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TO: CAD Cell Technical Working Group

FROM: Paul Craffey, MassDEP

SUBJECT: Navigational Dredging Work Protocols

DATE: April 13, 2012

It was requested at the last CAD Cell Technical Working Group on April 3, 20012 that the SER navigational dredging work protocols be given to the Group.

The following are the work protocols from the Work Plans and Performance Standards from the Phase 2 (1st SER projects) Navigational Dredging.

The Work Plans and Performance Standards included:

Dredge Work Plan
Debris Management Plan
Environmental Protection Plan
Contingency Plan
Silt Curtain/Oil Boom Deployment Plan
Performance Standards and ARARs

Also, there was a Health & Safety Plan done for these Navigational Dredging projects. This is not included, since these plan are contractor specific and will be done for all future projects.

DREDGE WORK PLAN

Dredging will be accomplished using an "Environmental clamshell" style bucket. The basic cut width is 70 feet. Dredging will be undertaken to various design depths of – 25, - 28 and – 30 foot, plus -2 foot of allowable over-depth. All depths will be calculated using MLLW. All maintenance material above design elevation will be dug with a "clamshell" style bucket to the design depth. Material will be placed in to a dump scow or hopper barge and taken to the dewatering location for de-watering.

The loaded scow or hopper barge will be transported from the dredging site to the de-watering site where the suspended solids will be allowed to settle out of the standing water. We propose to load 1 barge a day for 5 consecutive days. The first barge to be loaded will be the 4,000 cy dump scow. Upon arrival at the de-watering site the Environmental Consultant will take samples from inside the barge. The samples will be checked for density and water content. The barge will be sampled for 3 consecutive days at the same location and depth to determine the waiting time is necessary to achieve the release of a majority of the entrained water. Concrete pencil vibrators may be used to facilitate the release of the entrained water from the dredged sediments helping to achieve the shorter settling times. If the proposed method is proven successful a change to 12 to 24 hrs settling time is requested. The scow will be transported to the Borrow Pit and dumped according to the Work Plan. After the dump scow is emptied and the water quality standards are verified the remaining hopper scows will have the standing water pumped through a Sand Media Filter before being discharged back into the harbor. The material will then be loaded into the dump scow and discharged into the Borrow Pit according to the Work Plan. The dump scow will then be the primary barge used for the remainder of the project. The hopper barges will be tied up at the State Pier for use if needed. There will be access at all times to the discharged water from the sand media filter for the purpose of water quality testing and sampling.

If scow dumping proves not feasible due to water quality issues, the Contractor will propose to off load the material using the dredge with an "Environmental" style clamshell bucket. The material would be loaded into the hopper scows and de-watered following the same plan as with the dump scow. A grid would be made over the dump location in "HYPAC" showing on the monitor in the operators cab. A GPS antenna on the boom tip of the crane will display the bucket location on the grid system. The grid will allow the operator to place the bucket into each cell on the grid helping to control the elevation of material placed into a specific area in the Borrow Pit disposal site. The bucket would be lowered to 10' above the bottom and the material released. The bucket elevation will be maintained by elevation marks on the cables holding the bucket along with correcting for the tide height.

Scow placement location inside the Borrow Pit disposal site will be achieved using the SAIC, ADISS Light system (cut sheet attached). The ADISS scow tracking system monitors the scows

movements and disposal information before, during and after disposal. The information includes location of scow at the start of dumping and at the completion of the dump, the locations are given in Longitude and Latitude also Northing and Easting.

The dredge horizontal control will be maintained using Oceanographic "HYPACK" software along with a "SPERRY" gyro. This system incorporates a Differential Global Positioning System. The coordinate system used on this project will be the Massachusetts Mainland Zone 2001, referenced to the 1983 North American Datum. This system will be the basis for the horizontal coordinates. Vertical control will be determined by using a Hazen Electronic Tide Gauge adjusted for Mean Lower Low water and input into the Oceanographic "HYPACK" system. A manual read tide board would also be installed as a backup.

Dredge cut depths will initially be set for 1 foot below design depth to avoid over dredging. A distance of 5 feet off the face of the pier will be maintained. No slopes will be cut into the material 100' off the face of the bulkhead. A box cut will be used and the material will be allowed to fall in, leaving the remaining material with a slope of natural repose. A safe distance will be maintained adjacent to all sensitive structures. Care and caution will be maintained when adjacent to any structure.

Surveys will be conducted of the areas work is ongoing. The survey results will be given to the dredge Captains and discussed with the equipment operators. The results of the survey will be used to critique the methods used to complete the work and make any needed adjustments to the method, resulting in a more efficient process.

The Contractor will cover the entire footprint of the area that the contract drawings indicate contain maintenance material above grade as long as there is room in the disposal area to dump or place the material. If there is question as to the amount of room left for disposal in the Borrow Pit or the material is sloughing close to the Borrow Pit boundary. Written direction from the owner or the owner's representative is required before dumping or placement can continue

DEBRIS MANAGEMENT PLAN

Debris removed from the bottom during dredging operations shall be segregated and disposed of at a permitted facility. Debris found to have material residue on it will be suspended over the scow and washed off using a gas operated pump with a fire hose attached. The debris after being washed off will be disposed of in the approved container or placed on the bow of the scow to be placed in the container at a later time.

A container approved by the owner or owner's representative will be on site for disposal of debris found during dredging operations. Debris shall include, all floating material including debris located inside the scow, large items such as timber piles, pier sections, metallic debris and any item larger than 6 feet in any dimension.

Abandoned piles found during dredging operations shall be cut or broken off rather than extracted. All floating debris resulting from dredging operations shall be collected and disposed of properly.

All oily material floating on the water's surface found to be coming from this project or resulting from dredging operations will be collected and disposed of at a permitted facility.

ENVIRONMENTAL PROTECTION PLAN

It is the intent of this program to prevent environmental pollution during or resulting from construction operations during this contract. This plan includes the elimination or limitation of chemicals, physical or biological elements or agents, which adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect other species of importance to man; or degrade the utilities of the environment for aesthetic and recreational purposes. Preservation of land and water resources within the project boundaries and outside the limits of permanent work performed under this contract will be a priority.

Record and maintain daily quality control reports of any problems in complying with laws, regulations and ordinances. Immediate corrective actions will be taken to correct pollution of the environment due to an accident, natural causes, or failure to follow the procedures set out in accordance with our environmental protection plan.

Personnel Training - All employees have been trained through practical experience and instructions received on methods of detecting and avoiding pollution, familiarization with pollution standards and installation and care of facilities to insure adequate and continuous environmental pollution control. Each individual is responsible for his sphere of operations.

Land Resources - Prior to the beginning of construction, the contractor's representative will identify all land resources to be preserved within the work area. Care will be exercised to prevent the defacement, injury or destruction of trees, shrubs, vines, grasses, landforms or landscape features.

In the event trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved technique. If any damage occurs to the natural vegetation, JCI will restore as nearly as possible to its prior condition.

Water Resource - The Contractor will keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Special management techniques shall be implemented to control water pollution by listed construction activities, which are included in this contract.

The Contractor will plan operations and perform all work necessary to minimize adverse impact or violation of water quality standards. All water areas affected by construction activities shall be monitored at all times.

Fish & Wildlife Resources - The Contractor will keep construction activities under surveillance to minimize interference with, disturbance to and damage of fish and wildlife.

Air Resources - The Contractor will keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes and work operated or performed in accomplishing this project shall be in strict accordance with the applicable air pollution standards and all federal emission performance laws and standards. All diesel engines used on this project are maintained at the highest acceptable industrial standards for operating to prevent air pollution. If any engine runs poorly it will be repaired to meet proper pollution standards.

NOISE MONITORING

The Contractor will abide by all local noise ordinance standards set by the local municipalities. Will address all noise complaints from private citizens arising from the use of our dredging or dredge related equipment promptly. Will report all complaints to the owner. Any noise measurement equipment used will be placed at the property line of the impacted areas or as close as reasonably possible in response to all noise complaints.

All internal combustion powered equipment has a properly operating muffler installed and is kept in good working order. Any muffler not working properly will be fixed promptly. All motors have a protective shroud or are located in an enclosure.

Solid Waste Disposal - Solid waste on the work site will be collected daily as part of housekeeping into plastic lined containers. The solid waste will be transported daily and deposited into an approximate 10 cy dumpster located at the site trailer or crew loading area. The dumpster will be emptied weekly or as needed.

All hazardous debris collected during operations will be handled by trained personnel and disposed of in accordance with all Federal, State and Local ordinances. Example all oily material will be collected and placed in the proper containers and disposed of at a permitted facility.

Chemical Waste Disposal -Chemical waste will be stored in corrosion resistant containers removed from the work area and disposed of at a permitted site.

Contaminant Prevention - Hazardous substances expected to be used on site include #2 oil, gasoline, antifreeze, and lubricating oils. MSDS sheets for these substances are located on each dredge.

Fuel oil transfers will be done in accordance with U.S. Coast Guard regulations (33 CFR 156.120). Couplings used on any vessel with a capacity of 250 or more barrels of oil will be either a bolted or full-threaded connection; or a quick-connect coupling approved by the Commandant; or an automatic backpressure shutoff nozzle.

Floating Plant - Should spilling of fuel occur, contractor would immediately report the spill and initiate the Oil Spill Response Plan.

Fueling stations are in accordance with Coast Guard requirements and regulations. These areas will contain spillage of diesel fuel during refueling. Absorbent material will be used to immediately prevent spillage into the water.

Other hazardous substances will be transported to vessels in sealed containers and stored appropriately as recommended by the manufactures.

Land Based Equipment - A properly licensed bulk delivery company will fuel all equipment. The equipment will be moved to the area that will allow for safe fueling of the equipment. All

fueling will be monitored from the delivery truck and the equipment to be fueled. The truck will have an emergency shutoff at the truck and a shutoff valve at the end of the dispensing hose. Fuel tanks being filled without fuel tight caps will not be topped off.

Historical Findings - All historical/archeological findings will be reported to the owner or owner's representative immediately upon discovery. All recovered objects will be protected and turned over to the owner.

All personnel will be made aware of and understand the contents of this entire Environmental Protection Plan.

Contingency Plan

If during the course of the dredging operations from the start of the project to Jan. 15th 2004 the water quality standards are exceeded the following measures are to be implemented. All dredging operations after the Jan. 15th 2004 date will have the turbidity curtain deployed.

1st Raise the bucket slower by idling the engine down and slowing the line speed by 10%.
2nd Deploy the turbidity curtain according to the silt curtain deployment plan.
3rd Raise the bucket slower by idling the engine down more and slowing the line speed by another 10%.
4th Relocate the dredge to orientate the turbidity curtain to catch and contain the sediment plume.

If during the course of disposing of the sediments the water quality standards are exceeded the following measures are to be implemented.

1st Deploy the turbidity curtain according to the silt curtain deployment plan.
2nd Restrict dumping to slack water times.
3rd Fully enclose the scow with turbidity curtain.
4th Change disposal method to mechanically offloading and placing material by bucket in the disposal site.

Silt Curtain/Oil Boom Deployment Plan

Dredging: From project start up until Jan. 15th 2005 dredging operations will be conducted without the use of the turbidity curtain. If during that time frame the water quality standards are exceeded the Contingency Plan will be implemented to correct the deficiency.

While implementing the Contingency Plan, if the use of turbidity curtain is needed the following plan shall be used to deploy the turbidity curtain.

The turbidity curtain will be deployed to enclose the dredging bucket operational area. The curtain will be attached to the dredge on the side opposite the scow approximately 30 feet back from the bow corner keeping the curtain tight to the side of the dredge. The curtain will extend away from the dredge for approximately 50 feet and an anchor placed on the bottom and then turns toward the bow and extends approximately 100 feet where another anchor is placed on the

bottom. The curtain will then be turned toward the scow and be placed across the front of the dredge and attached to the end of the scow enclosing the bucket operational area. The anchors will be moved as the dredge is moved keeping the area closed at all times. When the scows are being changed the curtain will be untied from the scow and held by the curtain tending boat until the replacement scow is secure and the curtain can be re-secured to the end of the scow.

Disposal: From project start up until Jan. 15th 2005 disposal operations will be conducted without the use of the turbidity curtain. If during that time frame the water quality standards are exceeded the Contingency Plan will be implemented to correct the deficiency.

While implementing the Contingency Plan, if the use of turbidity curtain is needed the following plan shall be used to deploy the turbidity curtain.

The turbidity curtain will be deployed on the south side of the disposal area near the top of slope but inside the –32 foot contour line in a half circle adjacent to the scow dumping location. The curtain will extend past the bow and stern of the scow.

When the plan calls for enclosing the scow the curtain will be moved closer to the scow and extended around the bow and stern of the scow and connected together on the other side of the tugboat.

Oil Boom: Oil Boom will be deployed as needed or directed. The oil boom will be placed around an area as needed or attached to the turbidity curtain and secured to the inside portion of the turbidity curtain floatation.

If oil boom is deployed without the use of turbidity curtain to attach it to. The oil boom will be deployed in the same manner and configuration as the turbidity curtain would have been. The oil boom will be held in place with anchors and rope. The oil boom will be moved as the dredge is moved to maintain the enclosure.

All deployed oil boom will be collected and disposed of at a properly permitted facility.

NBH Dredge – Phase II/North Terminal Area Dredge Project
Proposed Performance Standards

I MADEP 401 Water Quality Program Standards:

1. Anti-degradation provisions of the Massachusetts Surface Water Quality Standards protect all waters, including wetlands. The Contractor shall take all steps necessary to assure that the proposed activities will be conducted in a manner, which will avoid violations of said standards.

2. Prior to the start of in-water work, the SER Project Manager (SER PM) shall be notified of any proposed change(s) in plans that may affect waters or wetlands.

3. As proposed, silt-curtains and absorbent booms shall be deployed to enclose the area being dredged. The contractor's plan for deployment of the silt curtains/absorbent booms shall be submitted to the SER PM for review prior to the start of in-water work. Should the deployment of silt-curtains prove not feasible or be unsuccessful, the SER PM will be notified prior to any dredging without silt curtains.

4. Water Quality Monitoring:

    a. **When the dredging operation is contained within a silt-curtained area,** the following water-quality monitoring program shall be carried out daily for the first three days of dredging and once a week thereafter:
        i. A reference location shall be established outside of and approximately 200-feet from the silt-curtained area and a monitoring location shall be established outside of and within 15-feet of the silt-curtain.
        ii. Turbidity shall be measured, using an optical backscatter sensor, at both the reference and monitoring locations, at established depths: near the water's surface, at the mid-point of the water column and near the bottom. The three values obtained shall be averaged, such that a single, representative turbidity value is calculated for the monitoring site and a single, representative value is calculated for the reference site.
        iii. Turbidity shall be measured at both the monitoring and reference site prior to the start of dredging, and once every two hours during dredging.
        iv. An exceedance of the project turbidity standard shall be attributed to project activities when the average turbidity at the monitoring site exceeds the average reference site turbidity plus the permissible turbidity increase, as outlined in the following table:

Reference Site Turbidity (NTUs)	Permissible Turbidity Increase
<10	Reference plus 20 NTUs
11-20	Reference plus 15 NTUs
>21	Reference plus 30% of reference

v. If, in two consecutive monitoring events, the average turbidity at the monitoring site exceeds the average turbidity at the reference site by more than the permissible turbidity increase, then water samples, composited over the entire water column, from both the monitoring and reference sites shall be collected and submitted for analysis of Total Suspended Solids, dissolved PCBs, arsenic, cadmium, copper, chromium, lead, mercury, nickel, and zinc. When samples are submitted to the laboratory, a 36-hour turn-round time shall be requested. Additionally, the Proponent, or their contractor, shall take operational action(s) designed to limit such exceedences, such as increasing the dredge cycle time, inspection and any necessary repair, of the silt curtains, deployment of an additional row of silt curtains or other mitigation measures. Turbidity monitoring shall continue on the schedule outlined in Section 6.a.iii, until compliance is reestablished.

vi. If compliance can not be reestablished within 48 hours, dredging shall cease and Department and any other interested local, state, or federal agency staff, in consultation with the Proponent, their contractors and/or consultants shall review the operational actions undertaken, the results of the analyses of the water samples and evaluate the biological significance of the available data and determine the requirements for additional mitigation, if any.

b. **Should the deployment of silt-curtains prove not possible or be unsuccessful,** the following water-quality monitoring program shall be carried out daily for the first three days of dredging and twice a week thereafter:

i. A reference location shall be established approximately 200-feet up-current from the dredge and a monitoring location shall be established 200-feet down-current from the dredge at the edge of the mixing zone.

ii. Turbidity shall be measured, using an optical backscatter sensor, at both the reference location and the monitoring location, at established depths: near the water's surface, at the mid-point of the water column and near the bottom. The three depth values obtained shall be averaged, such that a single, representative turbidity value is calculated for the reference location and a single, representative turbidity value is calculated for the monitoring location.

iii. Turbidity shall be measured at both the reference location and at the edge of the mixing zone prior to the start of dredging, and once every two hours of dredging.

iv. An exceedance of the project turbidity standard shall be attributed to project activities when the average turbidity at the edge of the mixing zone exceeds the reference site turbidity plus the permissible turbidity increase, as outlined in the following table:

Reference Site Turbidity (NTUs)	Permissible Turbidity Increase
<10	Reference plus 20 NTUs
11-20	Reference plus 15 NTUs
21-30	Reference plus 10 NTUs
>31	Reference plus 30% of reference

v. If, in two consecutive monitoring events, the average turbidity at the edge of the mixing zone exceeds the average turbidity at the reference site plus the permissible turbidity increase, then water samples, composited over the entire water column, from both the reference location and the edge of the mixing zone shall be collected and submitted for analysis of Total Suspended Solids, dissolved PCBs, arsenic, cadmium, copper, chromium, lead, mercury, nickel, and zinc. When samples are submitted to the laboratory, a 36-hour turn-round time shall be requested. Additionally, the Proponent, or their contractor, shall take operational action(s) designed to limit such exceedences, such as increasing the dredge cycle time, inspection and any necessary repair, of the silt curtains, deployment of an additional row of silt curtains or other mitigation measures. Turbidity monitoring shall continue on the schedule outlined in Section 6.b.iii, until compliance is reestablished.

vi. If compliance cannot be reestablished within 48 hours, dredging shall cease and the Department and any other interested local, state or federal agency staff, in consultation with the Proponent, their contracts and/or consultants shall review the operational actions undertaken, the results of the analyses of the water samples and evaluate the biological significance of the available data and determine the requirements for additional mitigation, if any.

5. As proposed, dredging of contaminated, silty sediment shall be done using a closed, environmental, clamshell bucket. Where pilings or other debris are found to interfere with environmental bucket closure or equipment operation, a conventional clamshell bucket may be used to extract the pilings/debris. Sediment removal during such activity shall be minimized to the greatest extent practicable. Should dredging with the environmental bucket become unfeasible or unsuccessful, the SER PM must be notified prior to any contaminated sediment dredging not using the environmental bucket, and the contractor must also continue to meet the project water quality standard performance standards.

6. Water discharged from the barge shall be appreciably free of suspended sediment and meet the water quality criteria established in Section 4 (above). Any free liquid

flowing from the barge in the harbor shall be passed through a sand media filter or equivalent filtration system (which must be approved by the project Resident Engineer) prior to discharge.

7. Diesel-powered equipment shall be fitted with after-engine emissions controls such as oxidation catalysts or particulate filters.

8. Within 30 days of the completion of the initial dredging, a bathymetric, survey of the dredge footprint, depicting post-dredge conditions, shall be sent to the MADEP SER Project Manager.

9. Disposal of any volume of dredged material at any location in tidal waters is subject to approval by the Department and the Massachusetts Coastal Zone Management office.

II MADEP Chapter 91 Waterways Standards:

1. Acceptance of these Waterways Conditions shall constitute an agreement by the Proponent to conform to all terms and conditions herein.

2. All subsequent maintenance dredging and transportation and disposal of this dredge material, during the term of this Project shall conform to all standards and conditions applied to the original dredging operation performed under this Project.

3. After completion of the work authorized, the Proponent shall furnish to the Department a suitable plan showing the depths at mean low water over the area dredged. Dredging under this Project shall be conducted so as to cause no unnecessary obstruction of the free passage of vessels, and care shall be taken to cause no shoaling. If, however, any shoaling is caused, the Proponent shall at his/her expense, remove the shoal areas. The Proponent shall pay all costs of supervision, and if at any time the Department deems necessary a survey or surveys of the area dredged, the Proponent shall pay all costs associated with such work.

4. The Proponent shall assume and pay all claims and demands arising in any manner from the work authorized herein, and shall save harmless and indemnify the Commonwealth of Massachusetts, its officers, employees, and agents from all claims, audits, damages, costs, and expenses incurred by reason thereof.

5. The Proponent shall, at least three days prior to the commencement of any dredging in tide water, give written notice to the Department of the time, location, and amount of the proposed work.

Special Waterways Conditions

1. Dredge material shall be transported to suitable disposal facilities; unregulated dumping of dredge materials is not permitted.

2. The Proponent shall develop and implement a Navigation Plan to address and mitigate temporary impacts to navigation during dredging activities.

3. The Proponent shall provide and maintain in good working order appropriate United States Coast Guard (USCG) approved navigation aids to assist mariners in avoiding work areas as required by the USCG.

4. The Proponent shall maintain vehicular access to water-dependent users throughout construction activities.

5. The Proponent shall remove and properly dispose of all temporary structures and debris no later than three (3) months after completion of the dredging and disposal. the dewatering and amendment of the sediments.

6. Modification to this Project: the SER PM, may review on an individual basis, modifications to construction activities and/or temporary structures which represent an insignificant deviation from original specifications, in terms of configuration, materials or other relevant design or fabrication parameters as determined by DEP within all areas of construction. Such review shall be in accordance with the following procedure:
    a. The Proponent shall submit a written request describing the proposed modifications to the work accompanied by plans, for prior review of the DEP. The DEP will consider comments submitted within ten (10) days of the DEP's receipt of the request. The DEP will send any significant modifications to the Resource Agencies for review and comment and to identify any future Performance Standards, if necessary. EPA will also have the opportunity to make a consistency determination if the change is significant, as necessary. The DEP will notify the Resource Agencies of any minor modifications.

7. After completion of the work authorized the Proponent shall furnish the Department a suitable plan showing the depths at mean low water over the areas dredged within 90 days of completion of each phase of the dredging.

III New Bedford Conservation Commission Standards

1. This Order does not relieve the Proponent or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

2. The work authorized hereunder shall be completed within five years from the date of this Order unless either of the following apply:

    a. The work is a maintenance dredging project as provided for in Act; or
    b. The time for completion has been extended to a specified date more than five years, but less than ten years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in the Order.

3. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of the foregoing.

4. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearing before DEP.

5. Upon completion of the work described herein, the Proponent shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

6. The work shall conform to the plans and special conditions referenced in this order.

7. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

8. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

9. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagged. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

10. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body without permission from the Conservation Commission or MADEP. During construction, the Proponent or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The Proponent shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

11. All wet areas not to be altered shall be kept clear of rubbish, debris, and construction material.

12. All exposed soil or subsoil shall be stabilized to minimize erosion and siltation.

13. There shall be minimum disruption of existing grades and vegetation in order to minimize erosion.

14. No runoff shall be caused to drain on to adjoining property or on any public ways.

15. All excess dredge and construction material shall be removed from the site following completion of operations, except as what may be required by the EPA.

16. The owners shall notify the Conservation Commission of the work-start date prior to its commencement so that regular inspections may be made.

17. All work performed in accordance with said plans and these Conditions shall be in compliance with the state building and/or plumbing code.

18. The Inspection and/or the Commission members shall have the right to enter upon the land (with 24 hour notice) for the purpose of the inspection and/or the taking of pictures to determine and evaluate compliance with this order.

19. The design engineer will certify, in writing, that this project has been complete in accordance with the above Conditions before the Certificate of Compliance will be issued.

20. All facilities and equipment shall be continually operated and maintained so as to comply with this order of conditions and M.G.L. Ch. 131, S 40, the Wetlands Protection Act.

21. This order of Conditions shall apply to any successor in interest or successor in control with the exception of the EPA.

22. The Conservation Commission shall not be responsible or liable for the construction, the operation, or the maintenance of any part of this project and does not warrant the safety of the same.

23. Any fill and/or construction materials shall be placed in upland areas.

24. All erosion control barriers shall be constructed of silt fencing and staked hay bales and clearly depicted on the plans, and placement shall be inspected both pre and post construction by Agent. The Conservation Agent shall be notified when in place for inspection. No work to be undertaken under the Order of Conditions until written or verbal approval is received from the Conservation Commission of its Agent.

25. Any changes in proposed drainage patterns will require approval by the Conservation Commission.

26. Wetland flagging to remain in place, except as removed by the EPA and their activities, until the project has been completed.

27. All conditions are on going and do not expire until the issuance of a Certificate of Compliance.

28. The design engineer will certify, with an as-built plan, that this project has been completed in accordance with the above Conditions before a Certificate of Compliance will be issued.

29. The control of turbidity in the water during dredging operations shall include the following:

    a. The requirements of the DEP.
    b. The institution of real time turbidity monitoring, the parameters of which shall be established by both the Conservation Commission and the DEP in consultation with the Proponent and/or contractor.
    c. The Conservation Agent shall be notified 24 hours prior to the collection of the baseline water quality conditions, so that the Agent may be present when this data is collected. This baseline data collection is to also include establishing a baseline for the real-time turbidity monitoring equipment.
    d. Real-time turbidity monitoring is to be done at the onset of the dredge operations with the Agent present (if they so desire). Following this, a reasonable schedule of teal-time turbidity monitoring will be established which will ensure conformance with water quality standards. The results of the real-time turbidity monitoring shall be transmitted (via phone or fax) to the Conservation Commission office on the same day as testing.
    e. The Conservation Commission shall receive the Water Quality Contingency Plan for review prior to project commencement.
    f. When water quality/turbidity parameters have been exceeded, the Conservation Agent is to be notified immediately (cell # 508-726-7736), and

measures to reduce turbidity are to be initiated. These measures will be comprised of initiating the Water Quality Contingency Plan referenced in Section I above.

30. Erosion Controls (if used) must be inspected on a daily basis/and after every significant rainfall event and sediment removed when it has accumulated to a depth of 1/3 the height of the siltfence/haybale. Accumulated silt shall be removed to an up land disposal site or legal placement area.

31. Members and agents of the Commission shall have the right to access and inspect the work are to evaluate compliance with these Conditions and to require the submittal of any data deemed necessary for that evaluation.

32. The Proponent shall attach a copy of these Conditions to the contract documents associated with this project.

33. If at any time during the implementation of the project significant water quality problem occurs in the vicinity of the project, all site related activities impacting the water shall cease until the source of the problem is identified and adequate mitigating measures employed to the satisfaction of the Commission.

34. Where relevant, all facilities and equipment will be continually operated and maintained so as to comply with the conditions and the Act. The Proponent, owner successor, or assignees shall be responsible for maintaining all on site drainage structures and outfalls, assuring the lasting integrity of the surface cover on the site and site activities so as to prevent erosion, siltation, sedimentation, chemical contamination or other detrimental impact to the on-site and/or off-sire resources areas. This condition shall be a maintenance condition, and shall not expire upon the issuance of a certificate of compliance.

35. Any equipment used in the resource area or buffer zone that uses fuel, oil or hydraulic fluid shall be inspected daily for leakage. Any equipment requiring repair shall be repaired outside of the resource area and the buffer zone.

36. The Proponent and contractor shall develop a spill management plan for any hazardous materials which may be employed during work in the buffer zone or over the water. Specifically, the Proponent should prepare to effectively deal with spillage of fuel or hydraulic fluids from equipment. A quick-absorbent material, such as "Speedy Dry" or equivalent, will be stored in a dry readily available area, and used in the event petroleum based fluids are spilled or leaked. The spent material is then to be containerized and disposed of properly. An emergency fuel boom or absorbent pads shall be readily available in case any such spill threatens the water resources.

37. In advance of construction start-up on any section of this project the Proponent shall notify the New Bedford Conservation Commission, and at the request of the Conservation Commission, shall arrange and on-site conference with representatives

of the Commission, the contractor, the project engineer and the Proponent to ensure that all the conditions are understood. The New Bedford Conservation Commission shall be notified at least 48 hours in advance of the date upon which construction activities on the site are to proceed. All appropriate construction impact mitigation measures must be in place prior to initiation of stockpiling operations.

38. The Proponent shall clean the work area at the end of each workday to prevent wind deposition of fugitive dust and accumulation of debris in the buffer zone or in the water. All stored excavate or fill shall be covered when not in use. Special attention shall be given by the contractor to securing covers in stored excavate or fill over the weekend or during down time.

39. All practical precautions shall be used during dredging to minimize turbidity and other water quality impacts. Prior to construction, the Proponent shall provide detailed plans for containment of dredge caused turbidity to include staging sequence, and specifications on floating booms with silt curtains.

40. All materials that are disposed shall be disposed in accordance with applicable Federal, State, and local laws. The Proponent shall be responsible for the removal of any project related debris on the land under the waters of New Bedford Harbor.

41. All vessels working at this site shall be maintained in sea worthy condition.

42. All material stored on the barges shall be contained so as not to enter the resource area.

43. All deck gear and equipment stored on the barges shall be secured at the end of each work day and inspected for any leakage.

44. Petroleum products and hydraulic fluids shall not be stored on the barges.

45. Navigation and placement of barges shall be coordinated with vessels that navigate in the affected waterways.

46. All practical precautions to limit impact to resources shall be undertaken, including but not limited to, a staffed boat operating daily that collects and removes debris within the immediate vicinity of the project and any materials which have escaped from the immediate vicinity but are the result of this project's activities.

47. All waters including wetlands are protected by anti-degradation provisions of the Massachusetts Surface Water Quality Standards. The Contractor shall take all steps necessary to assure that the proposed activities will be conducted in a manner, which will avoid violations of, said standards.

48. Barges used to contain the dredged sediment shall be equipped to fully contain the sediment, i.e., the barge shall be a hopper or pocket barge or a deck barge with sides.

Care shall be taken to prevent sediment discharge over the sides of the barge due to excessive loading or other uncontrollable factors. Any drain holes and other openings shall be covered with filtration material. Also, no equipment with petroleum products or hydraulic fluids shall be stored within the 100-foot buffer zone or over the resource area.

49. The Commission requires that a log be kept by the Proponent's site supervisor with a minimum of one entry per day for each day of site operation, noting the time, date, tide, weather conditions, outfalls for sediment discharge and evaluations of the various measures employed to reduce turbidity and other impacts to the water of wetlands' resources. Performance of maintenance activities on all drainage, erosion control, and sedimentation structures shall be noted in the log.

50. Prior to construction, the Proponent shall provide specifications for all vessels used by the contractor including vessel size and Coast Guard certification.

51. The Proponent shall inform the Commission of any violation of these Conditions and any other project related spill or accident that may impact wetland resource areas, and take appropriate action to mitigate impacts from such spill or accident.

52. Prior to issuance of a Certificate of Compliance, the Proponent shall submit a request letter to the New Bedford Conservation Commission certifying that the work is in compliance with the plans referenced and all of the conditions herein.

MASSACHUSETTS PERFORMANCE STANDARDS
New Bedford Harbor Dredge - Phase II

REQUIREMENT	CITATION	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN ARARS
Massachusetts				
Surface Water Quality Standards	21 MGL 27; 314 CMR 4, 03(1)(3)(c)04 (1),(2),(4),(6); 4.05(4)(a-b),(5)	Relevant and Appropriate	MADEP surface water quality standards incorporate the federal Ambient Water Quality Criteria (AWQC) as standards for surface waters of the state. Standards establish acute and chronic effects on aquatic life for contaminants including PCBs, cadmium, chromium, copper, and lead.	Site specific water quality criteria will be established for the project. Dredging controls will be implemented such that water quality criteria are not exceeded. Water quality monitoring will be implemented during dredging.
Hazardous Waste Management - Identification and Listing	12C MGL 4 and 6; 310 CMR 30.100	Applicable	Establishes standards for identifying and listing hazardous waste.	Testing as appropriate will assess whether hazardous wastes are present in dredge sediment.
Hazardous Waste Management - Requirements for Generators of Hazardous Waste	21C MGL 4 and 6; 310 CMR 30.300	Applicable	Establishes standards for various classes of generators.	Any hazardous process wastes will be managed in accordance with the substantive requirements of these regulations.
Hazardous Waste Management - Management Standards for all Hazardous Waste Facilities	21C MGL 4 and 6; 310 CMR 30 et seq.	Applicable	Establishes standards for treatment, storage, and disposal of hazardous waste. Sec. 30.501(3)(a) exempts facilities which treat, dispose or store hazardous waste containing 50 ppm or more of PCBs if theyare adequately regulated under TSCA, 40 CFR 761.	Any hazardous process wastes will be managed in accordance with the substantive requirements of this section. Any off-site transportation/disposal will comply with the appropriate regulations.
Rules for the Prevention and Control of Oil Pollution in the Waters of the Commonwealth	21 MGL 26-53; 314 CMR 15.03 (1),(3-5); 15.06(1-5)	Applicable	Regulates the discharge of oil or sewage, industrial waste or other material containing oil into waters of the Commonwealth. PCBs contain oil, some of which floats on surface water.	The remedy will comply with the substantive requirements of the provisions.
Certification for Dredging, Dredging Material Disposal and Filling in Waters	21 MGL 26-53; 314 CMR 9.06(1-2)	Applicable	Establishes procedures and criteria for the administration of Section 401 of the federal Clean Water Act for the discharge of dredged or fill material in waters of the United States within the Commonwealth.	All dredging and discharge of dredged material will comply with the substantive requirements of the provisions.
Wetlands Protection Act	MGL 131 Sect. 40; 310 CMR 10 et seq.	Applicable	Standards regulate dredging, filling, altering, or polluting of coastal and inland wetland resource areas. Protected resource areas within and adjacent to the site include: Land Subject to Coastal Storm Flowage 10.02(1)(d); Coastal Wetlands 10.24(7)(b); Land Under Ocean 10.25(5)(6); Designated Port Area 10.26(3)(4); Land Containing Shellfish 10.34(5)(7); Banks...Land Under...Fish Runs 10.35(3-4); and Riverfront Area 10.58(4)(a),(c)(1and3),(d)(2),(d)(5),(a-b and f-g).	Best available measures will be used to minimize adverse effects on identified resource areas during construction. DMF will be consulted for activities affecting fish and shellfish habitat.
Administration of Waterways Licenses Law	91 MGL 1.00 et seq.; 301 CMR 9.00	Applicable	Criteria for work within flowed and filled tidelands. Focus on long term viability of marine uses and protecting public rights in tidelands. Applicable provisions are Restrictions on Fill and Structures 9.32(1)(a)(2,3)(b)(3,4); Preserving Water-Related Public Rights 9.35(1),(2)(a)(1 and 3 (a and b)); Protecting Water Dependent Uses 9.36 (2)(3)(4)(5)(a)(1,2)(5)(b); Engineering and Construction Standards 9.37(1)(c),(3)(a),(b)(4); and Dredging and Dredged Material Disposal 9.40(2),(3)(e).	Temporary unavoidable impacts to water dependent users will occur. Impacts will be minimized, and alternate access will be available.
Coastal Zone Management	301 CMR 21.00	Applicable	Requires that any actions must be conducted in a manner consistent with state approved management programs.	The entire site is located in a coastal zone management area. Actions taken will be consistent with substative portions of identified policies of CZM.

FEDERAL PERFORMANCE STANDARDS
New Bedford Harbor Dredge - Phase II

REQUIREMENT	CITATION	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN ARARS
Federal				
Clean Water Act (CWA), Water Quality Criteria	33 USC 1313, 1314	Relevant and Appropriate	Federal surface water quality standards are incorporated into Massachusetts Surface Water Quality Standards.	Please refer to the Massachusetts Surface Water Quality Standards.
Fish and Wildlife Coordination Act	16 USC Part 661 et seq.; 40 CFR 6.302(g)	Applicable	Requires consultation with appropriate agencies to protect fish and wildlife when federal actions may alter waterways. Must develop measures to prevent and mitigate potential loss to the maximum extent possible.	Appropriate agencies will be consulted prior to implementation to find ways to minimize adverse effects to fish and wildlife from harbor dredging and construction of disposal cells.
Preservation of Historical and Archeological Data Act of 1974	16 USC 469 et. seq.	Applicable	Requires recovering and preserving significant historical or archeological data when such data is threatened by a federal action or federally lecensed action which alters any terrain where such data is located.	An assessment of the Harbor for potential locations of historical or archaeological cultural resources will be conducted. Located objects will be recovered in accordance with requirements.
Coastal Zone Management Act	16 USC Parts 1451 et seq.	Applicable	Requires that any actions must be conducted in a manner consistent with state approved management programs.	The entire site is located in a coastal zone management area. Dredging activities will comply with state approved management programs.
Toxic Substances Control Act (TSCA), PCB Disposal Requirements	15 USC 2601 - 2692; 40 CFR 761.50(a)(3); (b)(3)(i)(A)	Applicable	General PCB Disposal requirements for all actions and provides jurisdiction for State Enhanced Remedy cleanup.	Dredging and disposal of TSCA material will be jointly managed by the EPA and implemented in accordance with TSCA requirements.
CWA, Section 404, Dredge and Fill Activities	40 CFR 230	Applicable	Control of discharges of dredged or fill material in order to restore and maintain the chemical, physical and biological integrity of waters in the United States.	Dredging of sediments and filling of CAD cells will be implemented so as to minimize to the maximum extent possible any adverse environmental impacts through engineering controls such as type of dredge used, or rate of dredging.
Rivers and Harbors Act	33 USC 401-426m	Applicable	Requires coordination and approval of U.S. Army Corps of Engineers (USACE) for dredging and for construction of future use of CAD cells in navigable waters of the United States.	All dredging and disposal activities will comply with substantive requirements of this chapter. Dredging will be coordinated with the USACE.
Magnuson-Stevens Fishery Conservation and Management Act	Public Law 94-265	Applicable	Provides for conservation and management of fishery resources within the U.S. and allows for the preparation of Fishery Management Plans (FMPs) for the those needing management.	Appropriate agencies will be consulted prior to implementation to find ways to minimize adverse effects to fish and wildlife from harbor dredging and construction of disposal cells.
Floodplain Management - Executive Order 11988	40 CFR Part 6, Appendix A	To be considered	Federal agencies are required to reduce the risk of flood loss, minimize the impact of floods, and to restore and preserve the natural and beneficial values of floodplains.	No floodplains are proposed to be impacted during this project. If any construction does occur within a floodplain, potential harm will be minimized.
Wetland Protection - Executive Order 11990	40 CFR Part 6, Appendix A	Applicable	Federal agencies are required to avoid adversely impacting wetlands whenever possible, minimize wetland destruction and preserve the value of wetlands.	The destruction, loss and degradation of wetlands will be minimized as much as possible given the extent and location of contaminated sediment.
Endangered Species Act	16 USC Part 1531 et. Seq; 40 CFR 6.302(h)	Applicable	Requires consultation with appropriate agencies if a threatened or listed species or their habitat may be affected.	The appropriate agencies will be consulted to consider any mitigation measure necessary for remedial activities affecting the feeding grounds of the roseate tern.