drives which allow the tug to exert full force in any direction regardless of the tug position, an asset for maneuvering, and require 20-25 feet of draft.

The May 2014 modelling effort was recalculated to simulate the Hansa-Heavy Lift vessel within a 225 foot wide channel and a 300 foot channel using tractor tugs with 18 knot winds, both bow and stern first. The tugs used bow and stern lines to reduce the amount of lateral space needed within the channel. The consensus of the maritime professionals gathered in May, after reviewing the modelling results, was that a 225 foot wide channel did not provide a sufficient factor of safety for navigation but that a 300 foot channel would likely be sufficient.[15] The Commonwealth included an email from Edward LeBlanc, Chief of the Waterways Management Division of the U.S. Coast Guard, in which he opined that, "I think we can all agree that "wider/deeper" equals better, in terms of safety and flexibility, but my sense from the MSI simulations that I observed is that a 300-foot wide channel at 30-foot depth, together with the application of appropriate mitigations such as tractor tugs, certain weather and tide parameters, and aids-to-navigation improvements, reduces navigation safety risk to an acceptable level." He recommended additional modelling with additional aids-to navigation built into the model by a more varied pool of pilots, captains, and tug operators under various conditions to confirm or disprove his opinion.[16]

A third modelling event occurred in August, 2014. The Commonwealth provided the modelling runs and a letter from Captain Bushy, Deputy Commissioner of Pilots - District 3, dated September 12, 2014, in which he states, "The modeling runs conducted at the Maritime Simulation Institute following the modifications made by MassCEC to the New Bedford Marine Commerce Terminal have indicated to me that the dimensions of the revised channel and new operation conditions are providing a safer passage of ships that are expected to call at the terminal in connection with the Cape Wind project." Captain Bushy goes on to state, "I can report that, with a high degree of confidence, that an adequate margin of safety exists in the proposed wider channel under the conditions referenced above and thereby recommend regulatory approval and construction of the widened channel to proceed." [17] The Commonwealth also represented that Captain

[15] The Commonwealth did not provide a date but EPA assumes this meeting was held after the May modelling events occurred. Present at the meeting were five representatives from the Northeast Pilots and a group of experts, including Masters from the Massachusetts Maritime Academy, U.S.C.G., Captain Bushy, representatives from Cape Wind and its subcontractors, including EEW, Siemens, and the Captain of Baltship's Hansa vessel.

[16] See Attachment N of the Commonwealth's July 25, 2014 submission.

[17] See Attachment B of the Commonwealth's September 12, 2014 submission.

Bushy, although aware of statements made by the Pilots, is not recommending a southern turning basin. The Commonwealth states it does not believe a turning basin is necessary. See Appendix A.

After evaluating the Commonwealth's submissions and confirming that re-initiation of consultation with federal agencies was not required,[18] EPA is approving inclusion of the additional dredging work as part of the South Terminal Project provided that all ARARs and conditions contained in the Final Determination, as modified, and this Third Modification are met and maintained. See section VI.B below for more detailed discussion of ARARs.

B. Description of Dredging Work

The Commonwealth's new request includes a reconfiguration of the navigational channel and the tug channel, currently at different depths, into one navigational channel of a uniform depth of -30 to -32 MLLW. By expanding into areas already dredged and eliminating the need for a tug channel, only slightly more dredging is needed to bring the expanded 300 foot wide channel to a uniform depth range of -30 to -32 MLLW and aquatic impacts are minimized. However, there will be 6.5 acres of impacts. Of the total impact of 6.5 acres, 4.2 acres represent a temporary impact as the benthic community is expected to recover. Permanent impact of 2.3 acres is projected, as this quantity of winter flounder spawning habitat will be removed by the dredging. Additional mitigation for the 2.3 acres of permanent impact is required and is described below in section III.D. Dredging operations will be the same as described in the Final Determination. (See discussion in the Final Determination beginning on page 29.)

The additional dredging would extend west by 25 feet the navigational channel area authorized in the Final Determination, beginning at the federal turning basin and moving south to the northern end of the deep draft berthing area. The eastern expansion of 50 feet will occur entirely within the tug channel authorized in the Final Determination, beginning at the federal turning basin and moving south to the southern end of the deep draft berthing area. Approximately 30,000 cubic yards of contaminated sediment and approximately 75,000 cubic yards of clean sediment will be generated by this expansion. Contaminated sediment will be disposed in CAD cell 3; clean dredged material may be used for expanded mitigation activities at the winter flounder mitigation area or may be disposed of at the Rhode Island Sound Disposal Site under an existing permit. See maps at Figures 1 and 3.

The additional 25 foot width channel expansion will occur on the western, or landward, side of the 225 foot channel authorized in the Second Modification in areas that have historically been dredged, either by the U.S. Army Corps of Engineers (west of the

[18]See EPA's email to NMFS dated August 14, 2014 and NMFS's response dated August 15, 2014, (ESA consultation) and August 18, 2014 (EFH and FWCA consultations).

Turning Basin) or by the Commonwealth during construction of the boat basin that services the South Terminal facility. The section west of the turning basin is already at a depth of -28 to -30 MLLW; the section in front of the terminal is 20 to -28 MLLW. The eastern expansion of 50 feet wide will occur entirely within the existing tug channel, currently at -14 MLLW (some areas of the tug channel were at depths of -30 MLLW prior to EPA's authorization of the tug channel). This 50 foot wide area will be dredged to a uniform range of -30 to -32 MLLW; the remaining 50 feet of the original tug channel will not be dredged beyond the existing -14 feet MLLW and will become part of the side slope for the expanded channel.[19]

Disposal of approximately 30,000 cubic yards of contaminated sediment in CAD cell 3 will be conducted as described in the Final Determination. The Commonwealth, in its July 25, 2014 submission, describes that capacity to accommodate this additional approximately 30,000 cubic yards of material in CAD cell 3 exists due to self-compaction of material placed to date within the CAD and because the volume of the actual amount of previously dredged contaminated material disposed of in the CAD was less than the amount estimated during the design phase of the Project.[20]

C. *Blasting - Background*

The July 25, 2014 submission also included a request for additional blasting as a rock removal method associated with the requested expansion. The Commonwealth requested that the blasting be authorized to occur prior to September 1, 2014 for several reasons including the continued presence of blasting equipment in the area, the fact that clean overburden material has not yet been dredged within the proposed blasting areas, and the project construction schedule. In the Second Modification, EPA authorized the use of blasting as a rock removal method in three areas during construction of the terminal bulkhead and channel dredging. That approval was based on, among other things, mitigation measures that would be taken, the results from a JASCO Applied Sciences acoustic model which described peak pressure and impulse impact thresholds for explosive charges up to 150 pounds, and input from state and federal agencies, including the U.S. Army Corps of Engineers regarding impacts to the Hurricane Barrier, from NMFS regarding impacts to the Atlantic sturgeon, an endangered species, as well as other aquatic life, and from the Massachusetts Historical Commission regarding impacts to the Palmer Island Light Station. See EPA's Second Modification.

Given the compressed time period, EPA agreed to review the request for blasting on an accelerated basis provided that the Commonwealth submitted sufficent information for EPA to determine that, without further dredging, the requested blasting activities associated with the expanded channel would not result in greater depth or width in the

[19] See Attachments P-1 of the Commonwealth's July 25, 2014 submission for a cross section of the east and west expansion area side slopes.
[20] See pages 10-11 of the Commonwealth's July 25, 2014 submission.

channel beyond that which was already authorized by EPA in its Second Modification. In its August 14, 2014, submission, the Commonwealth provided further information and, based on that information and as explained below, on August 20, 2014, EPA determined that the requested blasting would not alter the currently authorized channel configuration and could proceed within the requested timeframe. See Appendix B.

In its submissions, the Commonwealth described the additional blasting to be conducted in areas located completely within the authorized navigational channel, the tug channel and associated side slopes of those channels. Blasting would occur in two areas along the western side of the navigational channel and in one larger area in the tug channel with several smaller areas located in the southeast corner of the tug channel. The total volume of the rock to be removed was estimated to be approximately 3,000 cubic yards over an area of approximately 27,000 square feet. The maximum charge weight per delay was limited to 136 pounds. Further details of the work is included in the Commonwealth's July 25 and August 14, 2014 submittals. See Figure 2 for a map of the blasting areas.

Because the requested blasting would occur during certain time periods of restricted in-water work established to protect various aquatic resources, EPA coordinated with NMFS prior to issuing its determination. Due to the use of the fish deterrent systems, prior success with blasting (i.e. no large fish mortalities) and the reduced scope of the proposed blasting (smaller area, fewer and smaller charges), NMFS determined that reinitiation of consultation under ESA, EFH and FWCA was not required. In addition, given the shift in two proposed blasting locations closer to the Palmer Island Light Station, EPA requested the Commonwealth to either update or confirm the information and conclusions reached by its contractor for prior blasting events about the anticipated impact of the additional proposed blasting on the Light Station. EPA also required the Commonwealth to provide documentation from the U.S. Army Corps of Engineers that it was aware of the proposed blasting and its determination about potential impacts on the Hurricane Barrier. The Commonwealth provided the requested information (see discussions below in sections VI.B.5 and VI.B.6 of this document).

As a result, EPA issued its August 20, 2014 determination based on a description of the additional blasting work contained in the Commonwealth's July 25, 2014 submission, a review of weekly blasting reports from prior blasting events which showed no significant amount of fish mortality, consideration of supporting material provided by the Commonwealth in its August 14, 2014 submission including calculated anticipated viration levels at the Palmer Island Light Station that were significantly below the limiting vibration levels for historic structures, and input from other federal agencies. A number of conditions were included in EPA's August 20, 2014 determination, including mitigation measures to protect the surrounding community and aquatic and land-based resources, an approved blasting work plan, and a post-blasting report. See Appendix B

for more complete discussion of EPA's determination with regard to additional blasting. See also footnote 3.

D. Additional Mitigation

Dredging associated with the channel expansion will impact 6.5 acres of subtidal habitat, including 2.3 acres of winter flounder spawning habitat in an area authorized for dredging to a shallower depth in the Final Determination but which will now be dredged to a depth that will destroy this habitat area. The Commonwealth estimates that an additional 128,066 shellfish will be impacted which represents an increase of 1.4% of the total number of shellfish impacted by the South Terminal Project (estimated to be 9,285,300). Mitigation for impacts to winter flounder spawning habitat consists of expanding the winter flounder mitigation area an additional 4.6 acres which will compensate for the additional impacts resulting from the channel expansion. EPA believes that the shellfish mitigation program established under the Final Determination is adequate to compensate for the additional shellfish impacts resulting from the expanded channel dredging. A map of the expanded mitigation area is attached as Figure 3. Additional discussion of mitigation measures may be found in section VI.B.4 (EFH and FWCA) below.

IV. Clarification of Upland Remediation on Radio Tower Parcel and Changed Use

In the Second Modification to the Final Determination, EPA determined that onsite disposal of upland soils and sediment with identified PCB concentrations < 50 ppm in the area depicted on Attachment 6 of the First Modification to the November 19, 2012 TSCA Determination (see Appendix D of Second Modification to Final Determination) would not pose an unreasonable risk of injury to health or the environment provided the conditions in the First Modification to the November 19, 2012 TSCA Determination were met.

Although requested at the time, EPA did not have sufficient information about potential PCB contamination on the Radio Tower parcel to include it in the First Modification of the November 19, 2012 TSCA Determination; however the document provided that the Commonwealth could, in the future, provide information about PCB concentrations and, if > 1 ppm, provide a proposed cleanup plan in accordance with 40 CFR Part 761 to EPA for review and approval.

Subsequent sampling and analysis of the Radio Tower parcel revealed concentrations of PCB contaminated soil ≥ 50 ppm located in the northeastern corner of the parcel.[21] A

[21] The Commonwealth reports that sampling and analysis for PCBs took place on a 25-foot grid across the parcel. In locations where samples collected on the 25-foot grid indicated concentrations of PCBs above 50 mg/kg (or ppm), additional samples were collected on five-foot intervals surrounding that sampling

map of this location, also referred to as DGA-10, is Attachment 3 to Appendix E of this document. The Commonwealth submitted a final work plan that calls for excavation and offsite disposal of identified ≥ 50 ppm PCB-contaminated soils, site grading, capping the entire site with a three-foot thick Dense Graded Aggregate cap, fencing and an activity and use limitation. During these activities, dust suppression measures will be used as necessary and air monitoring will be conducted to ensure emission levels do not exceed the protective levels set out in the air monitoring performance standards for the project.[22]

Because EPA is satisfied, based on the sampling conducted, that the PCB concentrations are representative of site conditions within the DGA-10 area, the identified ≥ 50 ppm PCB-contaminated materials will be excavated and transported offsite for disposal at an appropriately licensed facility without the need for confirmatory sampling following excavation. The lateral extent and depth of excavations are shown on Attachment 4 of Appendix E of this document. The three-foot thick cap of Dense Graded Aggregate cover, used for the main facility parcels which also contain similar concentrations of PCB contamination, will be extended to cover the Radio Tower parcel. The parcel will also be fenced and future land use restrictions will be put in place. Any maintenance requirements for the proposed work shall be incorporated into the long-term monitoring plan for the site. Finally, TSCA decontamination regulations will apply to all work conducted on this parcel. EPA has determined that the proposed activities will not pose an unreasonable risk of injury to health or the environment. A Second Modification to the November 19, 2012 TSCA Determination is attached as Appendix E.

All upland remediation activities will be conducted in compliance with the M.G.L. c. 21E cleanup program as described in the Final Determination.

The Commonwealth has provided a letter from the current parcel owner securing access to conduct required remedial work.[23]

The Final Determination identified the Radio Tower parcel's intended use to be as an ancillary parcel needed for storage of equipment to support the offshore wind industry once the Commonwealth obtained ownership. This intended use was due to the anticipated lower load bearing capacity given the anticipated one foot cap of clean material conceptually planned for the parcel. However, the presence of contamination on the parcel and the resulting need to construct a minimum three-foot thick Dense Graded Aggregate cap enables the Commonwealth to transform this parcel into one capable of supporting heavy loads. The Second Modification to the TSCA Determination, Appendix E, acknowledges this changed use and requires that certain

location. Borings were also advanced within the areas where high concentrations of PCBs were identified in order to vertically delineate the contamination. See the final Remedial Work Plan for PCB Remedial Activities and Soil Management Plan, dated September 27, 2014.

[22] See Appendix A of EPA's Final Determination for the South Terminal Project.

[23] See attachment to the Commonwealth's submission dated September 25, 2014.

conditions, including minimum capping and long-term monitoring requirements, be met.

V. Post-Final Determination Minor Changes

A. Source Material for Mitigation Measures

A minor change made during the course of construction of the South Terminal Project allowed the substitution of the use of clean parent material dredged from another source in the Harbor as material for mitigation purposes, and this document continues that authorization provided EPA is given prior notice and provides written approval, the material is appropriate for its intended use and meets the objectives of the Final Mitigation Plan, and is appropriate for the proposed use, all permits for offshore disposal are modified as necessary.

In early January 2014, the Commonwealth discovered that the clean parent bottom of dredge material, generated from dredging of the navigational channel and the Gifford Street boat basin, that was to be used for capping the OU3 mitigation area (located just south of the Hurricane Barrier) was too rocky to be effectively hydraulically placed and the shallow water depths in the mitigation area limited other potential placement options. It requested substitution of the clean parent material dredged from the bottom of EPA's lower harbor CAD cell (Phase 1) for use as the capping material and that the clean, rocky material be disposed offshore under an existing permit.

EPA reviewed information provided by the Commonwealth[24] as well as relevant data EPA gathered during design and construction completed to date on the ower harbor CAD cell. In late January 2014, EPA authorized the substitution of the source of clean, parent material for mitigation purposes at the OU3 pilot cap area provided that certain conditions were met. EPA's approval with conditions is attached as Appendix C.

Because the use of clean, parent material for mitigation measures was already included in the mitigation measures discussed during consultation with NMFS in the Final Determination, no further consultation was necessary.

This Third Modification also authorizes other substitution of clean, parent material dredged from sources in the Harbor for use in mitigation areas provided that all conditions in this Third Modification are met.

[24] See email dated January 10, 2014 from Chet Myers to EPA; email dated January 15, 2014 from EPA to Chet Myers; and the Commonwealth's submission dated January 16, 2014.

B. Single Blasting Event in March 2014

EPA also authorized, during the course of the Project construction, a single additional blasting event, as a minor change.

After completing the blasting program authorized in the Second Modification, in a February 2014 letter to EPA, the Commonwealth represented that subsequent excavation revealed that a small portion of rock remained in an area of the thickest known quantity of rock along the edge of the bulkhead. Mechanical attempts to remove the rock failed, leaving blasting as a last resort.[25] Given its construction schedule, the Commonwealth requested that this single blasting event occur during certain time periods of restricted in-water work established to protect various aquatic resources.

The rock to be blasted was described to be approximately 50 feet in length, ranging in width from approximately two to 10 feet, and approximately 16 feet thick at its thickest point, for a total volume of approximately 125 cubic yards. An estimated six to 12 holes would be required, each loaded with approximately 32 pounds per delay.

After conducting its review of information provided by the Commonwealth and coordinating with NMFS,[26] EPA determined that the requested blasting event was smaller than the series of blasts that were conducted by the Commonwealth in the same general area over the winter. EPA also reviewed the pre- and post-blasting reports from the larger prior blasting events which included a fish deterrent system, a fisheries observer on site and monitoring and noted there was no significant amount of fish mortality observed as a result of those blasts. The blasting reports also included vibration monitoring results which showed that all readings from the winter blasting events were below the allowable limits for historic, residential and other structures, including the hurricane barrier.[27]

On the basis of the above findings, and after ensuring with NMFS that re-initiation of consultation was not required, EPA determined that this single blasting event was a minor change to the Project and that the Project continues to meet the substantive requirements of all identified ARARs provided certain conditions were met. A copy of EPA's March 7, 2014 approval with conditions is attached as Appendix D.

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[25] See letter dated February 28, 2014 from Bill White, MassCEC, to Elaine Stanley, EPA.

[26] See series of emails from February 28, 2014 to March 7, 2014.

[27] See attachment C to the Commonwealth's August 14, 2014 submission for a compilation of the blasting reports for the winter of 2012-2013. See also attachment C of that submission for the blasting report for the March 2013 blasting event.

VI.CERCLA Statutory Requirements

A. CERCLA § 121 Factors

The Project, as modified, does not conflict with and is not inconsistent with the New Bedford Harbor Superfund remediation, and EPA reaffirms that the 1998 ROD, including the State Enhanced Remedy, remains protective of human health and the environment. The dredging work will sequester an additional 30,000 cubic yards of contaminated sediment that would not otherwise be addressed by the Superfund dredging since it is below Superfund cleanup levels in the lower harbor. This work continues to enhance the 1998 ROD by further reducing the availability of PCB contamination to aquatic life, particularly those that bioaccumulate PCBs, which has led to the Site's risk from consumption of fish. Similarly, the upland remediation work on the Radio Tower parcel continues to address contaminated soil and sediment through TSCA and the state cleanup program that would not otherwise be addressed in the foreseeable future if this Project did not occur. See page 41 of the Final Determination and page 27 of the Second Amendment for more detailed discussion about the protectiveness of the Project. As long as the conditions contained in the Final Determination as modified by the First and Second Modification and this Third Modification are implemented and maintained, the Project will not adversely affect human health or the environment.

Consistent with the Final Determination findings, as modified by the First and Second Modification, the work described in this Third Modification does not change or alter EPA's determinations set out on page 42 of EPA's Final Determination that disposing of the additional dredged contaminated material in CADs will permanently isolate this sediment from human and environmental receptors by containing it in perpetuity using a safe and protective technology, and that CADs, although not using treatment of the PCB-contaminated sediment as a principal element, provide protection against site risks posed by these sediments by removing and permanently isolating the sediment.

The Commonwealth has not provided cost information for this Third Modification work; however, no Superfund money will be used to finance the work.

A detailed discussion of how the work described in this Third Modification complies with ARARs follows below.

B. *Significant Substantive Requirements*

As stated in the Final Determination, because EPA has integrated the State Enhanced Remedy into the 1998 ROD, this Project, and any modification to it, must comply with §121(d) of CERCLA and §300.450 of the NCP which requires the work to meet the substantive requirements of all ARARs. See page 43 of the Final Determination for a general overview of ARARs.

EPA has re-evaluated the Project as modified by this Third Modification for compliance with ARARs. While no additional federal ARARs were identified, additional analysis and consultations were required pursuant to the ARARs identified in the Final Determination. After completing this analysis and concluding all required consultation, EPA has determined, as set out below, that the Project as modified by this Third Modification complies with all ARARs provided all conditions contained in the Final Determination, as modified by the First and Second Modification and this Third Modification, are met and maintained. The Commonwealth has concluded that the determinations related to the state ARARs identified in Appendix D to the Final Determination do not need to be revised or supplemented to address the Project modifications, and that the potential impacts from this work are already addressed through the state standards described in Appendix D to the Final Determination.[28]

In addition, there are public safety regulations that are not under the jurisdiction of EPA, which govern the planned activities including Department of Transportation, Coast Guard, and Homeland Security regulations as well as Occupational Safety and Health Administration rules. This Project shall comply with those regulations and shall also comply with Massachusetts Explosive Regulations at 527 CMR 13. The Commonwealth shall ensure its contractors secure all necessary federal, state and local permits required by these regulations.

1. Section 404 of the Clean Water Act (33 U.S.C. §1344)

As discussed in the Final Determination, aquatic impacts associated with the discharge of dredged or fill material into waters of the U.S., including secondary impacts associated with the filling such as dredging and rock removal, are evaluated for compliance with the Clean Water Act § 404(b)(1) guidelines. The additional impacts that would result from the proposed Project modifications do not change EPA's determination that the Project, subject to the conditions in the Final Determination, as modified, and in this Third Modification, complies with the applicable CWA guidelines. The expanded dredging and blasting do not change EPA's determination that the South Terminal site represents the LEDPA, since other alternatives are either not practicable or not less environmentally damaging, nor do they change EPA's conclusions regarding the Project's compliance with the other elements of the CWA guidelines, as discussed below.

1. Expanded Dredging

Expanded Dredging. The expanded dredging will result in a greater areal impact to the soft bottom benthos, but this is considered temporary as the substrate will not change,

[28] See email dated August 14, 2014 from Phil Weinberg, MassDEP to Bill White, CEC which is attachment I-1 to the Commonwealth's August 14, 2014 submission.

just the depth. Recovery of the disturbed areas by benthic creatures will start immediately after the construction stops, and the benthic infaunal community will likely be fully recovered within a 3-5 year time period. Winter flounder feed on clams, worms, and other members of this community, so its loss also represents a temporary impact to winter flounder. However, due to the relatively rapid recovery of this community and the relatively small size of the area (compared to the area available for winter flounder foraging), it does not represent a significant impact. Water quality impacts will be monitored to ensure that state water quality standards are not violated, but some level of degradation in the immediate vicinity of the dredge will occur. The expanded dredging will increase the duration of the dredging, but significant water quality impacts are not anticipated from the additional dredging.

The Commonwealth has minimized impacts by confining its request for additional dredging to the minimum channel width and depth considered to provide safe passage for the expected vessels according to the consensus of the maritime experts MassCEC consulted.

The expanded dredging will eliminate an additional 2.3 acres of winter flounder habitat by increasing the depth of substrate beyond that typically utilized by winter flounder for spawning. Even with the expanded dredging, EPA continues to believe that the Project will not cause or contribute to significant degradation of waters of the U.S. In addition, the expanded dredging will not meaningfully increase impacts on water quality and associated effects from elevated turbidity on fish and benthic species, because it will be subject to the same water quality performance standards as the previously approved dredging. Those standards are set forth in Appendix C of the Second Modification to the Final Determination. Finally, the Commonwealth has agreed to provide additional mitigation to address the additional impacts to winter flounder habitat, consistent with the CWA guidelines. Specifically, the Commonwealth will expand the winder flounder mitigation area by 4.6 acres (a 2:1 acreage ratio of mitigation to impact area).

2. Blasting

EPA evaluated the potential environmental impacts associated with the proposed additional blasting program based on information presented in the Commonwealth's request for additional blasting, dated July 25, 2014, and supplemental information submitted on August 14, 2014; EPA's analysis and the conclusions reached in the Second Modification of the Final Determination; and the results of the previous blasting program. The previous blasting program did not result in substantial adverse environmental impacts. The proposed additional blasting would occur in the same general area as the previous blasting program and would utilize the same mitigative measures to minimize impacts as the previous blasting program (clean overburden left in place; pre- and post-blast fish monitoring; fish deterrence, including a startle system, silt curtains, and bubble curtains to deter fish and reduce pressure and impulse impacts). In addition, the maximum charge weight for the proposed blasting program

would be smaller, and the duration of blasting would be shorter, further minimizing likely impacts below those of the previous blasting program. For these reasons, EPA concluded that the proposed additional blasting program would not result in significant adverse environmental impacts, and authorized the additional blasting program in our letter dated August 20, 2014, subject to the conditions specified in that letter. (Appendix B, and described above.)

3. Winter Flounder Mitigation

As compensatory mitigation for the additional impacts to the aquatic ecosystem resulting from the expanded channel dredging, the Commonwealth will expand the winter flounder spawning habitat mitigation area by 4.6 acres. The Commonwealth will place clean material in areas that are currently deeper than what winter flounder prefer for spawning. The addition of material will elevate the bottom resulting in depths that winter flounder will preferably utilize for spawning.

The expanded dredging will result in a greater areal impact to the soft bottom benthos, but this is considered temporary as the substrate will not change, just the depth. Recovery of the disturbed areas by benthic creatures will start immediately after the construction stops, and the benthic infaunal community will likely be fully recovered within a 3-5 year time period. The expanded dredging will have temporary impacts on the benthic infaunal community. Winter flounder feed on clams, worms and other members of this community, so its loss also represents a temporary impact to winter flounder. However, due to the relatively rapid recovery of this community and the relatively small size of the area (compared to the area available for winter flounder foraging), it does not represent a significant impact.

2. Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403) Public Interest Review; Navigation and Navigable Waters (33 U.S.C. §408)

For the reasons discussed above, the proposed changes for additional dredging and blasting do not alter EPA's evaluations in the Final Determination and Second Modification of the Beneficial and Detrimental Impacts to the Environment and the Public Interest under § 10 of the Rivers and Harbors Act of 1899.

Therefore, there is no change in EPA's conclusion in the Final Determination and the Second Modification that, after weighing the positive and negative impacts associated with this Project, EPA has determined that the South Terminal Project is not contrary to the overall public interest.

3. Endangered Species Act (16 U.S.C. §1531 et seq.)

For the Second Modification, EPA reinitiated consultation with NMFS on the potential effects of the requested expanded dredging and blasting on the Atlantic sturgeon. During consultation, EPA described the potential impacts from expanded dredging and blasting and EPA's conclusion that while these activities may affect the Atlantic sturgeon, they were unlikely to adversely affect the species either on its own or when combined with the other impacts associated with this Project, due in large part to the limited presence of the sturgeon in the area and the mitigative measures that will be employed. NMFS concurred with EPA's determination that the Project, including the additional dredging and rock blasting, is not likely to adversely affect the Atlantic sturgeon provided that the specified mitigative measures to minimize the potential for entrainment and turbidity, and to minimize acoustic impacts and maintain a zone of passage, are employed. See Appendix B and Section VII.B.1 of the Second Modification for mitigation measures.

In response to the Commonwealth's third modification request, EPA again contacted NMFS on August 14, 2014 about the potential adverse impacts to Atlantic sturgeon from the additional blasting and expanded dredging. Based on the Commonwealth's continued use of the fish deterrent system, its successful (i.e. no large fish mortalities) blasting previously in this system, a reduced blasting scope and the limited presence of Atlantic sturgeon in this system, EPA concluded that potential effects from this modification would not require re-initiation of consultation under ESA. On August 15, 2014, NMFS agreed that re-initiation was not required.

4. Essential Fish Habitat Assessment under the Magnuson-Stevens Act (16 U.S.C. §§ 1851 et seq.) and Fish and Wildlife Coordination Act (16 U.S.C. §661-677e)

EPA reinitiated consultation with NMFS under the Magnuson-Stevens Fishery Conservation and Management Act and the FWCA on the potential effects of the additional dredging and blasting on EFH and on fish and wildlife resources protected by FWCA for the Second Modification. EPA concluded that the additional dredging would not result in additional adverse effects on EFH or resources protected by FWCA, since it would not cause any additional loss of winter flounder spawning habitat, and it would be subject to the same water quality performance standards as the previously approved dredging. EPA also concluded that with time of year restrictions on blasting consistent with NMFS's recommendations, and with additional conditions requiring implementation of a fish deterrent system, the potential for fish to be within the impact area would be minimized to the greatest extent possible. Further, EPA identified conditions it intended to impose on the maximum charge weight per delay and the minimum delay time between charges to ensure no adverse pressure and impulse effects on fish.

In response to the Commonwealth's third modification request, EPA contacted NMFS on August 14, 2014 to discuss potential adverse impacts to EFH and species covered under the FWCA. EPA reviewed the potential impacts from the additional blasting and expanded dredging and the proposed mitigation and concluded that the Commonwealth had reasonably minimized impacts to EFH and FWCA resources. On August 18, 2014, NMFS agreed that impacts to EFH had been reasonably minimized and no further consultation was required, provided that there was additional compensatory mitigation for the additional loss of winter flounder spawning habitat.

5. National Historic Preservation Act (16 U.S.C. § 470, 36 CFR Part 800)

The Project modifications do not alter EPA's determination, set forth in Appendix G of EPA's Final Determination, that the Project will not affect historic properties.

The expanded dredging areas included in this Third Modification will be conducted within areas that the Commonwealth represents have already been evaluated in archeological surveys performed as part of this Project, or are in areas that have been dredged as part of the SER or South Terminal Project work.

EPA has reviewed the archeological investigations in relation to the proposed additional dredging and the previously identified paleosols area. (See Figure 4 for map of areas of archeological survey.) The paleosols are located between the former Gifford Street boat ramp and the southern edge of the newly constructed terminal facility. (See Figure 5 for a mapped location of the paleosols area.) The expanded dredge area, although expanding laterally both east and west of the already authorized navigational channel, does not extend any further south than previously authorized dredging areas. The southern end of the 25 foot western lateral expansion stops north of the existing Shuster property; the southern end of the eastern lateral expansion stops approximately halfway along the edge of the newly constructed terminal. Neither expansion area is closer to the paleosol area than previously authorized dredging. See Figure 1.

PCB-remediation activities and other site related cleanup work will be conducted on the Radio Tower parcel which is located significantly north of the former dwellings in the former Acushnet Mills company housing area, previously identified as an area of archeological interest. (See Attachment 1 of Appendix G to the FD.) Prior to issuing its August 20, 2014 approval of the blasting portion of the Commonwealth's request,[29] EPA reviewed the vibrations recorded in the blasting reports from prior blasting events, all of which were below the allowable limits for historic, residential and other structures (including the Palmer Island Light Station and the hurricane barrier). EPA also reviewed an updated technical memorandum from the Commonwealth's contractor, GZA, regarding anticipated impacts of the additional proposed blasting on the Light Station.

[29] See Appendix B to this Third Modification.

GZA calculated the anticipated vibration levels would be significantly below the limiting vibration of <0.5 in/sec.[30]

Also, because the Light Station is owned and maintained by the City of New Bedford, EPA requested and the Commonwealth provided a letter dated August 11, 2014 from the New Bedford Harbor Development Commission ("HDC") expressing its satisfaction with the precautions instituted to protect the Light Station.[31]

After considering the calculations performed by the Commonwealth's consultant, the Commonwealth's July 25 and August 14, 2014 submissions to EPA in support of this modification, and in light of the actions that have been taken and would continue to be taken in accordance with the conditions set out in EPA's September 16, 2013 letter to Brona Simon, State Historic Preservation Officer ("the SHPO") and EPA's August 20, 2014 letter, EPA determined in its August 20, 2014 letter that the proposed blasting would not change its conclusion set out in EPA's Second Modification for the South Terminal Project that this Project will not affect the Palmer Island Light Station.

The SHPO was copied on EPA's August 20, 2014 determination that approval of the proposed additional blasting would have no effect on the Palmer Island Light Station.

6. Navigation and Navigable Waters, 33 U.S.C. § 408

With regard potential impacts on the New Bedford/Fairhaven Hurricane Barrier, the Commonwealth provided two emails from the U.S. Army Corps of Engineers ("the USACE") which reflect that the USACE had no objection to the additional blasting work provided the work was done following the same protocols established in its previous 33 U.S.C. § 408 approval letter. See page 4 and footnote 7 of EPA's August 20, 2014 letter, Appendix B of this document.

7. Toxic Substances Control Act (15 U.S.C.§ 2601 et seq.) PCB Remediation Waste (40 CFR §761.61(c))

Inclusion of additional blasting in the Project does not require a modification of past TSCA Determinations since all contaminated sediment will be removed prior to blasting activities. However, because additional dredging and disposal of PCB- contaminated sediment and removal of additional upland soil is included in this Third Modification to the Final Determination, EPA had to re-evaluate its determination made in the TSCA Determination included as Appendix J(1) in the Final Determination and the First Modified TSCA Determination included as Appendix D to the Second Modification of the Final Determination. After reviewing the Commonwealth's submissions, EPA has

[30] The blasting reports from the winter of 2012 – 2013 and March 2013 are Attachments C and D of the Commonwealth's August 14, 2014, submission. The GZA technical memorandum dated August 13, 2014 is Attachment G of that same submission.

[31] See Attachment H of the Commonwealth's August 14, 2014 submission.

determined that, provided the conditions in the Second Modified TSCA Determination (Appendix E of this document) are met, the work described in this Third Modification will not pose an unreasonable risk of injury to health and the environment.

Dredging and disposal into CAD cell 3 of approximately 30,000 cubic yards of PCB-contaminated sediment generated during the deepening and widening of the navigational channel will be conducted as described in the Final Determination. The Water Quality Performance Standards remain the same (see Appendix C of the Second Modification to the Final Determination). There is no proposed change to the capping of CAD cell 3; the Commonwealth has indicated that inclusion of this additional sediment into CAD cell 3 would not require further expansion of the CAD because the additional capacity would be generated by self-compression of the sediment within the CAD cell, and because the volume of the actual amount of previously dredged contaminated material disposed of in the CAD was less than the amount estimated during the design phase of the Project. A map showing the expansion areas to be dredged is attached as Figure 1 to this Second Modification to the Final Determination.

With respect to the remediation of PCB-contaminated soils at the Radio Tower parcel and the changed use to heavy loading, PCB-contaminated soils with $\geq$ 50 ppm will be excavated with offsite disposal and the parcel will be capped with a minimum three-foot thick Dense Graded Aggregate cover. Finally, the parcel will be fenced and land use restricted. These proposed activities are consistent with the activities that were approved for the main terminal facility under the November 19, 2012, TSCA Determination and the First Modified TSCA Determination.

EPA has reviewed the Commonwealth's submissions regarding the proposed work and has determined that disposal of the identified additional < 50 ppm PCB-contaminated sediments into CAD cell #3 and onsite disposal of upland soils with PCB concentrations < 50 ppm will not pose an unreasonable risk of injury to health or the environment provided the conditions in the Second Modified TSCA Determination (Appendix E to this document) are met.

8. Section 402 of the Clean Water Act (33 U.S.C. §1342)

The Project modifications will not result in additional impacts on stormwater. Therefore, EPA's previous conclusion under Section 402 of the Clean Water Act is unchanged.

9. Section 176(C) Of The Clean Air Act General Conformity Rule Review **(42 U.S.C. § 7506(c), 40 CFR Part 93, Subpart B)** *42 U.S.C. § 7412, 40 CFR Parts 61 and 63 (NESHAPs)*

The Project modifications will not result in additional effects on air quality. Therefore EPA's previous conclusion under the Clean Air Act General Conformity Rule that a conformity determination is not required for EPA's authorization of this Project, is

unchanged.

EPA's conclusion under Parts 61 and 63 is also unchanged.

c. Executive Orders and Policies

1. ***Consultation and Coordination with Indian Tribal Governments Executive Order (E.O. 13175)***
   EPA Policy for the Administration of Environmental Programs on Indian Reservations (1984)
   EPA Policy on Consultation and Coordination with Indian Tribes (May 4, 2011)

Additional dredging and blasting were within the scope of potential impacts included in EPA's consultation with the Tribes before the Final Determination was issued.

The Tribes were copied on EPA's August 20, 2014 letter to the SHPO regarding its conclusion that blasting would not impact the Palmer Island Light Station.

2. ***Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, (E.O. 12898)***

The Project modifications may result in a small amount of additional traffic during remediation of the Radio Tower parcel. Air monitoring will be conducted continuously during the work and any additional noise impacts are expected to be minimal. The community may have experienced some vibrations during blasting. Vessels were required to avoid the area when blasting events occurred. Appropriate notice and protection measures for the community, for vessels and for structures were in place prior to any blasting activities pursuant to the Commonwealth's Operational Blasting Plan. Because previously authorized dredging is ongoing and the additional dredging has not caused a change to the construction schedule, any community impacts are expected to be insignificant. Therefore, EPA's conclusion, that the Project is not expected to have disproportionately high and adverse human health or environmental effects on low-income or minority populations, as set forth in Appendix M of EPA's Final Determination, is unchanged.

3. ***Floodplain Management Executive Order (E.O. 11988)***

The Project modifications will not result in additional effects on the floodplain. Therefore EPA's analysis under the Floodplain Management Executive Order set forth in Appendix L of EPA's Final Determination is unchanged.

4. *Wetland Executive Order (E.O. 11990)*

The Project modifications will not result in additional effects on wetlands. Therefore EPA's analysis under the Wetlands Executive Order set forth in Appendix J of EPA's Final Determination is unchanged.

5. *Invasive Species Executive Order (E.O. 13112)*

The Project modifications will not result in additional effects related to invasive species. Therefore EPA's analysis under the Invasive Species Executive Order set forth in Appendix N of EPA's Final Determination is unchanged.

Issued by: _____ Date: 9/30/14

James T. Owens III
Director, Office of Site Remediation and Restoration

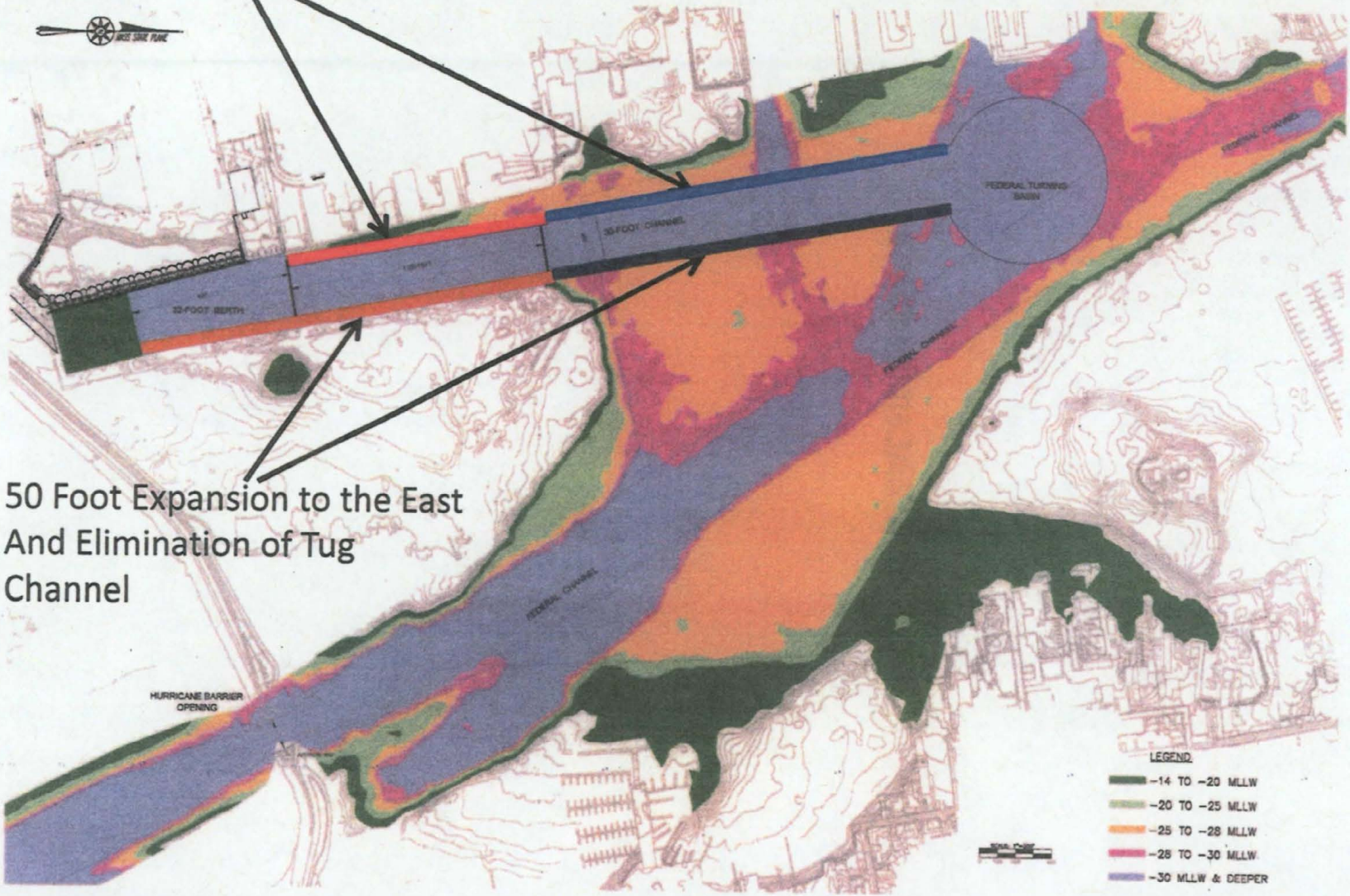
Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Figure 1

Map of 300' Reconfigured Navigation and Tug Channels

MASSACHUSETTS CLEAN ENERGY CENTER

25 Foot Expansion to the West

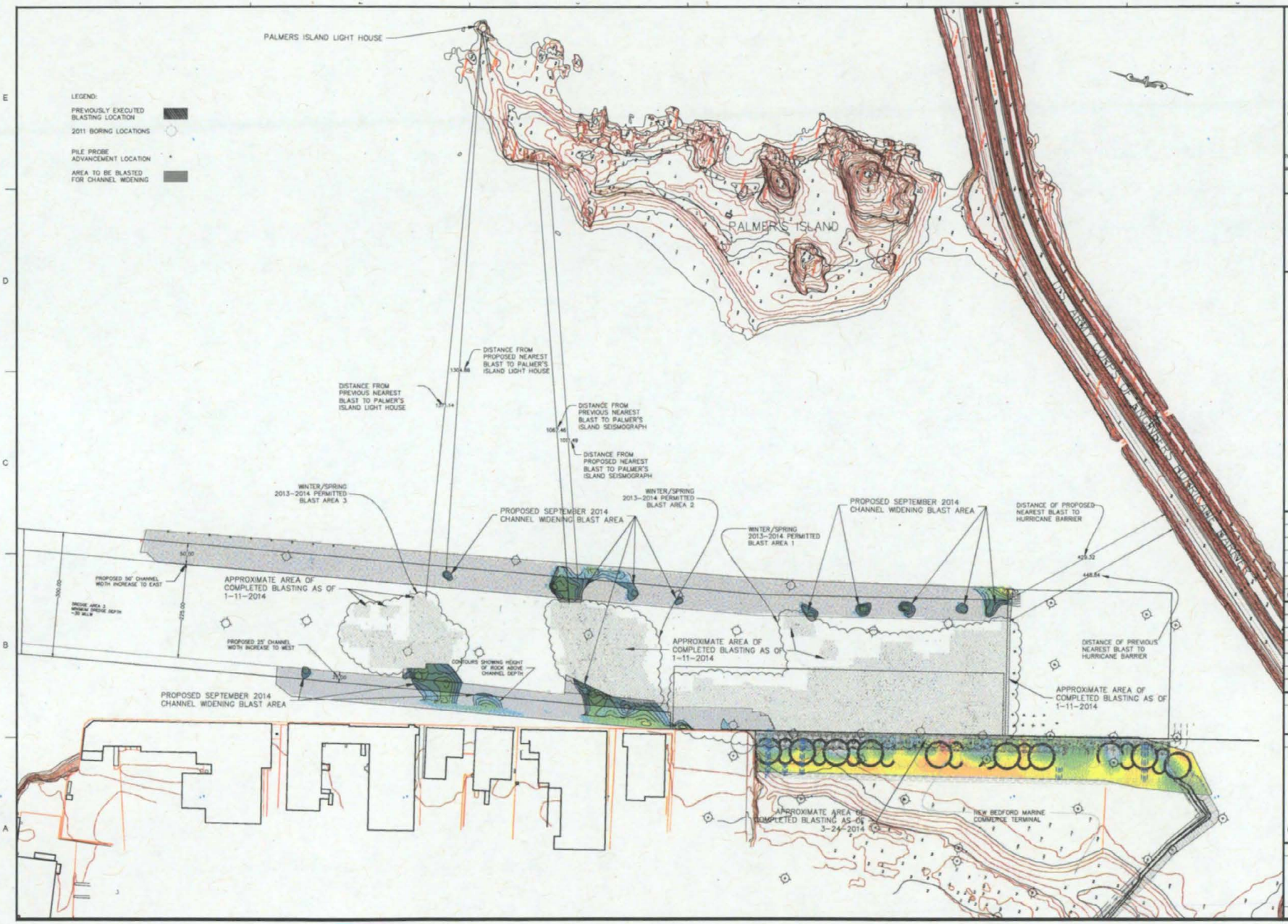


50 Foot Expansion to the East
And Elimination of Tug
Channel

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Figure 2

Map of Additional Blast Areas



APEX
ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA
125 BROAD STREET
BOSTON, MA 02210
581 CONNECTICUT AVENUE
SOUTH WINDSOR, CT

PROJECT
NEW BEDFORD MARINE COMMERCE TERMINAL

OWNER
MASSACHUSETTS CLEAN ENERGY CENTER

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	6890.027
CADD FILE	APEX_BLAST...
DESIGNED BY	MT
DRAWN BY	GCD
CHECKED BY	
DATE	8/08/2014
DRAWING SCALE	1"=100'

GRAPHIC SCALE
SCALE: 1"=100'
0 50 100 200

SHEET TITLE
RESPONSE TO REQUEST FOR FURTHER INFORMATION PROPOSED CHANNEL WIDENING

DRAWING NO.
FIG-1

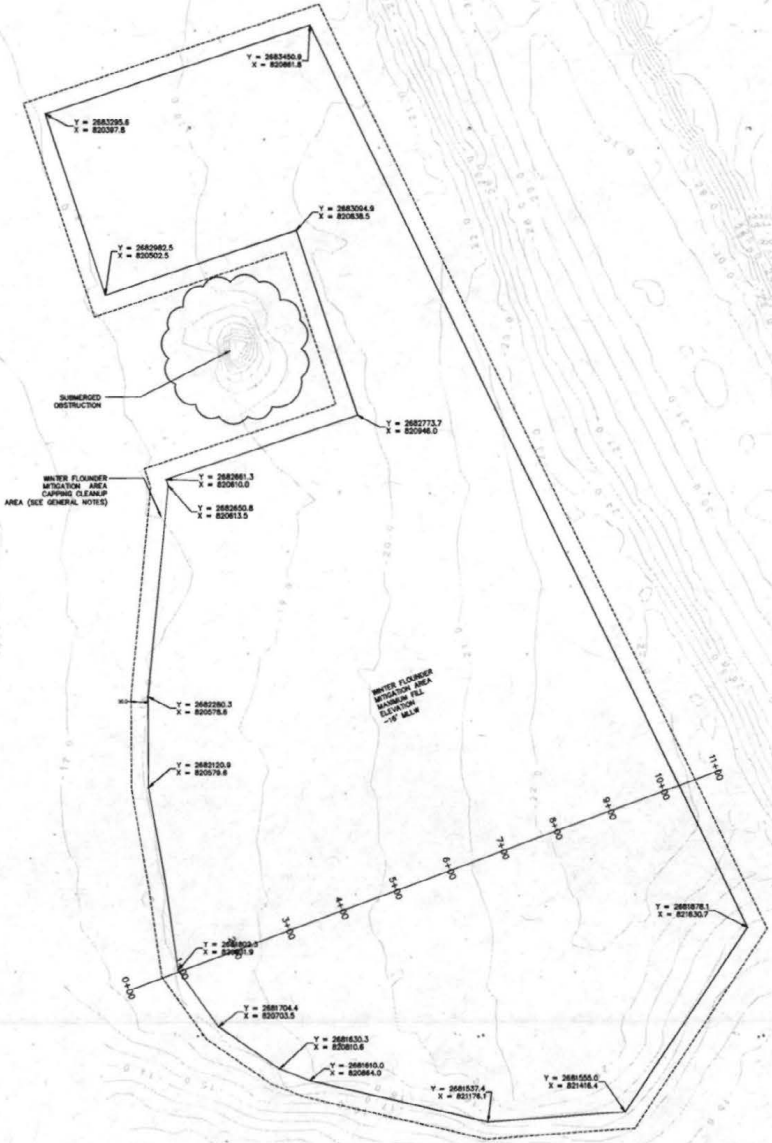
1 OF 1

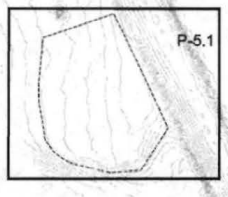
PLOT SCALE

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Figure 3

Map of Additional Winter Flounder Mitigation Areas





LAYOUT KEY

NOTES:
1. WINTER FLOUNDER MITIGATION AREA CROSS-SECTION IS ON DRAWING X-5.1.

APEX
ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA
125 BROAD STREET, FIFTH FLOOR
BOSTON, MA 02110
1213 PURCHASE SREET
NEW BEDFORD, MA 02740

DRAFT

PROJECT
NEW BEDFORD MARINE COMMERCE TERMINAL

OWNER
MASSACHUSETTS CLEAN ENERGY CENTER
63 FRANKLIN STREET, 3RD FLOOR
BOSTON, MA

NO.	DATE	DESCRIPTION	BY
3	7/21/14	AREA EXPANDED	MJT
2	6/15/12	AREA UPDATED	CHM
1	12/23/11	FOR CONSTRUCTION	CHM

PROJECT NO.	6690
CADD FILE	MIT_CU3_FLNDR
DESIGNED BY	GCD
DRAWN BY	MJT
CHECKED BY	GCD
DATE	7-24-2014
DRAWING SCALE	1"=100'

GRAPHIC SCALE
SCALE: 1"=100'
0 50 100 200

SHEET TITLE

WINTER FLOUNDER MITIGATION AREA PLAN

DRAWING NO.

P-5.1A

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Figure 4

Map of Archeological Survey Areas

APEX
ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA
184 HIGH STREET, SUITE 502
BOSTON, MA 02210
55H CONNECTICUT AVENUE
SOUTH WINDSOR, CT

PROJECT
NEW BEDFORD
MARINE COMMERCE
TERMINAL

OWNER
55 SUMMER STREET, 9TH FLOOR
BOSTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
1.	7/21/2014	300' CHANNEL	GCD

PROJECT NO.	6590
CADD FILE	
DESIGNED BY	JER
DRAWN BY	JER
CHECKED BY	
DATE	09/06/2012
DRAWING SCALE	1"=200'

GRAPHIC SCALE
SCALE: 1"=200'
0 100 200 400

SHEET TITLE

LIMITS OF GEOPHYSICAL AND ARCHEOLOGICAL EXPLORATION 300' CHANNEL

DRAWING NO.

1 OF 1

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Figure 5

Map of Paleosol Area

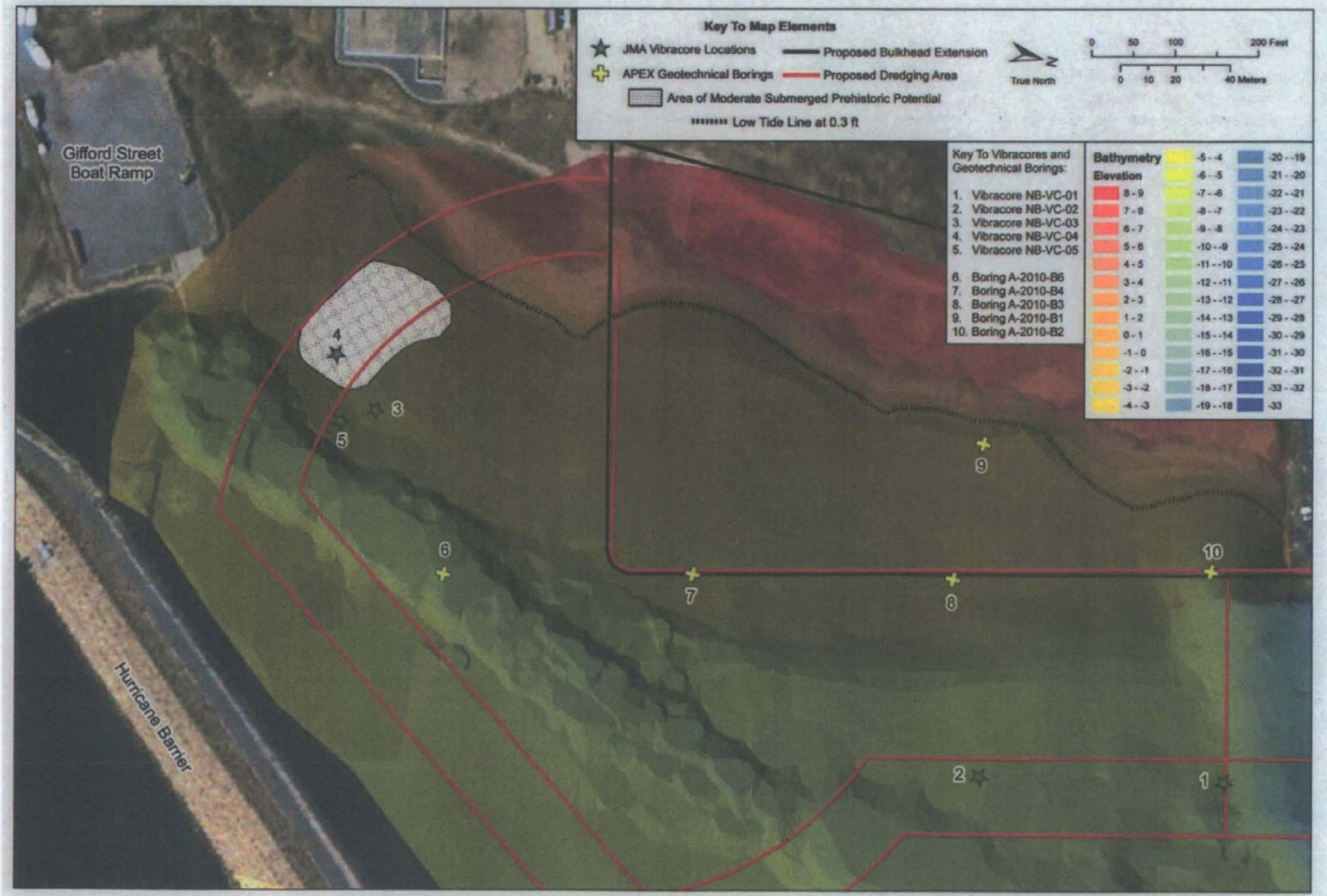


Figure 10. Map of South Terminal Marine Infrastructure Park Project Areas, Depicting Vibracore and Geotechnical Boring Locations, and the Subtidal Area Identified as Exhibiting Moderate Archeological Potential.

Third Modification to EPA's Final Determination for the South Terminal Project New Bedford State Enhanced Remedy

Table 1

Sediment Volume and Disposal Locations

Destination of Dredged Material	Material to be Dredged														Totals
	Mooring Northern Mitigation	Mooring Southern Mitigation	Gifford Street Channel Relocation	Top of Dredge	Federal Channel Dredge	Deep Draft Extension to North	Increase Channel Width	Intermediate Dredge	Bottom of Dredge	Lower Harbor CAD Cell Phase II	Top of CAD #3	Top of CAD #3 Expansion	Bottom of CAD #3	Bottom of CAD #3 Expansion	
OU-3 Hot-Spot Capping Mitigation Area:	-	-	-	-	-	-	-	-	-	92,500	-	-	-	-	92,500
Disposal Offshore at CCDS/RISDS:	-	-	-	-	-	-	15,000	-	92,500	-	-	-	90,000	122,000	319,500
Winter Flounder Mitigation Area:	-	-	-	-	-	-	60,000	12,000	2,000	-	-	-	146,500	-	220,500
New Bedford Marine Commerce Terminal:	-	-	-	-	-	8,000	7,000	-	134,000	-	-	-	-	-	149,000
Former Dartmouth Finishing Site:	-	-	-	-	-	-	-	-	45,800	-	-	-	-	-	45,800
Capping of CAD Cell #1:	-	-	-	-	-	-	-	27,500	-	-	-	-	-	-	27,500
Disposal at CAD Cell #2:	-	-	-	-	-	-	-	-	-	-	27,000	6,900	-	-	33,900
Disposal at CAD Cell #3:	8,600	10,500	2,000	118,500	89,000	2,500	8,500	-	-	-	-	-	-	-	239,600
Capping of Borrow Pit CAD Cell:	-	-	-	-	-	-	-	25,500	-	-	-	-	-	-	25,500
Totals:	8,600	10,500	2,000	118,500	89,000	10,500	90,500	65,000	274,300	92,500	27,000	6,900	236,500	122,000	1,153,800

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Table 2

Major Federal Substantive Applicable or Relevant and Appropriate Requirements (ARARs)

Major Federal Substantive Requirements

Table 2

ARARs for EPA's Third Modification to the South Terminal Project[1]

Federal Requirement[2]	Status	Synopsis	Action to be Taken
Clean Water Act, Sec. 404 (33 U.S.C §1344), 40 C.F.R. Part 230, Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323)	Applicable	Prohibits discharges of dredge or fill material into waters of the U.S. except in compliance with the requirements of the § 404(b)(1) guidelines.	EPA has re-evaluated the impacts of additional dredging and blasting pursuant to the 404(b)(1) guidelines. After careful review of the Commonwealth's submittals and based on the information provided in those submittals, EPA has determined that 404(b)(1) guidelines will be met as long as the conditions and mitigation measures set out in the Final Determination, as modified, and this Third Modification are met.
Rivers and Harbors Act of 1899, (33 U.S.C. §403 *et seq.*; 33 C.F.R. Parts 320-323) Section 10	Applicable	Prohibits the obstruction or alternation of any navigable water of the U.S. except as authorized after a finding that the activity is not contrary to the public interest.	EPA has re-evaluated the Public Safety requirement of section 10 for impacts from the additional blasting. After careful review of the Commonwealth's submittals and based on the information provided

[1] Only those ARARs modified by this Third Modification are included; all other ARARs identified in ARARs - Table 2 in the Final Determination are still in effect.

[2] This Table includes all major federal substantive requirements (ARARs/TBCs) related to this Third Modification to the Final Determination. Additional federal requirements have also been identified and are included in the Administrative Record for this Project. State substantive requirements are referenced separately in the Administrative Record and can also be found in Appendix D to the Final Determination. Finally, some federal requirements are implemented by the State. These are referenced in the Administrative Record.

Major Federal Substantive Requirements

			in those submittals, EPA has determined that the Project meets these requirements as long as the conditions and mitigation measures set out in the Final Determination, as modified, and this Third Modification are met.
Toxic Substances Control Act (TSCA), 15 U.S.C §2601 *et seq.* PCB Remediation Waste (40 C.F.R. §761.61(c))	Applicable	This section of TSCA provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found.	EPA has determined that disposal of the identified additional < 50 ppm PCB-contaminated sediments into CAD cell #3 and onsite disposal of upland soils with PCB concentrations < 50 ppm will not pose an unreasonable risk of injury to health or the environment as long as the conditions in the Second Modified TSCA Determination (Appendix E of the Third Modification) are met.
Navigation and Navigable Waters, 33 USC 408	Applicable	Unlawful for any person to impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, unless permission is granted based upon a determination that such occupation or use will not be injurious to the public interest.	Additional dredging and blasting will not adversely affect the hurricane barrier as long as the conditions in this Third Modification are met.

Table 2

Major Federal Substantive Requirements

Endangered Species Act 16 U.S.C. 1531 *et seq.*	Applicable	Species currently listed on the Endangered Species list could potentially be affected by the Project.	EPA has re-initiated consultation to evaluate the impacts of additional dredging and blasting. EPA has concluded, for the reasons discussed in the Third Modification that while the Project, including the additional impacts, may affect the Atlantic sturgeon, as long as the Commonwealth fully implements all the conditions set out in the Final Determination, as modified, and the Third Modification and mitigation measures, it is unlikely to adversely affect the species. The National Marine Fisheries Service concurred with EPA's conclusion and re-initiation of consultation was not necessary.
Essential Fish Habitat Assessment under the Magnuson-Stevens Act, 16 U.S.C. §§ 1851 *et seq.*	Applicable	This Act establishes procedures designed to identify, conserve, and enhance essential fish habitat for those species regulated under a federal fisheries management plan. Consultation with National Marine Fisheries Service must be conducted.	EPA has re-initiated consultation with NMFS to evaluate the impacts of additional dredging and blasting. EPA has determined that the additional impacts would not have a significant effect on EFH, provided that the Commonwealth complies with the conditions in the Final Determination, as modified, and the Third Modification and fully implements all of the proposed minimization and mitigation

Major Federal Substantive Requirements

			measures. NMFS concurred with EPA's conclusions and re-initiation of consultation was not necessary.
Fish and Wildlife Coordination Act, 16 U.S.C. §661-677e	Applicable	The Act requires consultation with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS), as appropriate, and the fish and wildlife service of the state to be undertaken for the purpose of preventing loss of and damage to wildlife resources.	EPA re-initiated consultation with NMFS under this Act to evaluate the impacts of additional dredging and blasting on fish and wildlife resources protected by FWCA. EPA concluded the additional impacts would not have a significant adverse effect on the fish and wildlife resources provided that the mitigation measures included in the Final Determination, as modified, and the conditions included in the Third Modification are satisfied. NMFS concurred with EPA's conclusions and re-initiation of consultation was not necessary.
National Historic Preservation Act, 16 U.S.C. §470; 36 CFR Part 800	Applicable	Section 106 of the Act requires that Federal agencies consider, in consultation with other interested parties, the effects of their undertakings on historic properties prior to the undertaking and determine whether the undertaking adversely affects or has the potential to adversely affect	EPA reviewed the Commonwealth's submissions and determined that the undertaking would not alter EPA's determination set forth in Appendix G of the Final Determination that the work described in the Third Modification will not affect historic properties.

Major Federal Substantive Requirements

		these properties. The following properties were identified: two paleosols, a shipwreck, and the Palmer Island Light Station.	
Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7,629 (Feb. 16, 1994)	To Be Considered	The Executive Order, among other things, requires, to the greatest extent practicable, each Federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations and to ensure such programs, policies and activities are conducted in a manner that ensures that such programs, policies, and activities do not have the effect of subjecting persons (including populations) to discrimination because of their race, color, or national origin.	Certain areas located within or along the truck access route (Route 18) have been identified as environmental justice areas. Traffic, noise and air impacts are expected to be minimal; however, the Project Construction Management Plan includes measures to minimize construction-related impacts. A 1500 foot perimeter around the blasting areas has been delineated. Vibrations from blasting impacts are expected to be minimal and adequate public safety measures including notice requirements and vibration monitors are contained in the Project Operational Blasting Plan.

Third Modification to EPA's Final Determination for the South Terminal Project New Bedford State Enhanced Remedy

Appendix A

Cover email to the Commonwealth's September 25, 2014 Submission

Catri, Cindy

From: Chet Myers <cmyers@apexcos.com>
Sent: Thursday, September 25, 2014 3:13 PM
To: Catri, Cindy; Bill White
Cc: Dierker, Carl; Williams, Ann; Marsh, Michael; Tisa, Kimberly; Lombardo, Ginny; LeClair, Jacqueline; Colarusso, Phil
Subject: RE: Additional Information Requested - Channel Widening
Attachments: Hall-MCEC letter for EPA.PDF; Attachment O - Areas of Increased Environmental Impact.pdf; E-Mail from Ed Leblanc - USCG.pdf; Attachment B - COMMISSIONER D3 LETTER TO EPA - SOUTH CHANNEL.pdf

Hi Cindy,

Sorry. Doing the best we can.

Attached please find the access letter to the Radio Tower property owned by Hall Communications (for 1a).

As you stated, we have submitted information for 1b.

For Item 2: If you reference Attachment O from MassCEC's 7/25/14 initial submission to EPA (attached), then approximately 22,000 cubic yards of material will be dredged from the dark blue and light blue areas and placed into CAD Cell #3. Approximately 2,000 cubic yards of material will be dredged from the northern end of the orange/gold area, and approximately 5,000 cubic yards of material will be dredged from the red area and placed into CAD Cell #3.

For Item 3: The jurisdictional issue appears to be slightly complicated. We present the response from the USCG on the issue (email from Mr. Ed Leblanc, USCG) is attached.

For Item 4: The letter and supporting runs provided by Captain Bushy (attached to MassCEC's September 12, 2014 letter to EPA) support that the vessel can be brought into and exited from the facility safely. Captain Bushy stated that "I can report that, with a high degree of confidence, that an adequate margin of safety exists in the proposed wider channel under the conditions referenced above and thereby recommend regulatory approval and construction of the widened channel to proceed." The supporting documentation shows modeled docking passages within the revised 300 foot wide channel. The runs show a 300 foot wide deep-draft channel dredged to -30 MLLW. The docking is conducted utilizing two tugs on the bow of the boat (the Reliance and the Resolute) and a tug on at the stern of the boat (the Rainbow). There are 8 runs. Each run begins with a sheet the Pilot completed assessing any issues with the run, the printouts are then sequential (backing runs would show the berthing area on the first page and show areas further from the berth on the second page, approaching runs would show the areas further form the berth on the first page and show the berth on the last page, if the run was completed).

Of the runs included with Captain Bushy's letter, five of eight runs were backing runs (backing from the terminal to the Federal Turning Basin) and three of the runs were approaching the berth. The runs were successful if the vessel remained within the 300 foot wide channel. Based on the results of these runs, Captain Bushy has concluded that the methodology for approaching and departing the terminal, based on the 300 foot wide channel contains an adequate margin of safety given certain environmental parameters. Environmental parameters are set for every vessel entering any port, and include: time of day, tide conditions, current conditions, and wind conditions.

Given these restrictions (which are specific to, but nonetheless normal for, any vessel and any port), Captain Bushy believes that the vessel can be brought to and taken from the berth safely. If the vessel could not safely back, a turning basin would be required. This condition was noted in previous letters from the Northeast Pilots Association. Captain Bushy is aware of the statements made by the Pilots in these letters, but has stated that the adjustments made by

MassCEC are sufficient. Therefore, Captain Bushy is not recommending a turning basin; nor does MassCEC believe that a turning basin is necessary.

For Item 5: We are still working on the first blasting report. We apologize for its delay, but hope to get a copy of it out to EPA today or tomorrow.

Thanks,

APEX
apexcos.com

Chet Myers
Apex Companies, LLC
125 Broad Street, 5th Floor
Boston, MA 02110
O) 617-728-0070 x5411 M) 617-908-5778

Follow Apex on and Like us on

From: Catri, Cindy [mailto:Catri.Cynthia@epa.gov]
Sent: Thursday, September 25, 2014 9:37 AM
To: Chet Myers; Bill White
Cc: Dierker, Carl; Williams, Ann; Marsh, Michael; Tisa, Kimberly; Lombardo, Ginny; LeClair, Jacqueline; Colarusso, Phil
Subject: FW: Additional Information Requested - Channel Widening

We need the information below as soon as possible...any idea when you will provide it? (Note we have received the revised workplan for the Radio Tower parcel (1.b. below) and are in the process of reviewing it.)

From: Catri, Cindy
Sent: Wednesday, September 17, 2014 5:06 PM
To: Chet Myers
Cc: Bill White; Dierker, Carl; Marsh, Michael; Tisa, Kimberly; Lombardo, Ginny; Williams, Ann; Colarusso, Phil; LeClair, Jacqueline
Subject: Additional Information Requested - Channel Widening

Hi Chet,

Thanks for taking the time today to discuss MassCEC's September 12, 2014 submission. As a follow-up from that discussion, below is the additional information EPA requested:

1. With regard to the Radio Tower parcel:
   a. EPA is still waiting for some documentation showing site control or a grant of access to MassCEC; and
   b. A revision of the Radio Tower Remedial Work Plan that includes EPA's most recent comments (provided on 8/28/2014) and new provisions that discuss the changed use of the Radio Tower parcel from an ancillary property to one that will support high loading capacity and the components of the cap that will be placed on that property. Also, please describe how this parcel will be integrated with the main terminal facility. You were also going to check whether or not RCRA hazardous waste was present on the property and if so, how it would be managed.

2. Please provide a breakdown in cubic yards of the various source areas of the 30,000 cubic yards of contaminated sediment that will be disposed of in CAD cell 3.

3. A clarification of both the Coast Guard and the Northeast Pilot's role in setting conditions for vessel use of the navigational channels.

4. A summary of the modelling results including how those results support Captain Bushy's conclusion that a 300 foot wide channel provides an adequate margin of safety, assuming all conditions set by the proper authority (Coast Guard/Pilots?) are met and that support the conclusion that no southern turning basin, although requested by the Pilots, is necessary. Also, please confirm that the model runs included in the September 12, 2014 submission are for a 300 foot wide channel at -30 MLLW.

5. A summary of the results of the most recent blasting event authorized by EPA on August 20, 2014.

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Appendix B

EPA's August 20, 2014 Approval with Conditions for Additional Blasting

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Via Electronic Mail bwhite@MassCEC.com and
First-Class Mail

August 20, 2014

Bill White, Director
Offshore Wind Sector Development
Massachusetts Clean Energy Center
53 Franklin Street
Boston, MA 02110

RE: Request for Channel Widening and Additional Blasting
New Bedford Harbor Superfund Site State Enhanced Remedy – South Terminal Project

Dear Mr. White:

EPA has reviewed MassCEC's request dated July 25, 2014 for additional dredging and blasting activities to widen the currently authorized 225 foot wide channel to 300 feet with a uniform depth of – 30 MLLW and to eliminate the currently authorized 100 foot wide tug channel.[1] MassCEC has also requested that the blasting associated with the expanded channel work be conducted prior to September 1, 2014 for several reasons including the continued presence of blasting equipment in the area, the fact that clean overburden material has not yet been dredged within the proposed blasting areas, and the project construction schedule.

Given the compressed time period, EPA agreed to review the requested modification in two phases with a review of blasting first, provided that MassCEC submitted sufficent information for EPA to determine that, without further dredging, the requested blasting activities associated with the expanded channel will not result in greater depth or width in the channel beyond that which is already authorized by EPA in its Second Modification. On August 14, 2014, MassCEC provided further information and, based on that information and as explained below, EPA has determined that the requested blasting will not alter the currently authorized channel configuration. This letter represents EPA's determination only as to the blasting portion of the request; EPA is reserving its determination as to the additional dredging portion

[1] The 225 foot wide channel and 100 foot wide tug channel were authorized in EPA's Second Modification of the South Terminal Project issued on September 30, 2012.

of MassCEC's request. A subsequent determination as to the expanded dredging request will be issued at a later date.

Because the requested blasting will occur during certain time periods of restricted in-water work established to protect various aquatic resources, EPA has also coordinated with the National Marine Fisheries Services (NMFS) concerning this request.

In its submissions, MassCEC describes the additional blasting to be conducted in areas located completely within the authorized navigational channel, the tug channel and associated side slopes of those channels. Blasting is proposed in two areas along the western side of the navigational channel and in one larger area in the tug channel with several smaller areas located in the southeast corner of the tug channel. A map of the blasting areas is attached as Attachment 1. The average thickness of the rock is approximately three feet with approximately eight feet at its thickest point. It is currently estimated that the total volume of the rock to be removed is approximately 3,000 cubic yards over an area of approximately 27,000 square feet. It is anticipated that the blasting will require approximately 60 to 80 holes, and that each hole will be loaded within a range, depending on the actual depth of rock, from approximately 68 to 82 pounds, with a maximum charge weight per delay limited to 136 pounds. The entire blasting event is estimated to be completed in three to five days but could take up to one week. The request goes on to state that this blasting is necessary to enable the widening and deepening of the approach channel through future dredging, if authorized.

To accommodate MassCEC's schedule, EPA expedited its review of the blasting request and coordination with NMFS. EPA forwarded MassCEC's July 25, 2014 submission to NMFS while EPA conducted its own review of the July 25 and August 14, 2014 submissions which included weekly blasting reports and monitoring results from blasting events in 2013 and 2014.

After conducting its review and coordination with NMFS, EPA has determined that the proposed blasting, although larger than the single event that occurred in March 2014, is smaller than the series of blasts that MassCEC conducted in the winter of 2013. In addition, the proposed blasting will occur in the same general area as the 2013 blasting although one of the proposed areas within the tug channel is approximately 66 feet closer to Palmer Island Light Station and another within the tug channel is approximately 56 feet closer to the monitoring station on Palmer's Island (both are within a 1300 foot radius of the proposed blasting event).

The Commonwealth has proposed that blasting occur prior to September 1; EPA has determined that blasting during this period and into the early part of September has the potential to impact the outward migration of anadromous fish and the endangered Atlantic sturgeon which may be foraging in the area. Both the 2013 and 2014 blasting events, which also had potential impacts to aquatic life[2], were conducted in accordance with requirements for

[2] The 2013 blasting event occurred from October 2013 through January 2014, also a time period during which outward migrating anadromous fish may be present in the Acushnet River and the Atlantic sturgeon may be

a fish deterrent system, a fisheries observer on site, and monitoring for fish pre- and post-blasting. In addition, all contaminated sediment was removed prior to blasting but clean overburden material remained in place during blasting. No significant amount of fish mortality was observed as a result of those blasts. To ensure compliance with Essential Fish Habitat (EFH) under Magnuson-Stevens and the Fish and Wildlife Coordination Act (FWCA), the fish deterrent system (including silt and bubble curtains), fisheries observer and monitoring plan must be in place, and the clean overburden must remain in place during blasting. EPA believes that additional controls are not warranted and that we have fulfilled our obligation to minimize impacts to EFH. By email dated August 18, 2014, NMFS agrees that no additional consultation on EFH is necessary (Attachment 2). Though Atlantic sturgeon could be present in the Acushnet River, EPA believes a re-initiation of the Endangered Species Consultation is not warranted, as this activity would not pose any risk above and beyond what had been considered in the prior consultations with NMFS. We base this conclusion on the acoustic modeling results, including the Commonwealth's confirmation of the acoustic modeling results as it applies to its current request for blasting,[3] the prior successful (no significant fish mortality) blasting events, the continued presence of clean overburden, and the continued use of a fish deterrent system (including silt and bubble curtains), fishery observers and the monitoring for the presence of fish pre- and post- blasting. By email dated August 15, 2014, NMFS has concurred with EPA's conclusions and concluded that no further consultation or coordination is necessary. See Attachment 3.

EPA also reviewed the vibrations recorded in the blasting reports taken pursuant to the Vibration Monitoring Program during the 2013 and 2014 blasting events. All readings from both events were below the allowable limits for historic, residential and other structures (including Palmer Island Light Station and the hurricane barrier) that were identified in EPA's Second Modification document.

Because of the shift in two proposed blasting locations closer to the Light Station and the vibration monitor, and because the 1500' blasting radius has now moved 200 feet further north,[4] inclusive of Palmer's Island, EPA requested MassCEC to either update or confirm the information and conclusions reached by GZA, its contractor, in its September 11, 2013, memo concerning the anticipated impact of the additional proposed blasting on the Palmer Island Light Station.[5] Using adjusted factors based on the actual monitoring data, GZA calculated the anticipated vibration levels at the Light Station for the proposed blasting to range from 0.09

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foraging in the area. The 2014 blasting event occurred on March 24, 2014, during the spawning season of winter flounder.

[3] See response to EPA question No. 6 in letter dated August 14, 2014 from Bill White, MassCEC, to Elaine Stanley, EPA.

[4] See Attachment F of letter dated August 14, 2014 from Bill White, MassCEC to Elaine Stanley, EPA.

[5] GZA, in its September 11, 2013 memorandum (AR #549037) estimated the maximum estimated vibration, or peak particle velocity (PPV) was 0.034 inches per second (in/sec) for the 2013blasting or 15 times lower than the <0.5 in/sec allowable maximum vibration for the protection of plaster structures. (See Massachusetts Building Code (Explosive Regulations) at 527 CMR 13.09.)

in/sec for an 82 pound charge per delay to 0.12 in/sec for the maximum 136 pound per charge delay, which is significantly below the limiting vibration level of <0.5 in/sec. See GZA memorandum dated August 13, 2014 attached as Attachment 4.

Finally, because the Light Station is owned and maintained by the City of New Bedford, MassCEC also provided a letter from the New Bedford Harbor Development Commission dated August 11, 2014[6] which states "The HDC is satisfied with the precautions instituted to protect adjacent structures, including...the recently renovated Palmer's Island Light Station, instituted by MassCEC to date...and is not opposed to the additional blasting."

EPA has considered the calculations performed by the Commonwealth's consultant and the July 25 and August 14, 2014 submissions from MassCEC. In light of this information and the actions that have been taken and will continue to be taken in accordance with the conditions set out in EPA's September 16, 2013 letter to Brona Simon, State Historic Preservation Officer, and below in this letter to avoid effects to historic properties, EPA has determined that approval of this proposed blasting request will not change its conclusion set out in EPA's Second Modification for the South Terminal Project that this Project will not affect the Palmer Island Light Station. See Attachment 5.

In addition, with regard to potential impacts to the New Bedford/Fairhaven Hurricane Barrier, MassCEC provided two emails from Michael Banchard, U.S. Army Corps of Engineers (USACE's) that reflect that USACE "has no objections to the additional blasting work provided the work is done following the same protocols established in our previous 33 USC 408 approval letter."[7] See Attachment 6

As a result of its review and after coordinating with NMFS, EPA determines that the requested additional blasting continues to meet the substantive requirements of all identified federal ARARs in EPA's Second Modification of the South Terminal Project and accepts the State's determination that the additional blasting continues to meet the substantive requirements of all identified state ARARs,[8] as long as the following conditions are met:

1. The additional blasting event remains as described in MassCEC's July 25 and August 14, 2014 submissions (with approximately 60 – 80 boreholes with delays, with a maximum total explosive charge of 136 lb. per borehole) and includes a minimum 25 millisecond delay between charge detonations;

[6] See Attachment H to letter dated August 14, 2014 from Bill White, MassCEC to Elaine Stanley, EPA.
[7] See Attachment E to letter dated August 14, 2014 from Bill White, MassCEC to Elaine Stanley, EPA. USACE's 33 USC 408 approval letter and subsequent clarifications may be found in the administrative record for the Second Modification for the South Terminal Project at AR #540345, AR #547288 and AR #547269.
[8] See Attachment I of letter dated August 14, 2014 from Bill White, MassCEC, to Elaine Stanley, EPA.

2. For compliance with TSCA, all contaminated material is removed and properly disposed in accordance with EPA's prior determinations for South Terminal;

3. Implement all mitigation and monitoring measures required for prior blasting events as described in EPA's Second Modification to protect aquatic resources, including water quality monitoring, the fish deterrent system (including silt and bubble curtains), a fisheries observer on site, and monitoring for fish pre- and post-blasting except as modified below:

    a. Condition No. 1: A final blasting plan must be submitted to and approved by EPA before blasting commences;
    b. Condition No. 2: Blasting shall only be conducted in the locations depicted on Attachment B of the Commonwealth's August 14, 2014 letter to EPA (See Attachment 1 of this document); the remainder of this condition is not applicable to the current blasting request;
    c. Condition No. 7: The second paragraph of this condition is not applicable to the current blasting request;
    d. Condition No. 8: No more than 136 pounds of explosive per delayed charge, with a minimum time delay of 25 milliseconds between charges shall be used; and
    e. Condition No. 13: To protect the Hurricane Barrier, blasting must also be conducted consistent with the email dated August 15, 2014 from Michael Bachand , USACE to Chet Myers (see Attachment 5);

4. Implement all impact parameter and monitoring measures required for prior blasting events as described in EPA's Second Modification for impact on land structures and in water structures, including the historic Palmer Light Station and the hurricane barrier;

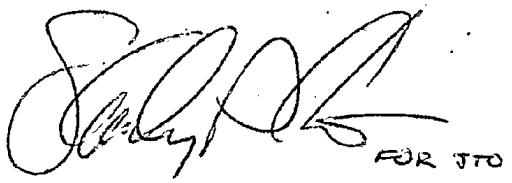
5. Implement all measures for public notice to landowners and mariners required for prior blasting events in accordance with EPA's Second Modification; and

6. MassCEC provides EPA with a post-blasting report similar to the weekly blasting reports provided from prior blasting events.

This requested blasting work represents only a portion of the Commonwealth's requested modification to EPA's Second Modification for the South Terminal Project. EPA will review the Commonwealth's request for additional dredging to widen and deepen the navigational channel and eliminate the tug channel in a separate document that will incorporate this determination concerning blasting. EPA's Second Modification for the South Terminal Project can be found on New Bedford Harbor Superfund Site web page http://www..epa.gov/nbh.

If you have any questions, please contact Ginny Lombardo at (617) 918-1754 or Cynthia Catri at (617)-918-1888.

Very truly yours,



James T. Owens III
Director, Office of Site Remediation and Restoration

cc: via electronic mail
Brona Simon mhc@sec.state.ma.us
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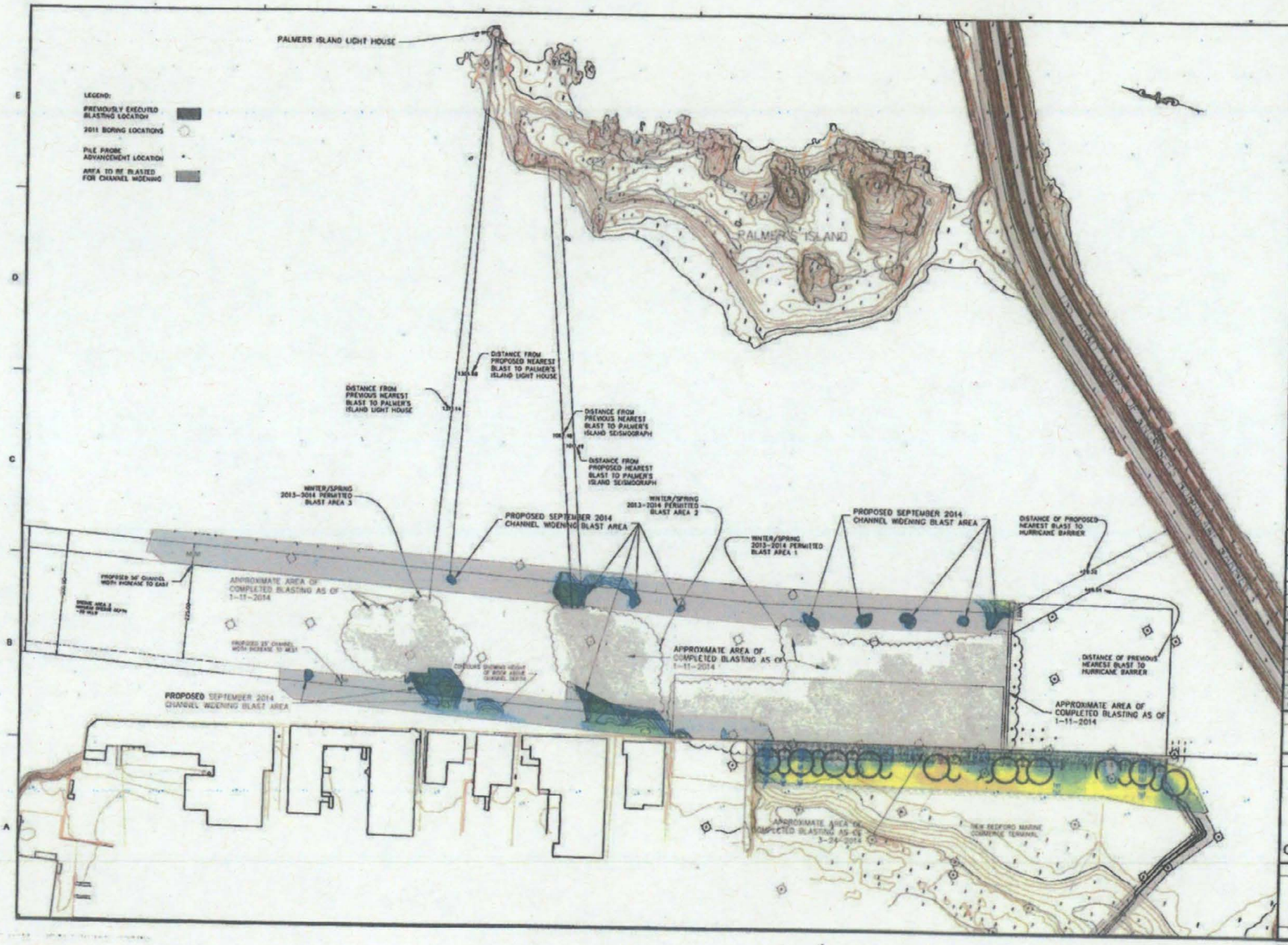
colarusso.phil@epa.gov
catri.cynthia@epa.gov
lombardo.ginny@epa.gov

Attachment 1



APEX

ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA -
NEW BEDFORD, MA - HOLYOKE, MA

125 BROAD STREET
BOSTON, MA 02110

560 CONNECTICUT AVENUE
SOUTH WINDSOR, CT

PROJECT
NEW BEDFORD MARINE COMMERCE TERMINAL

OWNER
MASSACHUSETTS CLEAN ENERGY CENTER

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	6885.007
CADD FILE	APEX_BLAST...
DESIGNED BY	MT
DRAWN BY	GCD
CHECKED BY	
DATE	8/8/2014
DRAWING SCALE	1"=100'

GRAPHIC SCALE
SCALE: 1"=100'
0 50 100 200

SHEET TITLE
RESPONSE TO REQUEST FOR FURTHER INFORMATION PROPOSED CHANNEL WIDENING

DRAWING NO.
FIG-1

1 OF 1

PLOT SCALE

Attachments 2 and 3

Gardner, Ann

From: Catri, Cindy
Sent: Wednesday, August 20, 2014 2:14 PM
To: Gardner, Ann
Subject: FW: FW: Response to Questions - 8-14-14 - MassCEC Request for Wider Channel - Modification to Final Determination for the South Terminal Project
Attachments: removed.txt

From: Colarusso, Phil
Sent: Monday, August 18, 2014 2:39 PM
To: Catri, Cindy; Williams, Ann; Dierker, Carl
Subject: FW: FW: Response to Questions - 8-14-14 - MassCEC Request for Wider Channel - Modification to Final Determination for the South Terminal Project

On EFH consultation from NMFS

From: Christopher Boelke - NOAA Federal [mailto:christopher.boelke@noaa.gov]
Sent: Monday, August 18, 2014 2:24 PM
To: Colarusso, Phil
Subject: Re: FW: Response to Questions - 8-14-14 - MassCEC Request for Wider Channel - Modification to Final Determination for the South Terminal Project

Phil - Per our discussion, we do not believe that this additional work requires a re-initiation of the EFH consultation. We believe that the request for deepening of the proposed channel from -14 to -30 will result in a permanent loss of additional winter flounder habitat and will require additional compensatory mitigation. Please let me know if you would like to discuss further.

Chris

On Mon, Aug 18, 2014 at 10:08 AM, Colarusso, Phil <colarusso.phil@epa.gov> wrote:

Chris,

I'll be around this afternoon and we can discuss.

Phil

From: Christopher Boelke - NOAA Federal [mailto:christopher.boelke@noaa.gov]
Sent: Monday, August 18, 2014 9:54 AM
To: Colarusso, Phil

Subject: Re: FW: Response to Questions - 8-14-14 - MassCEC Request for Wider Channel - Modification to Final Determination for the South Terminal Project

Hi Phil - got your message about New Bedford. Have meetings until noon, but can I call around 1? Seems like the responses are focused around blasting. is there any other information about the expansion of the channel from -14 to -30, or do you consider that already to have been addressed in the earlier EFH assessment?

On Fri, Aug 15, 2014 at 11:56 AM, Christine Vaccaro - NOAA Federal <christine.vaccaro@noaa.gov> wrote:

Hi Phil,

Sorry I missed your call yesterday. I looked over the information you sent, and I have to agree that I don't think this modification will create any new effects for ESA-listed species that have not previously been considered. So yes, your determination that no re-initiation is necessary is on target.

Let me know if you need more than email verification of this, and we can see about issuing another letter. We may need you to send something just re-iterating your determination. Should be a quick turnaround.

Cheers,

Chris

Chris Vaccaro
Fisheries Biologist
Protected Resources Division
NOAA Fisheries

Gloucester, MA
Phone: 978-281-9167
Email: christine.vaccaro@noaa.gov

On Thu, Aug 14, 2014 at 4:29 PM, Colarusso, Phil <colarusso.phil@epa.gov> wrote:

Chris, Chris,

Per my voicemail. Here is some of the supporting information for the state's request for their latest modification. The request to do the blasting is the most time sensitive part of the modification. Based on their use of the fish deterrent system, smaller charges, limited area needed for blasting and recent blasting success (no fish kills), we feel that allowing them to blast between now and September 1, represents a minimal risk to ESA. EFH and species covered under Fish and Wildlife Coordination Act, thus reinitiation of consultation is not warranted. Please let me know if you need any additional information and if you concur with our determination.

Phil

From: Chet Myers [mailto:cmyers@apexcos.com]
Sent: Thursday, August 14, 2014 2:49 PM
To: Dierker, Carl; Lederer, Dave; Lombardo, Ginny; Stanley, Elaine; Williams, Ann; Colarusso, Phil; Tisa, Kimberly; Catri, Cindy; Marsh, Michael
Cc: Alicia Barton; Jay Borkland; Eric Hines (ehines@lemessurier.com); Christopher Morris; Christen Anton; paul.craffey@state.ma.us; Bill White
Subject: Response to Questions - 8-14-14 - MassCEC Request for Wider Channel - Modification to Final Determination for the South Terminal Project

Hi Carl,

On behalf of Bill White from MassCEC, attached please find MassCEC's response to EPA questions issued within an e-mail dated July 31, 2014. EPA's questions were associated with a formal request to EPA for a modification to the Final Determination for the New Bedford Marine Commerce Terminal Project for widening the channel to allow safe access to the Terminal.

This submission is a follow-up to our meeting on Monday, July 14th at EPA Region 1, our phone conversation on July 16th, and our initial formal submittal to EPA on July 25, 2014.

The full version (with attachments) is called "Response to EPA Questions 8-14-14 w-Attachments.pdf" and has been uploaded to Apex's Document Management System (due to size restrictions).

Apex's Document Management System can be accessed through the following:

Address: [redacted]

ID: [redacted]

Password: [redacted]

If you have any issues accessing the document, please feel free to contact me.

Thanks so much for your help!

Chet Myers
Apex Companies, LLC
125 Broad Street, 5th Floor
Boston, MA 02110
O) 617-728-0070 x113 M) 617-908-5778

Building Safety Together
Follow Apex on ☐ ***and Like us on*** ☐

--

Christopher Boelke

Field Offices Supervisor

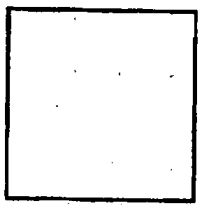
Habitat Conservation Division

Greater Atlantic Region

NOAA, National Marine Fisheries Service

978-281-9131

http://www.nmfs.noaa.gov/

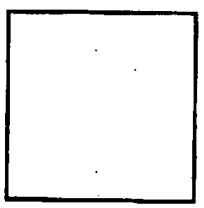


—

Christopher Boelke
Field Offices Supervisor
Habitat Conservation Division
Greater Atlantic Region
NOAA, National Marine Fisheries Service

978-281-9131

http://www.nmfs.noaa.gov/



Attachment 4

Memo

To:	Chet Meyers, John McAllister, Greg Dolan (Apex Companies, LLC)
From:	Alexander Haag, David Carchedi, (GZA GeoEnvironmental, Inc.)
File:	33734.07 Mem-01
Date:	August 13, 2014
Re:	Analysis of Blast Monitoring Data at Palmer Island – Anticipated Impact of Additional Proposed Blasting at Palmer Island Lighthouse New Bedford Marine Commerce Terminal New Bedford, Massachusetts
Attachments:	FIG-1, Palmer Island Vibration Data Analysis

GZA GeoEnvironmental, Inc. (GZA) prepared this memorandum in accordance with your request to evaluate and analyze vibration monitoring data collected during the blasting conducted for the New Bedford Marine Commerce Terminal between October 24, 2013 and January 11, 2014, and on March 24, 2014. GZA has summarized and tabulated vibration monitoring data collected on Palmer Island. The data includes:

Vibration Data:

- Distance of the Blast Area to the Vibration Monitor
  - (see vibration monitor location MP-1 on attached figure);
- Peak Vector Sum (PVS) recorded by the vibration monitoring equipment (Seismograph MP-1)
- Time of Seismograph Measurement
- Contractor's Predicted Vibration Level
  - (PVS – as reported in the daily blast report)
- GZA's Calculated Vibration Level based on Distance and Charge Weight
  - (PVS – based on conservative calibration of the propagation model to the collected blast data)

Blasting Data:

- Blast Number, Approximate Blast Time, Maximum Charge Weight per Delay (lb/delay), Total Holes Blasted, Total Charge Weight

Based on the evaluation of the recorded data, and conservative calibration of the propagation model, GZA estimated the anticipated vibration level at the Palmer Island Lighthouse, based on:

- the closest distance of new proposed blasting to the lighthouse (1300 ft minimum distance)
- the overall and local maximum proposed charge weights to be used for additional blasting required for the channel widening (136 lb per delay and 82 lb per delay, respectively)

As a result of the analysis, the anticipated vibration levels at the Palmer Island Lighthouse (0.09 to 0.12 in/sec) are significantly below the limiting vibration level for historic structures (0.5in/sec).

We trust that this memo addresses the current needs of your project. Should you have any questions, please feel free to contact Alexander Haag or David Carchedi at 401-421-4140.

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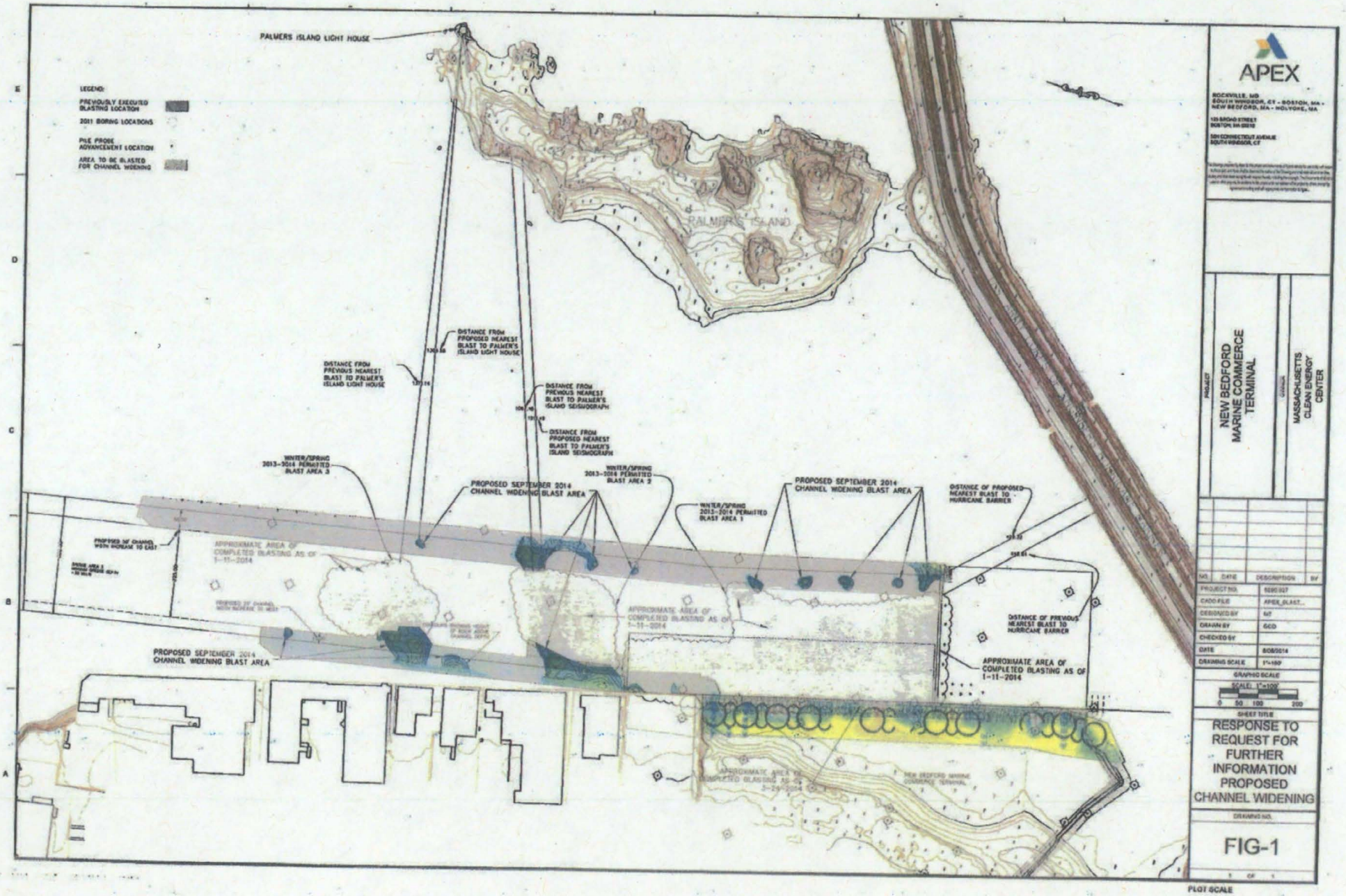

APEX

ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA

125 BROAD STREET
BOSTON, MA 02110

501 CONNECTICUT AVENUE
SOUTH WINDSOR, CT

PROJECT: NEW BEDFORD MARINE COMMERCE TERMINAL

OWNER: MASSACHUSETTS CLEAN ENERGY CENTER

NO.	DATE	DESCRIPTION	BY

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DRAWN BY	GCD
CHECKED BY	
DATE	8/28/2014
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SCALE: 1"=100'
0 50 100 200

SHEET TITLE
RESPONSE TO REQUEST FOR FURTHER INFORMATION PROPOSED CHANNEL WIDENING

DRAWING NO.
FIG-1

1 OF 1

PLOT SCALE

New Bedford Marine Commerce Terminal, New Bedford Massachusets
GZA Job# 33734.07

VIBRATION MONITORING DATA SUMMARY

Date	BLAST NUMBER	Vibration Data Palmer's Island MP-1					Blast Data			
		CWNB Predicted PVS	GZA Calculated PVS	Peak Vector Sum (ips)	Time	Distance Blast Area to Monitor	Approximate Blast Time	Maximum lbs./delay	Total Holes Loaded	Total Pounds Loaded
10/24/2013	TB-001	0.083	0.071	0.057	15:58:50	1318	16:00	62	4	188
10/29/2013	NB-002	0.060	0.054	0.056	14:37:06	1333	14:35	42	7	294
10/30/2013	NB-003	0.059	0.054	0.045	14:12:33	1342	14:11	42	7	294
10/31/2013	NB-004	0.058	0.053	0.038	12:00:22	1351	9:58	42	22	924
11/1/2013	NB-005	0.100	0.082	0.056	11:30:15	1367	11:30	84	31	1584
11/4/2013	NB-006	0.056	0.053	0.045	15:51:55	1362	15:50	42	16	672
11/5/2013	NB-007	0.055	0.052	0.043	9:48:03	1377	9:47	42	23	966
11/6/2013	NB-008	0.049	0.050	0.036	14:36:27	1410	9:00	42	24	1008
11/6/2013	NB-009	0.049	0.050	0.04	14:36:27	1407	14:35	42	5	210
11/7/2013	NB-010	0.048	0.050	0.034	9:35:00	1427	9:35	42	36	1092
11/7/2013	NB-011	0.048	0.049	0.034	15:59:05	1436	16:00	42	12	344
11/8/2013	NB-012	0.090	0.089	0.038	15:03:09	1417	15:00	102	44	2128
11/9/2013	NB-013	0.049	0.050	0.038	13:14:03	1417	13:14	42	38	1436
11/12/2013	NB-014	0.048	0.049	0.029	14:07:05	1440	14:07	42	27	1014
11/13/2013	NB-015	0.073	0.074	0.035	14:37:07	1469	14:35	82	42	1724
11/14/2013	NB-016	0.063	0.084	0.043	10:27:02	1484	10:25	102	38	2118
11/15/2013	NB-017	0.070	0.071	0.062	13:09:21	1511	13:10	82	50	2559
11/16/2013	NB-018	0.089	0.090	0.057	13:07:05	1537	13:05	122	63	4884
11/18/2013	NB-019	0.068	0.069	0.032	15:52:40	1545	15:50	82	31	1701
11/19/2013	NB-020	0.075	0.076	0.06	9:27:09	1438	9:25	82	37	1794
11/20/2013	NB-021	0.049	0.050	0.045	14:24:02	1415	14:23	42	33	1246
11/21/2013	NB-022	0.064	0.066	0.05	14:58:00	1396	14:56	62	33	1366
11/22/2013	NB-023	0.071	0.072	0.046	11:31:00	1502	11:30	82	60	3100
11/23/2013	NB-024	0.072	0.073	0.04	9:33:09	1474	9:30	82	43	2046
11/26/2013	NB-025	0.073	0.074	0.037	9:01:09	1471	9:00	82	75	3970
11/27/2013	NB-026	0.066	0.067	0.074	8:39:06	1374	8:38	62	43	1986
11/29/2013	NB-027	0.059	0.061	0.037	10:44:47	1483	10:44	62	19	818
11/30/2013	NB-028	0.062	0.064	0.037	13:02:07	1431	13:02	62	35	1570
12/2/2013	NB-029	0.096	0.097	0.04	15:43:04	1570	15:43	142	28	2535
12/3/2013	NB-030	0.070	0.095	0.038	9:01:04	1595	9:00	142	33	3347
12/4/2013	NB-031	0.064	0.086	0.049	9:41:01	1591	9:40	122	55	4209
12/5/2013	NB-032	0.058	0.078	0.032	11:40:07	1566	11:40	102	65	4148
12/6/2013	NB-033	0.059	0.080	0.032	9:42:04	1536	9:40	102	54	3187
12/7/2013	NB-034	0.061	0.082	0.04	10:51:03	1510	10:51	102	56	4233
12/9/2013	NB-035	0.070	0.094	0.029	13:45:57	1485	13:46	122	42	2944
12/10/2013	NB-036	0.048	0.064	0.026	9:01:00	1627	9:00	82	30	1720
12/11/2013	NB-037	0.055	0.074	0.023	10:25:46	1464	10:24	82	59	2818
12/12/2013	NB-038	0.047	0.063	0.034	10:10:58	1654	10:10	82	39	2258
12/13/2013	NB-039	0.040	0.053	0.05	9:05:57	1360	9:05	42	33	1386
12/13/2013	NB-040	0.040	0.053	0.05	9:05:57	1351	15:41	42	13	526
12/14/2013	NB-041	0.042	0.057	0.051	9:00:58	1289	9:00	42	6	192
12/14/2013	NB-042	0.040	0.054	0.036	9:00:58	1337	12:50	42	2	84
12/16/2013	NB-043	0.046	0.063	0.019	9:01:28	1444	9:00	62	14	588
12/17/2013	NB-044	0.046	0.062	0.053	15:30:55	1193	15:31	42	35	1410
12/18/2013	NB-045	0.040	0.053	0.032	9:21:24	1353	9:21	42	33	1326
12/19/2013	NB-046	0.040	0.051	0.026	10:51:09	1399	10:51	42	35	1450
12/20/2013	NB-047	0.051	0.069	0.027	11:08:57	1346	11:08	62	55	2250
12/21/2013	NB-048	0.040	0.055	0.044	13:37:56	1320	13:37	42	55	2230
12/23/2013	NB-049	0.041	0.056	0.052	13:01:53	1298	13:00	42	30	1240
12/24/2013	NB-050	0.043	0.058	0.038	7:51:15	1268	7:51	42	9	298
12/27/2013	NB-051	0.077	0.092	0.097	10:09:58	1233	10:09	82	65	3530
12/28/2013	NB-052	0.065	0.076	0.057	9:02:01	1244	9:01	62	60	2560
12/30/2013	NB-053	0.075	0.090	0.052	14:19:58	1259	9:18	82	31	1582
12/30/2013	NB-054	0.082	0.099	0.058	14:19:58	1173	14:19	82	17	754
12/31/2013	NB-055	0.084	0.101	0.09	9:38:56	1148	9:38	82	57	3054
12/31/2013	NB-056	0.091	0.110	0.073	9:38:56	1076	14:09	82	10	480
1/2/2014	NB-057	0.092	0.112	0.108	9:00:41	1064	9:00	82	34	1828
1/3/2014	NB-058	0.062	0.072	0.037	14:51:01	1297	14:50	62	63	2526
1/4/2014	NB-059	0.082	0.098	0.062	14:13:02	1176	14:13	82	42	2204
1/6/2014	NB-060	0.086	0.104	0.079	11:35:59	1127	11:35	82	46	2392
1/7/2014	NB-061	0.062	0.073	0.081	11:41:54	1288	11:40	62	34	1348

New Bedford Marine Commerce Terminal, New Bedford Massachusets
GZA Job# 33734.07

VIBRATION MONITORING DATA SUMMARY

Date	BLAST NUMBER	Vibration Data Palmer's Island MP-1					Blast Data			
		CWNB Predicted PVS	GZA Calculated PVS	Peak Vector Sum (ips)	Time	Distance Blast Area to Monitor	Approximate Blast Time	Maximum lbs./delay	Total Holes Loaded	Total Pounds Loaded
1/7/2014	NB-062	0.052	0.060	0.038	11:41:54	1233	15:48	42	4	148
1/8/2014	NB-063	0.064	0.075	0.122	10:32:49	1261	10:32	62	40	1860
1/8/2014	NB-064	0.055	0.064	0.074	10:32:49	1177	15:58	42	9	318
1/9/2014	NB-065	0.068	0.080	0.075	16:44:38	1196	12:08	62	33	1346
1/9/2014	NB-066	0.073	0.087	0.082	16:44:38	1126	16:44	62	12	504
1/10/2014	NB-067	0.043	0.049	0.032	9:00:56	1606	9:00	52	24	838
1/10/2014	NB-068	0.040	0.042	0.023	9:00:56	1609	14:40	42	20	670
1/11/2014	NB-069	0.040	0.041	0.019	16:41:55	1644	9:00	42	15	400
3/24/2014	NB-070	0.040	0.038	0.018	9:59:26	1583	9:58	34	16	464

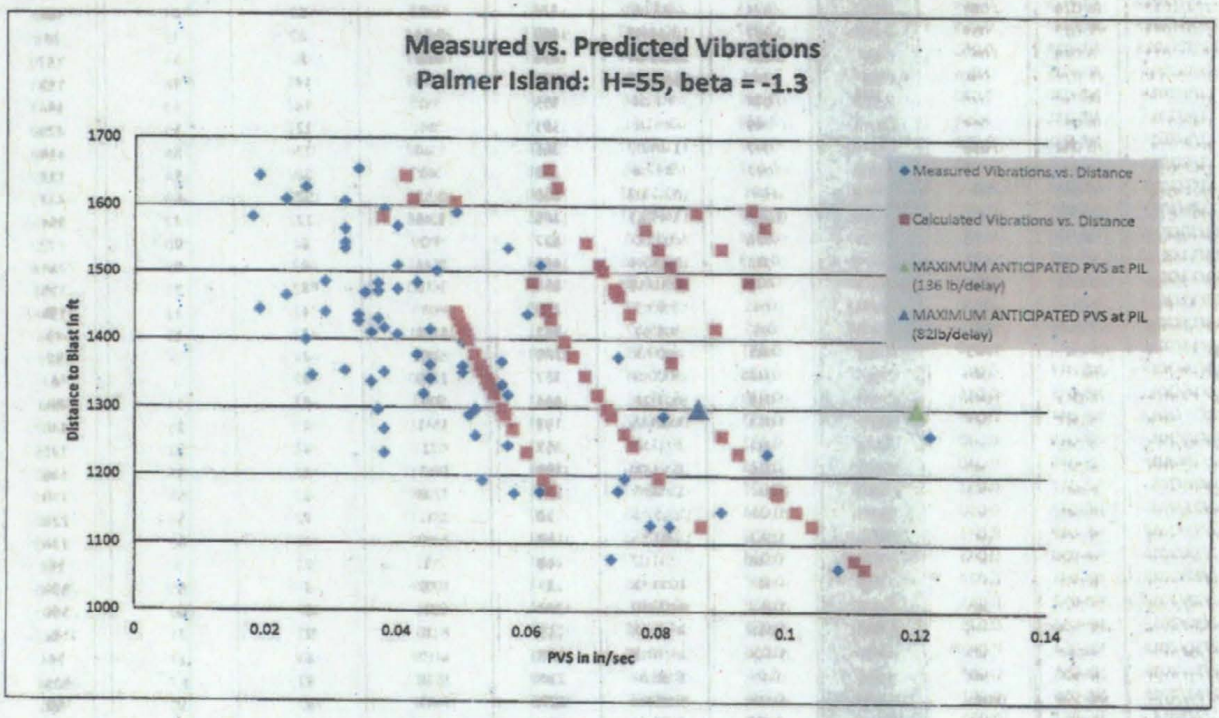
CWNB Predict. Vs. Actual	128%
CWNB Correllation	51%
H:	55
B	-1.3
GZA Predict. Vs. Actual	145%
GZA Correllation	53%

ASSUME MAXIMUM CHARGE WEIGHT PER DELAY AT CLOSEST DISTANCE - PREDICT VIBRATIONS AT PALMER LIGHTHOUSE

Distance	Weight	Predicted PVS	Percent of MA Building Code Value (0.5 in/sec)
1300	136	0.120	24%

LOCAL MAXIMUM CHARGE WEIGHT PER DELAY AT CLOSEST DISTANCE - PREDICT VIBRATIONS AT PALMER LIGHTHOUSE

Distance	Weight	Predicted PVS	Percent of MA Building Code Value (0.5 in/sec)
1300	82	0.086	17%



Attachment 5

The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

Fax Transmittal Memorandum

To: Bill White MCEC Fax #: 617-315-9356

From: Ed Bell Date: 9-20-2013

Re: South Terminal NBE Pages, including cover sheet: [redacted] Four(4)

Comments: MHC 9/20/2013 to EPA

220 Morrissey Boulevard, Boston, Massachusetts 02125
Tel: (617) 727-8470 · Fax (617) 727-5128 · Website: www.state.ma.us/sec/mhc

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

September 16, 2013

Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

Re: South Terminal Project
New Bedford Harbor State Enhanced Remedy

Dear Ms. Simon:

On May 20, 2013, the Commonwealth of Massachusetts submitted a request to the United States Environmental Protection Agency, Region 1 ("EPA") for approval of a Second Modification (the "Second Modification") to the Agency's November 19, 2012 Final Determination for the South Terminal Project ("the Final Determination"). The Commonwealth's letter requested that the Agency approve, among other modifications, the inclusion of blasting as a rock removal method. As part of its pre-construction investigations, the Commonwealth determined that blasting in three specific areas in the New Bedford Harbor channel between Palmer's Island and the shoreline at the terminal location would be necessary to construct the bulkhead wall of the terminal facility.

EPA is in receipt of your September 6, 2013 letter concerning the Palmer Island Light Station (the Light Station), a historic property listed on the National Register located within the potential area of affect of the South Terminal Project as contemplated by the proposed Second Modification. More specifically, the Light Station is located on Palmer's Island, which is at the outer edge of the 1500 foot zone where potential vibrations may occur from blasting. Blasting was not addressed in EPA's November 19, 2012 Final Determination. Accordingly, the Light Station was neither included in the Commonwealth's previous historic property assessments nor addressed in our September 28, 2012 letter to you concerning the Agency's determination that the proposed South Terminal Project will not affect historic properties. As a result, your September 6, 2013 letter encouraged EPA to determine whether or not blasting has the potential to affect the Light House.

In a September 11, 2013 memorandum from the Commonwealth's contractors in support of its request to allow blasting, GZA GeoEnvironmental Inc. presented the modeled anticipated maximum vibration for the Light Station structure that could potentially result from the planned blasting program. That maximum estimated vibration, or peak particle

velocity ("PPV"), was 0.034 in/sec, as calculated using a standard engineering equation and site-specific information. The Massachusetts Building Code, at 527 CMR 13.09, regulates allowable maximum vibrations from blasting activities. As noted in the code, "allowable limits are based, with a conservative factor of safety, upon extensive government, university, and engineering research which has established the amount and character of vibration so as to prevent damage and to insure the safety of the public and the protection of property adjacent to the blast area." The most conservative limit established in the Massachusetts Building Code for PPV to ensure the protection of structures with plaster is <0.5 in/sec. As such, the PPV estimated for the Light Station as a result of the proposed blasting is approximately 15 times lower than the allowable maximum vibration for potential damage to plaster structures. A copy of GZA GeoEnvironmental Inc.'s September 11, 2013 memorandum is included as Attachment A.

Even with this margin of safety, the Commonwealth has included additional measures to ensure that the Light Station is protected from blasting impacts. In particular, in partnership with the New Bedford Harbor Development Commission, the Commonwealth conducted extensive pre-blast photography and a video of the Light Station to establish pre-blast conditions, and will take post-blast photographs and a video of the Light Station to document post-blasting conditions. The Commonwealth will also conduct public informational meetings to describe the blasting events. The Massachusetts Clean Energy Center will also conduct a pre-construction structural review of the Light Station. A description of the additional measures is included in a September 10, 2013 letter from the Massachusetts Clean Energy Center to Carl Dierker, EPA, and attached as Attachment B.

In addition, the Commonwealth will take real-time measurements of the actual vibrations generated during blasting to confirm modeling results. In the unlikely event that actual vibrations exceed modeling results and/or impacts are detected during implementation of the Project, as a condition of its approval, EPA will require the Commonwealth to provide immediate notification to EPA. The Agency will immediately engage in consultation with the Massachusetts Historical Commission, the Commonwealth, and the City of New Bedford to discuss and implement measures to avoid, minimize, or mitigate potential impacts to the Light Station.

The Light Station is owned and maintained by the City of New Bedford. On September 13, 2013, EPA received a letter from New Bedford Mayor John Mitchell acknowledging the historic value of the Light Station to the City and describing the City's view of the modeling performed by GZA. In his letter, the Mayor expressed his belief that the Commonwealth's "efforts are appropriate to give the public confidence that the blasting will not place the lighthouse in jeopardy." A copy of Mayor Mitchell's September 13, 2013 letter is attached as Attachment C.

EPA has considered the blast modeling performed by the Commonwealth's consultant, the September 10, 2013 letter from the Massachusetts Clean Energy Center, the September 13, 2013 letter from New Bedford Mayor Mitchell, and your letter to EPA

dated September 6, 2013. In light of this modeling and the actions that will be taken to avoid effects to historic properties, in accordance with 36 CFR 800.4, EPA has concluded that approval of the Second Modification will not affect historic properties. If you have any questions regarding this finding, contact LeAnn Jensen at (617) 918-1072.

It is EPA's understanding that the Commonwealth, through the Massachusetts Executive Office of Energy and Environmental Affairs and the Massachusetts Clean Energy Center, has a strong interest in proceeding with the modifications to the Project, including the blasting program, to meet project timelines. Therefore, we would appreciate it if you could inform us at your earliest convenience whether you object to our determination, and would be happy to meet with you and the Commonwealth later this week to discuss any remaining issues.

In any event, in accordance with the Advisory Council regulation at 36 CFR 800.4, please respond within 30 days of your receipt of this letter. If we do not hear from you within this time period, we will assume that you concur with the Agency's finding and will proceed with our final decision concerning the Commonwealth's Second Modification, subject to the provisions contained in 36 CFR Section 800.13 for treating historic properties discovered during implementation of the Project.

Sincerely,

James T. Owens, III
Director, Office of Site Restoration and Remediation

CONCURRENCE. Brona Simon
9/20/13
BRONA SIMON
STATE HISTORIC PRESERVATION OFFICER
MASSACHUSETTS HISTORICAL COMMISSION
RE. 48896

Attachments

cc: Bettina Washington, Wampanoag Tribe of Gayhead (Aquinnah)
Ramona Peters, Mashpee Wampanoag Tribe
Victor Masone, Massachusetts Bureau of Underwater Archaeological Resources
Gary Davis, Jr., Executive Office of Energy and Environmental Affairs
Chet Myers, Apex Companies, LLC
LeAnn Jensen, U.S. Environmental Protection Agency, Region 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

September 16, 2013

Brona Simon
State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

Re: South Terminal Project
New Bedford Harbor State Enhanced Remedy

Dear Ms. Simon:

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EPA is in receipt of your September 6, 2013 letter concerning the Palmer Island Light Station (the Light Station), a historic property listed on the National Register located within the potential area of affect of the South Terminal Project as contemplated by the proposed Second Modification. More specifically, the Light Station is located on Palmer's Island, which is at the outer edge of the 1500 foot zone where potential vibrations may occur from blasting. Blasting was not addressed in EPA's November 19, 2012 Final Determination. Accordingly, the Light Station was neither included in the Commonwealth's previous historic property assessments nor addressed in our September 28, 2012 letter to you concerning the Agency's determination that the proposed South Terminal Project will not affect historic properties. As a result, your September 6, 2013 letter encouraged EPA to determine whether or not blasting has the potential to affect the Light House.

In a September 11, 2013 memorandum from the Commonwealth's contractors in support of its request to allow blasting, GZA GeoEnvironmental Inc. presented the modeled anticipated maximum vibration for the Light Station structure that could potentially result from the planned blasting program. That maximum estimated vibration, or peak particle

velocity ("PPV"), was 0.034 in/sec, as calculated using a standard engineering equation and site-specific information. The Massachusetts Building Code, at 527 CMR 13.09, regulates allowable maximum vibrations from blasting activities. As noted in the code, "allowable limits are based, with a conservative factor of safety, upon extensive government, university, and engineering research which has established the amount and character of vibration so as to prevent damage and to insure the safety of the public and the protection of property adjacent to the blast area." The most conservative limit established in the Massachusetts Building Code for PPV to ensure the protection of structures with plaster is <0.5 in/sec. As such, the PPV estimated for the Light Station as a result of the proposed blasting is approximately 15 times lower than the allowable maximum vibration for potential damage to plaster structures. A copy of GZA GeoEnvironmental Inc.'s September 11, 2013 memorandum is included as Attachment A.

Even with this margin of safety, the Commonwealth has included additional measures to ensure that the Light Station is protected from blasting impacts. In particular, in partnership with the New Bedford Harbor Development Commission, the Commonwealth conducted extensive pre-blast photography and a video of the Light Station to establish pre-blast conditions, and will take post-blast photographs and a video of the Light Station to document post-blasting conditions. The Commonwealth will also conduct public informational meetings to describe the blasting events. The Massachusetts Clean Energy Center will also conduct a pre-construction structural review of the Light Station. A description of the additional measures is included in a September 10, 2013 letter from the Massachusetts Clean Energy Center to Carl Dierker, EPA, and attached as Attachment B.

In addition, the Commonwealth will take real-time measurements of the actual vibrations generated during blasting to confirm modeling results. In the unlikely event that actual vibrations exceed modeling results and/or impacts are detected during implementation of the Project, as a condition of its approval, EPA will require the Commonwealth to provide immediate notification to EPA. The Agency will immediately engage in consultation with the Massachusetts Historical Commission, the Commonwealth, and the City of New Bedford to discuss and implement measures to avoid, minimize, or mitigate potential impacts to the Light Station.

The Light Station is owned and maintained by the City of New Bedford. On September 13, 2013, EPA received a letter from New Bedford Mayor John Mitchell acknowledging the historic value of the Light Station to the City and describing the City's view of the modeling performed by GZA. In his letter, the Mayor expressed his belief that the Commonwealth's "efforts are appropriate to give the public confidence that the blasting will not place the lighthouse in jeopardy." A copy of Mayor Mitchell's September 13, 2013 letter is attached as Attachment C.

EPA has considered the blast modeling performed by the Commonwealth's consultant, the September 10, 2013 letter from the Massachusetts Clean Energy Center, the September 13, 2013 letter from New Bedford Mayor Mitchell, and your letter to EPA

dated September 6, 2013. **In light of this modeling and the actions that will be taken to avoid effects to historic properties, in accordance with 36 CFR 800.4, EPA has concluded that approval of the Second Modification will not affect historic properties.** If you have any questions regarding this finding, contact LeAnn Jensen at (617) 918-1072.

It is EPA's understanding that the Commonwealth, through the Massachusetts Executive Office of Energy and Environmental Affairs and the Massachusetts Clean Energy Center, has a strong interest in proceeding with the modifications to the Project, including the blasting program, to meet project timelines. Therefore, we would appreciate it if you could inform us at your earliest convenience whether you object to our determination, and would be happy to meet with you and the Commonwealth later this week to discuss any remaining issues.

In any event, in accordance with the Advisory Council regulation at 36 CFR 800.4, please respond within 30 days of your receipt of this letter. If we do not hear from you within this time period, we will assume that you concur with the Agency's finding and will proceed with our final decision concerning the Commonwealth's Second Modification, subject to the provisions contained in 36 CFR Section 800.13 for treating historic properties discovered during implementation of the Project.

Sincerely,

James T. Owens, III
Director, Office of Site Restoration and Remediation

Attachments

cc: Bettina Washington, Wampanoag Tribe of Gayhead (Aquinnah)
Ramona Peters, Mashpee Wampanoag Tribe
Victor Masone, Massachusetts Bureau of Underwater Archaeological Resources
Gary Davis, Jr., Executive Office of Energy and Environmental Affairs
Chet Myers, Apex Companies, LLC
LeAnn Jensen, U.S. Environmental Protection Agency, Region 1

Attachment A

Memo

To: Chet Meyers, John McAllister (Apex Companies, LLC)

From: Diane Baxter, David Carchedi (GZA GeoEnvironmental, Inc.)

File: 33734.04 Mem-05

Date: September 11, 2013

Re: Blasting Impacts on the Palmer Island Lighthouse
New Bedford Marine Commerce Terminal
New Bedford, Massachusetts

GZA GeoEnvironmental Inc. (GZA) is pleased to provide you with this memorandum on blasting impacts to the Palmer Island Lighthouse.

Blasting Limitations

Blasting limitations have been imposed on the Contractor for this project in the Blasting Specification to limit the impacts of blasting on adjacent structures. The limits are based on the Massachusetts Building Code, 527 CMR 13.00 Explosives. The code requires that vibrations, measured in Peak Particle Velocity (PPV) in units of inches per second, fall below levels recommended by the U.S. Bureau of Mines as follows:

- Historic Structures PPV<0.5 in/sec
- Residential Structures in Massachusetts PPV<0.8 in/sec
- Other Structures PPV<2.0 in/sec

Based on years of data, it has been shown that vibrations measured below the readings listed above are unlikely to result in damage to the respective structures.

GZA's Blasting Impacts Report

GZA has performed an extensive study on the impacts of blasting for this project on adjacent structures (GZA Report, Assessment of Blasting Impacts to the New Bedford-Fairhaven Hurricane Barrier, New Bedford Marine Commerce Terminal, New Bedford, Massachusetts, October 2012, revised August 2013). As a result, we are able to produce estimates of the anticipated vibrations for structures that are located various distances from the nearest blasting location. The equation utilized to determine the potential vibration impact is:

'PPV' = 'H' X ['D' / (SQUARE ROOT OF 'W')]^ 'B'

Where:

'PPV' = The Peak Particle Velocity in inches per second.
'H' = The Peak Particle Velocity intercept in inches per second (as formulated from historic blasting data from the United States Bureau of Mines)

'B' = The Slope Factor (as formulated from historic blasting data from the United States Bureau of Mines)
'W' = Weight of charge per delay in pounds
'D' = Distance in feet to the structure in question.

In this case, the following values were utilized:

H = 50 (the upper range of historic United States Bureau of Mines data)
B = -1.6 (the upper range of historic United States Bureau of Mines data)
W = 200 pounds, the maximum charge evaluated.
D = 1,350 feet, the distance from the nearest charge to the Palmer's Island lighthouse.

The results of this analysis indicates that the maximum anticipated vibration at the Palmer's Island lighthouse is approximately 0.034 in/sec. This value is approximately 15 times lower than the recommended level issued by U. S. Bureau of Mines and in the MA Building Code (0.5 in/sec) and included in the Contractor's requirements. As a result, we feel confident that the vibrations associated with blasting will not have an impact on the Palmer's Island lighthouse.

Attachment B

MASSACHUSETTS CLEAN ENERGY CENTER

55 Summer Street, 9th Floor
Boston, MA 02110
P (617) 315-9355 · F (617) 315-9356
info@masscec.com · www.masscec.com

September 10, 2013

Carl Dierker
General Counsel
U.S. Environmental Protection Agency, Region 1
5 Post Office Square
Boston, MA 02109-3912

Carl,

Please find below responses and answers to each of the comments and questions you submitted via email to MassCEC on September 6, 2013. Additionally, we were forwarded a September 6, 2013 letter from the Massachusetts Historic Commission to EPA on potential impacts to the Palmer's Island Lighthouse, and we have taken the liberty of including a response into this communication.

Response to EPA Comments/Questions from email dated 9/6/2013:

1. EPA Comment/Question: MassCEC's response to our question related to timing (see pages 4-5 of the MassCEC letter) states that all the blasting work will end on Nov. 15. It is important that MassCEC understand and acknowledge condition 2 in our June 13, 2013 letter (which we have also included as condition 3 in the letter we sent today to NMFS reinitiating consultation). Specifically, we have stated that EPA will need to evaluate the effects of any blasting that takes place in one area in September before we can agree to allow further blasting before November 15.

   Response: MassCEC's letter of August 28, 2013 states that MassCEC anticipates that, due to thicker rock, blasting would take two months rather than one. MassCEC also indicated that if blasting began on September 15, 2013, it could conclude by November 15, 2013. However, given that MassCEC and USEPA are still working together on the blasting permit, and given that the contractor will need several weeks to mobilize equipment prior to blasting, it is likely that blasting will extend beyond November 15, 2013. MassCEC recognizes that it cannot blast after the January 15, 2014 time of year restriction. Additionally, MassCEC understands and acknowledges Condition 2 of EPA's June 13, 2013 letter which states that EPA will carefully evaluate the effects of the blasting that takes place in the first area (the bulkhead area) prior to allowing further blasting before November 15th.

2. EPA Comment/Question: It would be helpful if MassCEC would confirm that, in addition to installing silt and bubble curtains at the blast sites, it intends to install

an additional silt curtain north of the blast sites to deflect migrating juvenile anadromous fish from any blasting before Nov. 15, as we stated in our June 13 letter (condition 3).

Response: MassCEC confirms that it will comply with Condition #3 from EPA's June 13th letter on silt/bubble curtains for blasting that would occur prior to November 15, 2013.

3. EPA Comment/Question: It would be helpful if MassCEC would identify where the additional blasted rock will be disposed.

Response: MassCEC has directed its contractor to excavate the blasted rock, transfer it to the land side, and process the blasted rock so that it can be utilized in the construction of the New Bedford Marine Commerce Terminal (NBMCT). MassCEC intends to utilize the blasted rock onsite.

4. Please explain why the substantive requirements of State explosive regulations 527 CMR Section 13 which regulate the transportation, storage and handling of explosives on land and vessels, have not been identified as an ARAR and not included in the State's ARARs letters. Alternatively, please revise your ARARs analysis and provide an addendum including these regulations. (There appears to be an intent to comply with these regulations since Section 12 of the Blasting Plan references these regulations and the blasting specs (1.1.1) also require compliance with these regulations.)

Response: The previous ARARs analysis and the Commonwealth's ARARs letters did not list 527 CMR Section 13 because MassDEP was aware at the time it generated the letter that the contractor would be required to fully comply with this regulation. Instead of handling this as an ARARs issue, MassCEC and the Contractor shall comply with the State explosive Regulations 527 CMR 13, and will be obtaining all necessary permits associated with 527 CMR 13.

5. EPA Comment/Question: EPA has reviewed the submitted Operational Blasting Plan

1) DOT licenses/permits (section 2.2.1):
a) Explosives Supply Inc.
i) Certificate of Registration expired 6/30/13
ii) Hazardous Material Safety Permit expired 4/30/13
b) John Joseph Inc.
i) Certificate of Registration expired 6/30/13
ii) Hazardous Material Safety Permit expired 6/30/12 or 2013
iii) Truck Annual Inspections expired; last performed for all trucks on 11/25/13 (Section4.1.3)

Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped "*revise and resubmit*", with each of the

highlighted points, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

6. Section 4.1.2 is missing the transportation route from explosives supplier to Fish Island.

   Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped "*revise and resubmit*", with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

7. Section 5.4 and 5.6 will need updating; reflects EPA conditions in June and July letters with 50lb charge per delay limit.

   Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped "*revise and resubmit*", with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

8. Section 12.2.1 cites 527 CMR Section 13 but the actual text of the regulations is missing.

   Response: MassCEC, through its resident engineer, will return the Operational Blast Plan to Cashman-Weeks NB stamped "*revise and resubmit*", with this point highlighted, amongst other technical comments, and require the contractor to update the Plan prior to the initiation of blasting.

Finally, the Massachusetts Historic Commission forwarded a copy of their September 6, 2013 letter to USEPA on the Palmer's Island Lighthouse located in New Bedford Harbor, and we wanted to provide the following information for your consideration.

MassCEC fully appreciates and realizes the importance of the Palmer's Island Lighthouse to the local community. We are working very hard to insure that this vital landmark is protected from any impacts from this project.

As you know, USACE regulates the maximum vibrations that are allowable in association with the potential damage to adjacent structures. These values are measured in Peak Particle Velocity (or PPV) and have the units of inches per second:

- Historic Structures PPV<0.5 in/sec
- Residential Structures in Massachusetts PPV<0.8 in/sec
- Other Structures PPV<2.0 in/sec

That is, vibrations measured below the readings listed are unlikely to result in damage to the structure. We have performed extensive modeling of the blasting and have had a geotechnical engineering consultant work on analyzing the potential impacts from blasting. As a result, we are able to produce estimates of the anticipated vibrations for structures that are located various distances from the nearest blasting location. The equation utilized to determine the potential vibration impact is:

- 'PPV' = 'H' X ['D' / (SQUARE ROOT OF 'W')]^ 'B'

Where:

- 'PPV' = The Peak Particle Velocity in inches per second.
- 'H' = The Peak Particle Velocity intercept in inches per second (as formulated from historic blasting data from the United States Bureau of Mines)
- 'B' = The Slope Factor (as formulated from historic blasting data from the United States Bureau of Mines)
- 'W' = Weight of charge per delay in pounds
- 'D' = Distance in feet to the structure in question.

In this case, the following values were utilized:

- H = 50 (the upper range of historic United States Bureau of Mines data)
- B = -1.6 (the upper range of historic United States Bureau of Mines data)
- W = 200 pounds, the maximum charge evaluated by our geotechnical consultant.
- D = 1,350 feet, the distance from the nearest charge to the Palmer's Island lighthouse.

The result of this analysis indicates that the maximum anticipated vibration at the Palmer's Island lighthouse is approximately: 0.034 in/sec. This value is approximately 15 times lower than the recommended level issued by USACE. As a result, we feel confident that the vibrations associated with blasting will not have an impact on the Palmer's Island lighthouse.

Nevertheless, we have a robust monitoring program for the lighthouse. In partnership with the New Bedford Harbor Development Commission, we have completed an extensive pre-blast photography and video of the Palmer's Island Lighthouse to document pre-blasting conditions. Additionally, we are committed to:

- A pre-construction structural review of the Lighthouse.
- Real-time measurement of the actual vibrations generated during blasting to confirm the results of the modeling; and
- Post-blast photography and video of the Lighthouse to document post-blasting conditions.

MassCEC is fully engaged on the importance of the Palmer's Island Lighthouse and believe the actions we have committed to will insure the integrity of this historic structure.

As blasting is the most critical path activity for the project, it is imperative that we move forward with a final modification as soon as possible.

Thank you,

Bill White

Bill White
Director, Offshore Wind Sector Development

Attachment C

CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

September 13, 2013

James T. Owens
Director
Office of Site Restoration & Remediation
US Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109

Re: Palmer's Island Lighthouse

Dear Mr. Owens:

The Massachusetts Clean Energy Center recently brought to our attention correspondence from the Massachusetts Historical Commission contending that underwater blasting associated with the South Terminal project poses a risk to the structural integrity of the Palmer's Island Lighthouse. I write to express that as the steward of the lighthouse, I am satisfied with MassCEC's determination, which was based on an independent engineering study, that the blasting poses no such risk.

We understand the nature of MHC's concerns. The lighthouse is near and dear to New Bedford. It has stood for over 150 years, and played an indispensable role in ensuring the safe passage of New Bedford's world renown whaling fleet in the 19th Century. The iconic structure in fact is depicted on the City's seal. Over the last several years, the City has devoted significant effort and resources to providing public access and cleaning up Palmer's Island itself. The lighthouse and the island figure prominently in our long term recreation and tourism plans. We take any threat to the lighthouse seriously.

We have reviewed the engineering evaluation performed by GZA GeoEnvironmental, Inc., a reputable engineering firm, which is attached to this letter. The report unequivocally indicates that the anticipated vibrations from the blasting and other associated construction activities is much lower than any level that would cause damage to the structure. As noted in the report, the maximum anticipated vibration at the lighthouse is approximately 0.034 in/sec. This is approximately *fifteen times lower* than the recommended level established by United States Bureau of Mines and the Massachusetts Building Code (0.5 in/sec). Based on this finding the report concludes that "we feel confident that the vibrations associated with blasting will not have an impact on the Palmer's Island lighthouse."

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To be doubly sure to avoid damage to the lighthouse, MassCEC intends to undertake a rigorous underwater monitoring of the effects, if any, of the blasting. Monitoring activities will include an assessment by a structural engineer during and after blasting as well as real-time vibration monitoring of the structure. The City believes that these efforts are appropriate to give the public confidence that the blasting will not place the lighthouse in jeopardy.

We appreciate your attention to this matter and the larger project that is the New Bedford Marine Commerce Terminal, which, as you know, is a critical infrastructure project for the City and the Commonwealth alike.

Sincerely,

Jon Mitchell

Attachment 6

Chet Myers

From:	Bachand, Michael L NAE <Michael.L.Bachand@usace.army.mil>
Sent:	Thursday, August 14, 2014 8:06 AM
To:	Bill White
Cc:	Chet Myers
Subject:	RE: NBMCT Blasting Request (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Chet,
Based on my discussions yesterday with internal staff. USACE will issue a communication notifying you and EPA of our acceptance of the additional blasting. The only point needing clarification is how (email or letter) we will do it to satisfy our internal needs.

Mike

Michael L. Bachand, P.E.
Levee Safety Program Manager

United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, Massachusetts 01742
Office: 978.318.8075
Cell: 978.551.1656

-----Original Message-----
From: Bill White [mailto:bwhite@MassCEC.com]
Sent: Thursday, August 14, 2014 7:44 AM
To: Bachand, Michael L NAE
Cc: 'Chet Myers'
Subject: [EXTERNAL] NBMCT Blasting Request

Mike,

Thanks for taking the time to speak with Chet and I yesterday. Let us know your timeline for a communication from the USACE. We plan to make a submission the EPA today.

Many thanks,

Bill

Bill White
Director, Offshore Wind Sector Development Massachusetts Clean Energy Center
63 Franklin Street, Boston, MA 02110
(617) 315-9330

Catri, Cindy

From: Chet Myers <cmyers@apexcos.com>
Sent: Friday, August 15, 2014 9:08 AM
To: Dierker, Carl; Lederer, Dave; Lombardo, Ginny; Stanley, Elaine; Williams, Ann; Colarusso, Phil; Tisa, Kimberly; Catri, Cindy; Marsh, Michael
Cc: Alicia Barton; Jay Borkland; Eric Hines (ehines@lemessurier.com); Christopher Morris; Christen Anton; paul.craffey@state.ma.us; Bill White
Subject: FW: Additional Blasting - New Bedford Marine Commerce Terminal (UNCLASSIFIED)

Hi Carl,

Attached please find additional follow-up information from USACE applicable to yesterday's submittal.

Thanks,

Chet Myers
Apex Companies, LLC

O) 617-728-0070 x113 M) 617-908-5778

-----Original Message-----
From: Bachand, Michael L NAE [mailto:Michael.L.Bachand@usace.army.mil]
Sent: Friday, August 15, 2014 8:40 AM
To: Chet Myers
Cc: Michalak, Scott C NAE; Bill White; Eric Hines (ehines@lemessurier.com); Gregory Dolan; Diane Baxter; David Carchedi; Susan Nilson; Jay Borkland; Christopher Morris (cmorris@MassCEC.com); Garneau, Alex R NAE; Alexander Haag; Michalak, Scott C NAE; Keegan, Michael F NAE; Fedele, Francis J NAE; Macpherson, John C NAE
Subject: RE: Additional Blasting - New Bedford Marine Commerce Terminal (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Chet,
USACE has reviewed the attached additional information and has no objections to the additional blasting work provided the work is done following the same protocols established in our previous 33 USC 408 approval letter. Please coordinate with USACE operations staff at the New Bedford Hurricane Barrier.

USACE will issue a formal approval letter, however, please use this email as an acceptance until the letter arrives. Unfortunately, I am out of the office today at meetings and then off next week. The official letter will not be signed until the week of 8/25, at the earliest. Should you have any questions, please feel free to contact me on the mobile at the number below.

Regards

Michael L. Bachand, P.E.
Levee Safety Program Manager

United States Army Corps of Engineers
New England District
696 Virginia Road

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Appendix C

EPA's January 22, 2014 Approval with Conditions for the Substitution of Source Material for Mitigation Measures

Catri, Cindy

From: Catri, Cindy
Sent: Wednesday, January 22, 2014 12:25 PM
To: Bill White; Chet Myers; Karen.k.adams@usace.army.mil
Cc: Sneeringer, Paul J NAE; Christopher Morris; Christen Anton; Eric Hines; Gregory Dolan; John McAllister; Dierker, Carl; Colarusso, Phil; Marsh, Michael; Williams, Ann; Lombardo, Ginny; Stanley, Elaine; Lederer, Dave; LeClair, Jacqueline; Tisa, Kimberly
Subject: OU-3 Material

Bill,

Thank you for your submittal dated January 16 that responded to EPA's questions sent to you in an email dated January 15. EPA has reviewed your responses and the data provided as well as the relevant data EPA gathered during design and construction completed to date on the Superfund Lower Harbor CAD cell. After conducting this review, EPA approves MassCEC's request to use clean material dredged from the bottom of the Superfund lower harbor CAD cell as capping material for mitigation in the OU3 pilot cap intertidal and subtidal areas subject to the following conditions:

1. The clean material from the bottom of the Superfund lower harbor CAD cell is used only for mitigation capping activities in the intertidal and subtidal areas of the Superfund OU3 pilot cap as represented on the map in Attachment 1 of MassCEC's January 16 response;

2. MassCEC is responsible to meet the objectives of the Final Mitigation Plan. As such, the clean material from the bottom of the Superfund lower harbor CAD cell must exhibit the physical and chemical characteristics to support the intertidal creation and subtidal enhancement uses described in the Final Mitigation Plan for the South Terminal Final Determination. Such uses include enhancing spawning and foraging areas for winter flounder, scup, black sea bass and windowpane flounder, enhancing foraging area for avian wildlife, including the Common Tern and the Roseate Tern, and creating horseshoe crab spawning habitat;

3. MassCEC provides to EPA a newly revised table of Volume of Material to be Dredged (see Table 1 of EPA's Second Modification to the Final Determination), as well as a revised Final Mitigation Plan or a letter documenting revisions to the plan or replacement pages as appropriate to reflect the approved change;

4. MassCEC continues to comply with the Final Mitigation Plan including obligations for maintenance (Section 8), performance standards (Section 9) and Monitoring (Section 10) which apply to the OU3 mitigation area, as revised by the use of the Superfund lower harbor CAD material; and

5. For proper disposal of the material dredged from the terminal channel and the Gifford Street boat basin which was originally identified for use as capping material for the OU3 pilot cap mitigation area identified in Attachment 1 of the January 16 response, MassCEC will work with all appropriate parties, including the U.S. Army Corps of Engineers, to either secure a new permit for offshore disposal, modify the existing permit, or dispose of the material at an appropriate land-based facility.

Please be aware that EPA anticipates work on the Superfund Lower Harbor CAD cell will restart tomorrow, January 23, and that the clean material dredged from the bottom is currently scheduled for offshore disposal. Please contact Dave Lederer at (617) 918-1325 as soon as possible to coordinate use of this material for the above approved mitigation work.

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Appendix D

EPA's March 7, 2014 Approval with Conditions for a Single Blasting Event

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

March 7, 2014

Via electronic mail bwhite@MassCEC.com and
First-Class Mail

Bill White, Director
Offshore Wind Sector Development
Massachusetts Clean Energy Center
63 Franklin Street
Boston, MA 02110

RE: Request for Additional Blasting Event
New Bedford Harbor Superfund Site State Enhanced Remedy – South Terminal Project

Dear Mr. White:

EPA has reviewed MassCEC's request dated February 28, 2014 for one additional blasting event beyond the blasting authorized in EPA' Second Modification of the South Terminal Project issued on September 30, 2013. Because the requested blasting event will occur after January 15, the date EPA identified in its Second Modification after which no blasting was allowed in order to protect various aquatic resources, EPA has also coordinated with the National Marine Fisheries Services (NMFS) concerning this request.

In its request, MassCEC describes the additional action as one blasting event to be conducted in an area already authorized for blasting, located immediately along the edge of the terminal bulkhead. The area of the rock to be blasted is approximately 50 feet in length, ranging in width from approximately 2 to 10 feet, and approximately 16 feet thick at its thickest point. It is currently estimated that the total volume of the rock is approximately 125 cubic yards. It is anticipated that the blast will require approximately six to 12 holes, and that each hole would be loaded to approximately 32 pounds per delay. The request goes on to state that this action is necessary because the prior authorized blasting did not fully address a small portion of rock in this area that must be removed before construction of the bulkhead can continue as scheduled within 15 days of the date of the request.

To accommodate MassCEC's schedule, EPA expedited its review and coordination with NMFS. EPA and NMFS reviewed the February 28, 2014 submittal as well as blasting reports containing monitoring results submitted by MassCEC's contractor.

After conducting its review and coordination with NMFS, EPA has determined that the proposed blast is smaller than the series of blasts that MassCEC conducted in the same general area over the winter. Those previous blasts were conducted in accordance with requirements for a fish deterrent system, a fisheries observer on site, and monitoring for fish pre- and post-blasting. No significant amount of fish mortality was observed as a result of those blasts.

This blast will occur during the spawning season of winter flounder. To ensure compliance with Essential Fish Habitat (EFH) under Magnuson-Stevens and the Fish and Wildlife Coordination Act (FWCA), the fish deterrent system, fisheries observer and monitoring plan must be in place. Additionally, we believe that risk to winter flounder from blasting is limited to a very small area around the blast zone, due to the absence of a swim bladder in this demersal species. Thus, EPA believes that additional controls are not warranted and that we have fulfilled our obligation to minimize impacts to EFH. Because the blast will occur prior to the typical time period for spring migration of Atlantic sturgeon, an identified endangered species, EPA believes a re-initiation of the Endangered Species Consultation is not warranted, as this activity would not pose any risk above and beyond what had been considered in the prior consultations with NMFS. By email dated March 7, 2014, NMFS has concurred with EPA's conclusions and concluded that no further consultation or coordination is necessary.

EPA has also reviewed the vibrations recorded in the blasting reports taken pursuant to the Vibration Monitoring Program and notes that all readings from the winter blasting events were below the allowable limits for historic, residential and other structures (including the hurricane barrier) that were identified in EPA's Second Modification document. Because this is a smaller event conducted in an already approved location, EPA does not believe this blasting event will exceed those allowable levels; however, the same monitoring program must be in place.

As a result of its review and after coordinating with NMFS, EPA determines that this is a minor change to its September 30, 2014 Second Modification for the South Terminal Project and that the requested additional blasting event continues to meet the substantive requirements of all identified ARARs in EPA's Second Modification of the South Terminal Project as long as the following conditions are met:

1. The additional blasting event remains as described in MassCEC's February 28, 2014 letter (including a single blast event, with 6-12 boreholes in one shot with delays, with a maximum total explosive charge of 32 lb. per borehole) and includes a minimum 25 millisecond delay between charge detonations;

2. For compliance with TSCA, all contaminated material is removed and properly disposed in accordance with EPA's prior determinations for South Terminal;

3. Implement all mitigation and monitoring measures required for prior blasting events as described in EPA's Second Modification to protect aquatic resources

including water quality monitoring, the fish deterrent system, a fisheries observer on site, and monitoring for fish pre- and post-blasting;

4. Implement all impact parameter and monitoring measures required for prior blasting events as described in EPA's Second Modification for impact on land structures and in water structures, including the historic Palmer Light Station and the hurricane barrier;

5. Implement all measures for public notice to landowners and mariners required for prior blasting events in accordance with EPA's Second Modification; and

6. MassCEC provides EPA with a post-blasting report similar to the weekly blasting reports provided from prior blasting events.

While this requested work represents only a minor change to its Second Modification for the South Terminal Project, EPA will post a fact sheet on its New Bedford Harbor Superfund Site web page http://www2.epa.gov/new-bedford-harbor summarizing the work.

If you have any questions, please contact Ginny Lombardo at (617) 918-1754 or Cynthia Catri at (617) 918-1888.

Very truly yours,

FOR James T. Owens III, Director
Office of Site Remediation and Restoration

cc: via electronic mail
dierker.carl@epa.gov
williams.ann@epa.gov
colarusso.phil@epa.gov
marsh.mike@epa.gov
catri.cynthia@epa.gov
lombardo.ginny@epa.gov

Third Modification to EPA's Final Determination for the South Terminal Project
New Bedford State Enhanced Remedy

Appendix E

Second Modification to November 19, 2012 TSCA § 761.61(c) Determination for
New Bedford South Terminal Marine Facility

Second Modification to November 19, 2012 TSCA § 761.61(c) Determination for New Bedford South Terminal Marine Facility

In its November 19, 2012 Toxic Substances Control Act 40 CFR § 761.61(c) Determination (November 19, 2012 TSCA Determination), EPA found that disposal of PCB-contaminated sediments containing less than ("<") 50 parts per million (ppm) into CAD cell #3 and removal of greater than (">") 25 ppm with capping of less than or equal to ("≤") 25 ppm PCB-contaminated soils on certain upland areas would not pose an unreasonable risk to human health or the environment provided certain conditions were met. This November 19, 2012 TSCA Determination was based on information set forth in the Administrative Record for the New Bedford Harbor South Terminal Project.

Subsequently, the November 19, 2012, TSCA Determination was modified on September 30, 2013 ("the First Modified TSCA Determination"), to include removal of an additional 11,000 cubic yards of PCB-contaminated sediment from the navigational channel with disposal of these sediments into CAD cell #3 and to increase the final maximum PCB concentration allowed onsite in upland areas of the main facility from ≤ 25 ppm to < 50 ppm without the need for confirmatory sampling. EPA found that these activities would not pose an unreasonable risk to human health or the environment provided certain conditions were met. Inclusion of similar upland remediation of all or a portion of the Radio Tower parcel was requested at that time; however, the information provided was insufficient for EPA to include the Radio Tower parcel in the First Modified TSCA Determination. The First Modified TSCA Determination was based on information set forth in the Administrative Record for the Second Modification of EPA's Determination for the New Bedford Harbor South Terminal Project.

On July 25, 2014, the Commonwealth of Massachusetts, through the Massachusetts Clean Energy Center, ("the Commonwealth") submitted a request for a second modification to the November 19, 2012 TSCA Determination to include removal of an additional 30,000 cubic yards of PCB-contaminated sediments from the navigational channel with disposal of these sediments into CAD cell #3. Documents dated July 25, 2014, August 14, 2014, and September 12 and 25, 2014 were provided in support of this requested second modification. More specifically, 30,000 cubic yards of PCB-contaminated sediments with < 50 ppm would be generated during the expansion of the navigational channel by 25 feet to the east and 50 feet to the west to a depth of -30 MLLW to -32 MLLW represented by the red, orange, dark blue and light blue areas shown in the attached map (see Attachments 1 and 2).

In its request, the Commonwealth has indicated that inclusion of these additional sediments into CAD cell #3 would not require further expansion of CAD cell #3 as the additional capacity would be generated by self-compression of the sediments within CAD cell #3, and a reduced volume of material was disposed in CAD cell #3 than was previously anticipated.

In addition, the Commonwealth has submitted and EPA has approved a work plan to address PCB contamination identified within a portion of the Radio Tower parcel as depicted on Attachment 3. Under the approved work plan, identified PCBs with greater than or equal to ("≥") 50 ppm would be removed and PCB concentrations of < 50 ppm would remain in-place beneath a minimum three-foot thick Dense Graded Aggregate cap. In addition, the parcel would be changed from ancillary use for equipment storage to heavy load use. Based on the characterization sampling conducted and the proposed excavation procedures, confirmatory sampling was not proposed. The approved final Remedial Work Plan for PCB Remedial Activities and Soil Management Plan for the Radio Tower Parcel, dated September 27, 2014, including its attachments, supports this proposed plan to address material with PCB concentrations ≥ 50 ppm.

Consistent with 40 CFR § 761.61(c), I have reviewed these documents regarding the proposed work and have determined that: disposal of these additional < 50 ppm PCB-contaminated sediments into CAD cell #3; and excavation and off-site disposal of ≥ 50 ppm PCB-contaminated soils from the portion of the Radio Tower parcel depicted on Attachment 3 of this Second Modified TSCA Determination with onsite disposal of upland soils with PCB concentrations < 50 ppm beneath a minimum three-foot thick Dense Graded Aggregate cap, will not pose an unreasonable risk of injury to health or the environment provided the following conditions are met:

1. Unless otherwise modified below by this Second Modified TSCA Determination, continuing compliance with all conditions contained in the November 19, 2012 TSCA Determination (Appendix J(1) of the Final Determination) as modified by the First Modified TSCA Determination (Appendix D of the Second Modification to the Final Determination).

2. Remediation of identified PCB-contaminated soils with concentrations ≥ 50 ppm and other site remediation work shall be conducted in accordance with the EPA-approved Remedial Work Plan for PCB Remedial Activities and Soil Management Plan for the Radio Tower parcel dated September 27, 2014 and its attachments.

3. Identified PCB-contaminated soils with greater than or equal to ≥ 50 ppm as depicted on Attachment 3 shall be excavated to the depth and extent as depicted on Attachment 4 and shall be disposed off-site at a TSCA-approved disposal facility or a RCRA hazardous waste landfill in accordance with 40 CFR § 761.61(a)(5)(i)(B)(*2*)(*iii*). Confirmatory sampling shall not be required.

4. A final grading plan for the Radio Tower parcel shall be submitted to EPA for review and approval prior to initiation of grading activities on said parcel.

5. Maintenance of the ground surfaces shall be incorporated into the long-term monitoring plan to be established for the Main Terminal Facility (Condition 6 of November 19, 2012 TSCA Determination).

This Second Modification to the November 19, 2012 TSCA Determination is based on the information contained in the July 25, 2014, August 14, 2014, and September 12 and 25, 2014 submissions, and the September 27, 2014 final work plan and associated attachments. Any proposed change(s) to work described in these submissions shall be provided to EPA. Upon review, EPA may find it necessary to revise this Second Modification to the November 19, 2012 TSCA Determination or issue a new or further modified TSCA determination based on the proposed change(s).

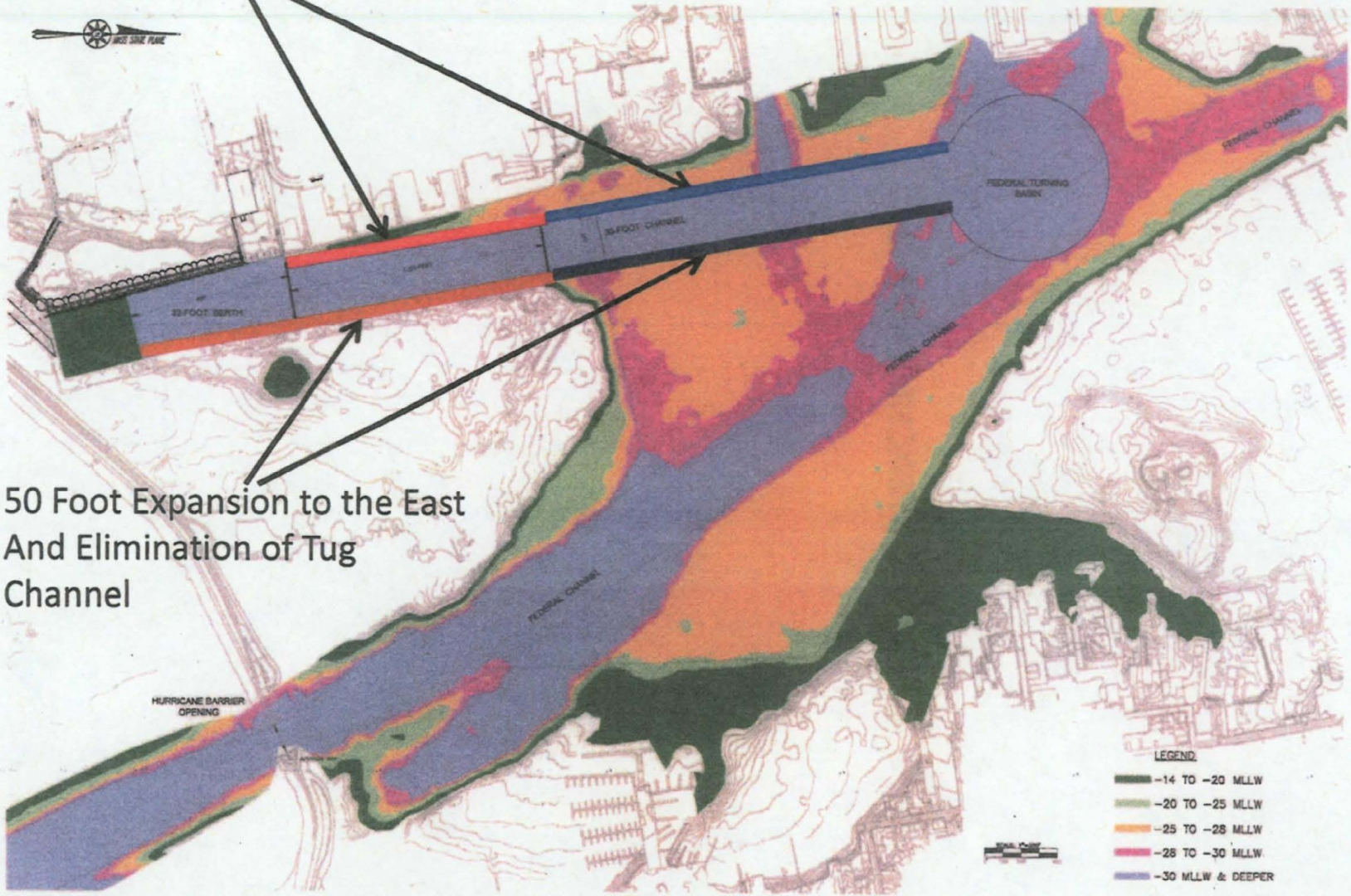
James T. Owens, III
Director, Office of Site Remediation & Restoration

9/30/14
Date

Attachment 1: Map of Navigational Channel Expansion Area
Attachment 2: Map of Navigational Channel PCB Concentrations
Attachment 3: Map Radio Tower Parcel DGA-10 Area
Attachment 4: Map of DGA-10 Excavation Depths

MASSACHUSETTS CLEAN ENERGY CENTER

25 Foot Expansion to the West



50 Foot Expansion to the East And Elimination of Tug Channel

Attachment 1.

Attachment 2.

Federal Maneuvering Area Voronoi Cell Distribution and PCB Concentration			
Voronoi Cell	Volume (V)%	Concentration (Conc.)	V%*Conc.
1	7.331	8	0.59
2	10.682	14	1.50
3	49.059	2	0.98
4	10.261	3	0.31
5	3.008	13	0.39
6	3.999	7	0.28
7	8.653	14	1.21
8	1.232	18	0.22
9	5.774	5.9	0.34
		SUM of V%*Conc.	5.82
Concentration in mg/kg (1 mg/kg - 1ppm)		Average Conc.	5.82 mg/kg

Samples with a "S" designation (i.e. S-af211), affecting cells 1-8, are samples from the USEPA's "Sediment Data Collected Through April 2003" PDF document downloaded from the New Bedford Harbor Superfund website. Concentrations are listed in Total PCB's in mg/kg as provided in that document.

Concentration listed for cell 9 is the result of chemical analysis by EPA Method SW846 8082/EPA 680 Modified.

In the event of multiple samples per location, the highest concentration is shown in this table.

Voronoi Cells 9 and 10 originate from the same sample, however, because they straddle two separate dredge footprints they have been split into two voronoi cells.

Notes:

Average Total PCB concentation calculated via the following procedure:

1). Each sample location is identified in relation to the dredge footprint.

2). The midpoint lines between each sample are drawn, defining areas represented by each sample. These areas are called "Voronoi Cells".

3). The area of each Voronoi Cell within the dredge footprint is presumed to represent the proportion of the dredge volume represented by each sample location.

4). The proportion of the total volume represented by each Voronoi Cell is calculated and called "Volume (V)%".

5). The proportion of the total volume for each Voronoi Cell is multipled by the concentration of the sample associated with that cell (V%*Conc.).

6) The sum of all of the volumes times the concentrations (SUM of V%*Conc.) is the average concentration for the dredge footprint.

South Terminal Voronoi Cell Distribution and PCB Concentration			
Voronoi Cell	Volume (V)%	Concentration (Conc.)	V%*Conc.
10	3.201	5.9	0.19
11	5.342	14	0.73
12	2.379	7.9	0.19
13	2.938	20.4	0.61
14	2.958	7.7	0.23
15	3.564	7.6	0.27
16	4.127	6.7	0.28
17	0.529	4	0.02
18	2.953	2.2	0.06
19	3.799	1.5	0.06
20	3.192	8	0.26
21	0.309	1.2	0.00
22	1.343	20	0.27
23	5.197	4	0.21
24	0.112	1.4	0.00
25	1.891	2.4	0.05
26	0.149	0.5	0.00
27	3.615	8.6	0.31
28	0.505	0.91	0.00
29	3.746	6.3	0.24
30	1.651	5.3	0.09
31	2.419	17.05	0.41
32	1.765	6.4	0.11
33	1.593	6	0.10
34	2.935	3.6	0.11
35	0.020	2.7	0.00
36	1.689	5.5	0.09
37	1.683	9	0.15
38	1.726	0.26	0.00
39	1.857	0.8	0.01
40	1.684	1.1	0.02
41	1.487	1.6	0.02
42	0.002	4.9	0.00
43	1.741	0.26	0.00
44	1.651	1.22	0.05
45	1.424	10.6	0.15
46	0.671	0.23	0.00
47	1.238	0.23	0.00
48	1.551	7	0.11
49	1.487	18.6	0.28
50	1.579	0.6	0.01
51	1.654	15.3	0.25
52	1.230	14.2	0.17
53	0.271	16	0.04
54	0.007	5	0.00
55	0.032	0.29	0.00
56	1.637	6.6	0.11
57	1.639	8.19	0.13
58	1.415	9.9	0.14
59	0.032	0.53	0.00
60	1.626	3.1	0.05
61	1.471	11.7	0.17
62	1.405	5.6	0.08
63	1.456	2.4	0.03
64	1.251	9	0.11
65	1.503	15	0.23
		SUM of V%*Conc.	7.22
Concentration in mg/kg (1 mg/kg = 1ppm)		Average Conc.	7.22 mg/kg

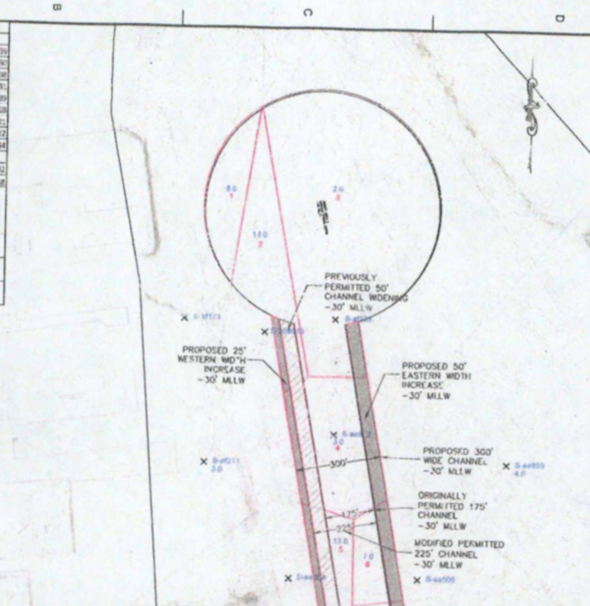
Concentrations listed above for cells 10, 12-16, 18-22, 24-45, 47-52, & 55-65 are the results of chemical analysis by EPA Method SW846 8082/EPA 680 Modified.

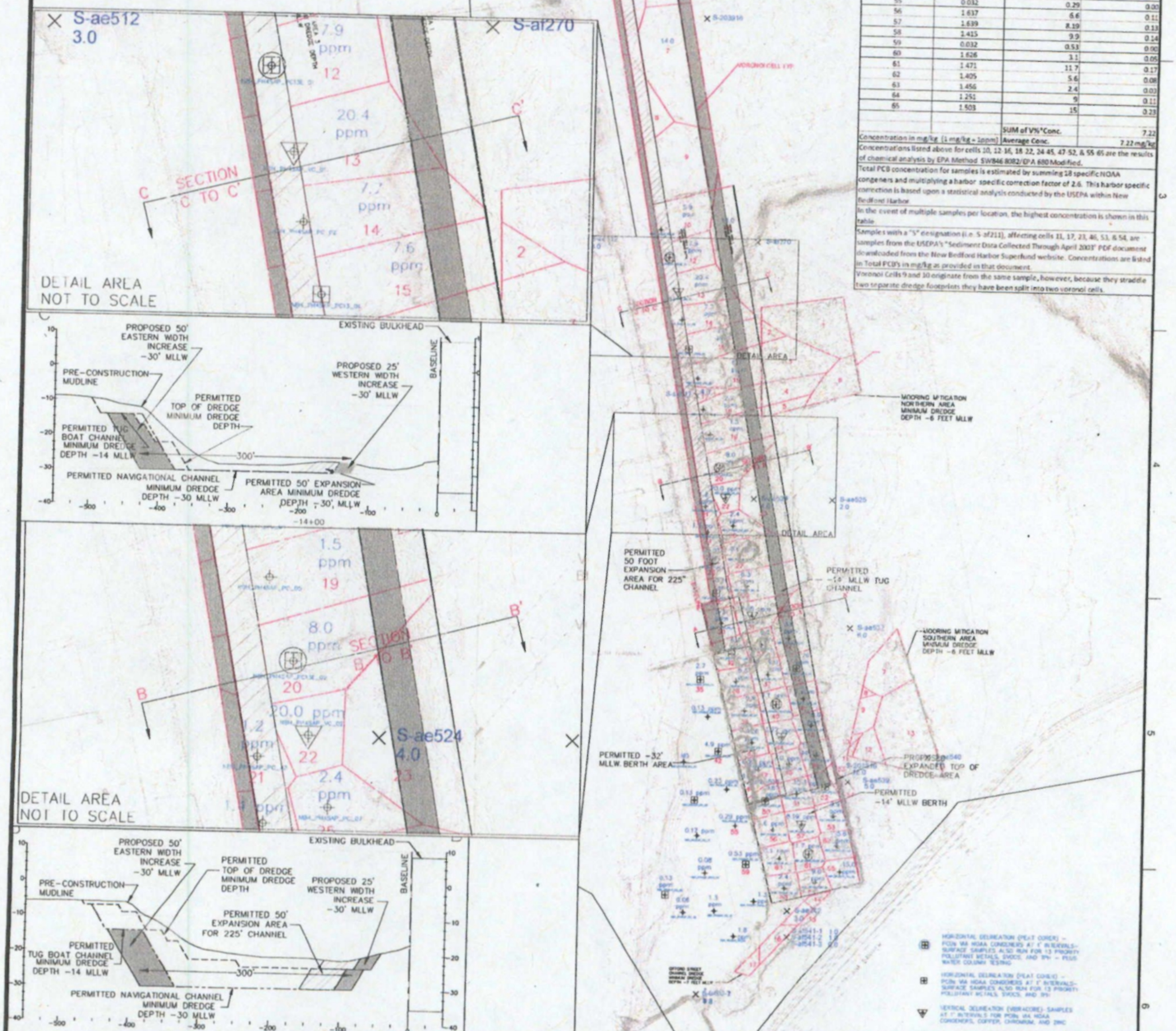
Total PCB concentration for samples is estimated by summing 18 specific NOAA congeners and multiplying a harbor specific correction factor of 2.6. This harbor specific correction is based upon a statistical analysis conducted by the USEPA within New Bedford Harbor.

In the event of multiple samples per location, the highest concentration is shown in this table.

Samples with a "S" designation (i.e. S-af211), affecting cells 11, 17, 23, 46, 53, & 54, are samples from the USEPA's "Sediment Data Collected Through April 2003" PDF document downloaded from the New Bedford Harbor Superfund website. Concentrations are listed in Total PCB's in mg/kg as provided in that document.

Voronoi Cells 9 and 10 originate from the same sample, however, because they straddle two separate dredge footprints they have been split into two voronoi cells.





NO.	DATE	DESCRIPTION	BY
1.	7/23/14	300' CHANNEL	GCD

PROJECT NO.	8980
CADD FILE	
DESIGNED BY	JER
DRAWN BY	JER
CHECKED BY	
DATE	06/5/2012
DRAWING SCALE	1"=200'

GRAPHIC SCALE

SCALE: 1"=200'

0 100 200 400

SHEET TITLE

SOUTH TERMINAL AND FEDERAL MANUEVERING AREA BATHYMETRY WITH 300 FT CHANNEL

DRAWING NO.

V-5.4A

1 OF 1

PROJECT

NEW BEDFORD MARINE COMMERCE TERMINAL

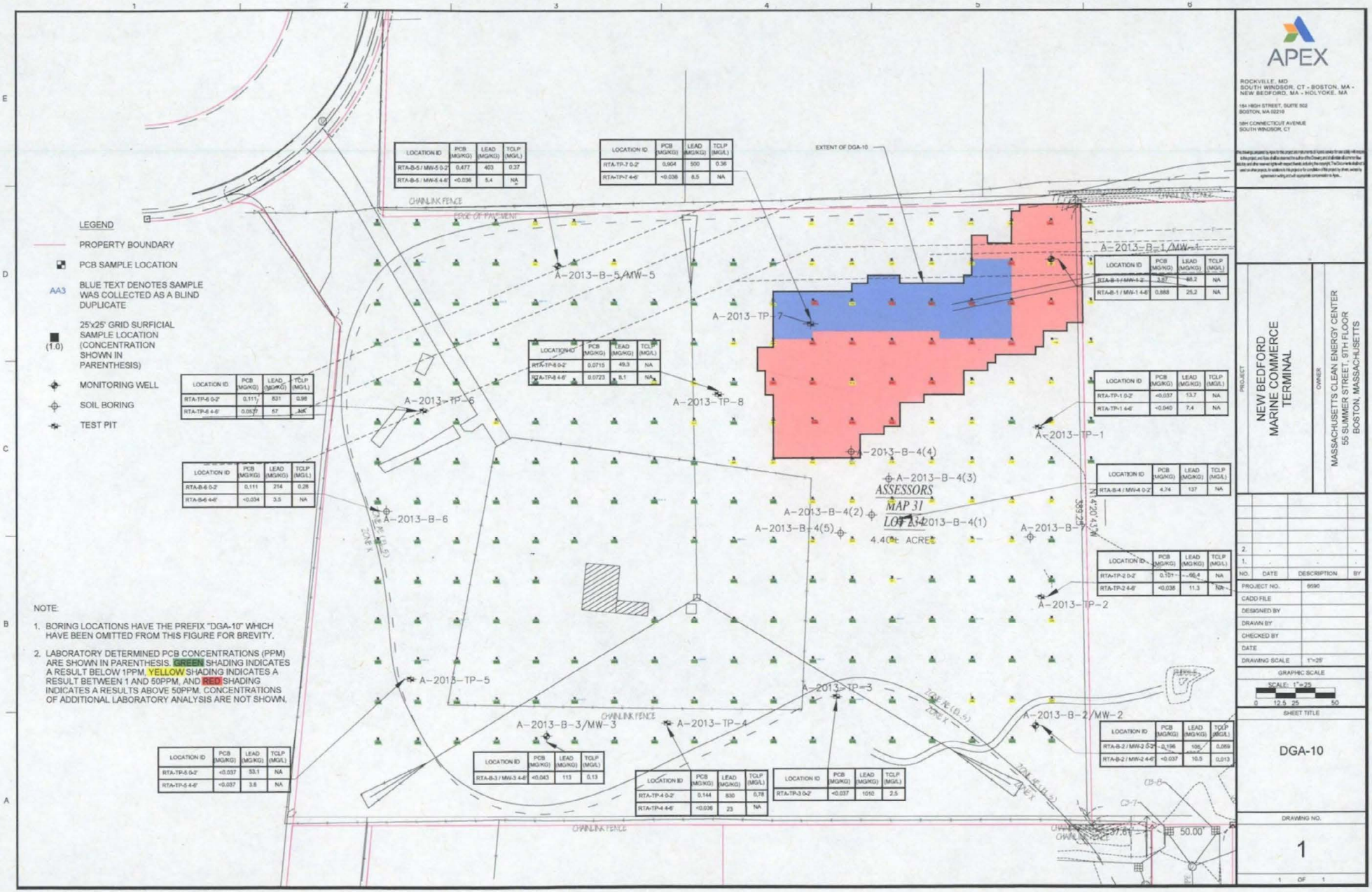
OWNER

MASSACHUSETTS CLEAN ENERGY CENTER
63 FRANKLIN STREET, 3RD FLOOR
BOSTON, MASSACHUSETTS

DRAFT

APEX

ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA -
NEW BEDFORD, MA - HOLYOKE, MA



LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-5 / MW-5 0-2'	0.477	403	0.27
RTA-B-5 / MW-5 4-6'	<0.036	5.4	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-7 0-2'	0.904	500	0.36
RTA-TP-7 4-6'	<0.036	8.5	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-1 / MW-1 0-2'	3.87	48.2	NA
RTA-B-1 / MW-1 4-6'	0.868	25.2	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-8 0-2'	0.0715	49.3	NA
RTA-TP-8 4-6'	0.0723	8.1	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-6 0-2'	0.111	831	0.98
RTA-TP-6 4-6'	0.0577	67	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-1 0-2'	<0.037	13.7	NA
RTA-TP-1 4-6'	<0.040	7.4	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-6 0-2'	0.111	214	0.28
RTA-B-6 4-6'	<0.034	3.5	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-4 / MW-4 0-2'	4.74	137	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-2 0-2'	0.101	66.4	NA
RTA-TP-2 4-6'	<0.038	11.3	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-5 0-2'	<0.037	53.1	NA
RTA-TP-5 4-6'	<0.037	3.6	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-3 / MW-3 4-6'	<0.043	113	0.13

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-4 0-2'	0.144	830	0.78
RTA-TP-4 4-6'	<0.036	23	NA

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-TP-3 0-2'	<0.037	1010	2.5

LOCATION ID	PCB (MG/KG)	LEAD (MG/KG)	TCLP (MG/L)
RTA-B-2 / MW-2 0-2'	0.196	106	0.059
RTA-B-2 / MW-2 4-6'	<0.037	10.5	0.013

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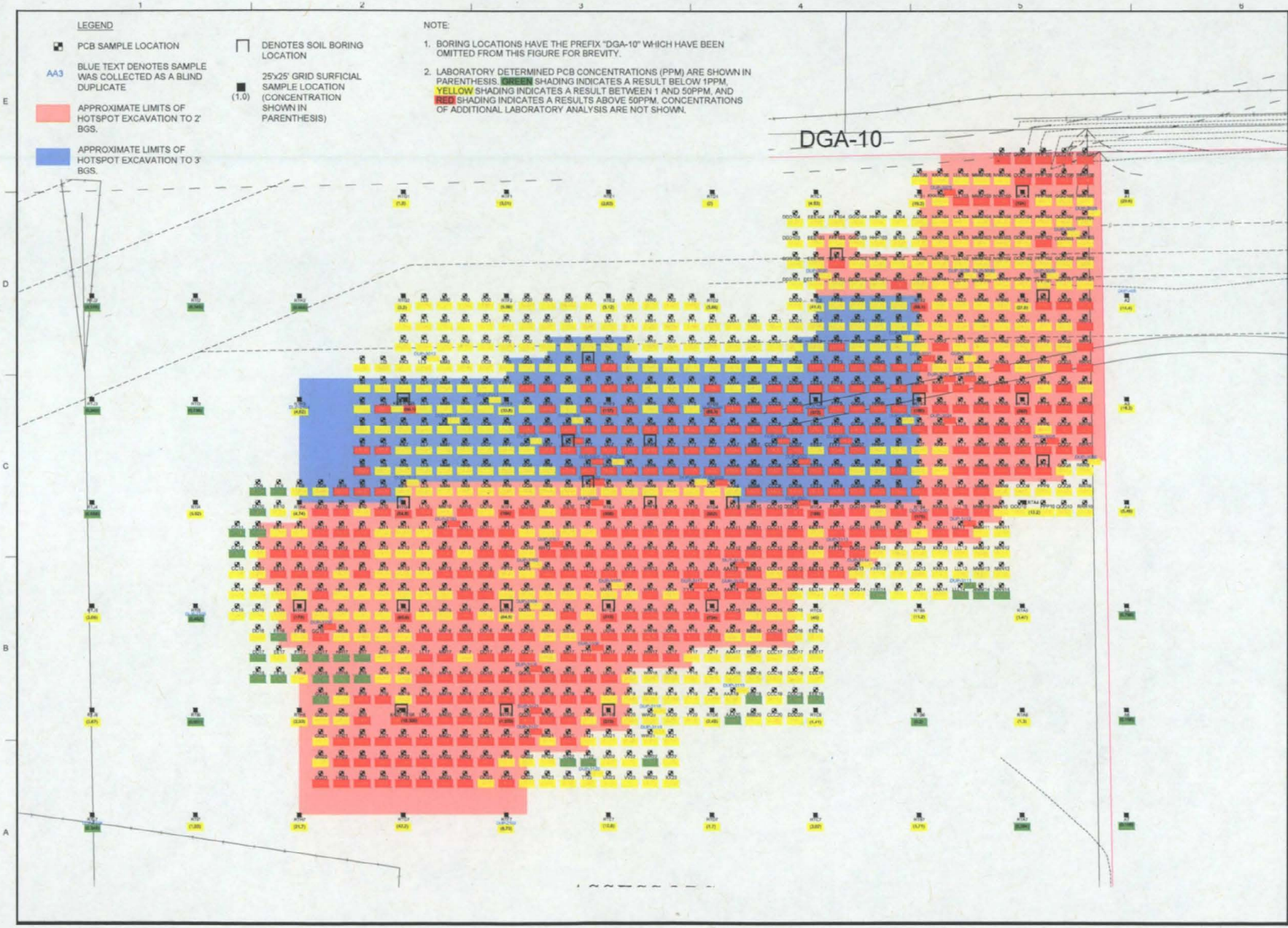
Attachment 3.



APEX

ROCKVILLE, MD
SOUTH WINDSOR, CT - BOSTON, MA - NEW BEDFORD, MA - HOLYOKE, MA

184 HIGH STREET, SUITE 502
BOSTON, MA 02210

55H CONNECTICUT AVENUE
SOUTH WINDSOR, CT

PROJECT
NEW BEDFORD
MARINE COMMERCE
TERMINAL

OWNER
MASSACHUSETTS CLEAN ENERGY CENTER
55 SUMMER STREET, 9TH FLOOR
BOSTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY
2.	.	.	.
1.	.	.	.

PROJECT NO.	6690
CADD FILE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
DRAWING SCALE	1"=10'

GRAPHIC SCALE
SCALE: 1"=10'
0 5 10 20

SHEET TITLE
DGA-10

DRAWING NO.
1

1 OF 1

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Attachment 1