

**ROCK HARBOR DREDGE PROJECT
ADDENDUM #1**

AWARDING AUTHORITY: Town of Eastham

PROJECT: Rock Harbor Dredge Project

DATE: March 24, 2014

TO: All Bidders

CONSULTING ENGINEER: CLE Engineering, Inc.
15 Creek Road, Marion
MA 02738

The following items shall modify or be added to the Contract Documents. This Addendum forms part of the Contract Documents and modifies the original bidding documents. Portions of the Contract Documents not altered by this Addendum remain in full force.

This Addendum for part of the Contract Documents and as such, ALL BIDDERS SHOULD ACKNOWLEDGE IT ON BID FORM PAGE 21. FAILURE TO DO SO COULD RESULT IN THE REJECTION OF YOUR BID.

Notice is hereby given to any and all plan holders of record with the Owner for the project herein captioned “**Rock Harbor Dredge Project**”, Owner of record being the Town of Eastham, of the following amendments to the Contract:

I. CONTRACT DOCUMENT

The following changes have been made to the CONTRACT DOCUMENTS:

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15. PAYMENT OF EMPLOYEES

A. ~~For work done in the Town of Eastham~~ the payment for employees of the contractor and any or all sub-contractors and suppliers shall comply with the wage scale current....

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New Section in yellow

1. CONTRACT DOCUMENTS

A. The Contract Documents consist of the Agreement, the General Conditions, Special and other Conditions, the Drawings, the Specifications, all Addenda issued prior to the execution of this Agreement, all amendments, Change Orders, and written interpretations of the Contract Documents issued by the Town. These form the Contract and what is required by any one shall be as binding as if required by all. The intention of the Contract Documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the Work and the terms and conditions of payment therefor, and

also to include all Work which may be reasonably inferable from the Contract Documents as being necessary to produce the intended results.

- B. The Contract Documents shall be signed in not less than triplicate by the Town of Eastham and the Contractor. By executing the Contract, the Contractor represents that he has visited the site and familiarized himself with the local conditions under which the Work is to be performed.
- C. The term Work as used in the Contract Documents includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- D. "As per MGL, Chapter 7, section 22, each political subdivision participating in this bid is solely responsible for any payment due contractor for its share of such purchase. The Town of Eastham, as lead purchasing agent, shall not be liable for payment or for any claim based upon a breach of warranty or defects in the design, manufacture or installation of material, supplies or equipment purchase pursuant to this bid."

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SECTION 3 GENERAL CONDITIONS

3. CONTRACTOR

- H. The contractor shall indemnify and hold harmless the Town of Orleans and the Town of Eastham and their agents and employees ...

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10. CHANGES IN THE WORK

- C. The cost or credit to the Town of Eastham from a Change in the Work shall be determined by mutual agreement.

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SECTION 4 SPECIAL CONDITIONS

3. INSURANCE

Insurance Requirement for both Eastham and Orleans.

1. Indemnification -...

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SECTION 8

AGREEMENT BETWEEN CONTRACTOR AND TOWN OF EASTHAM

Construction may begin after October 31, 2014 and work shall be completed by April 15, 2015.

SECTION 8

Each Town will enter into a separate contract with the Contractor. Contract value will be based on the bid prices and the Engineers Estimate of Quantities contained EXHIBIT C

AGREEMENT BETWEEN CONTRACTOR AND TOWN OF EASTHAM

II. TECHNICAL SPECIFICATIONS, EXHIBIT A:

For clarification; all references to the two dredge areas are as shown on the Contract Drawings provided as Attachment A in the Technical Specifications and in the Schedule of Prices. Area 1 is the Basin and Area 2 is the Channel. Such designation takes precedence over any other designations. The following sections of the specifications are to be revised or added:

➤ SECTION 01100 MEASUREMENT AND PAYMENT

1.03 EXTENT OF WORK

D. BID ITEM 02405-2 Mechanical Dredging of the Channel (Area 1) and Basin (Area 2) with Unconfined Offshore Disposal at the Cape Cod Bay Disposal Site (CCBDS)

Should read as follows:

D. BID ITEM 02405-2 Mechanical Dredging of the Basin (Area 1) and Channel (Area 2) with Unconfined Offshore Disposal at the Cape Cod Bay Disposal Site (CCBDS)

➤ SECTION 02000 SITE PREPARATION AND RESTORATION

1.07 SITE PREPARATION AND RESTORATION

A.1. *Strike reference to "sediment dewatering operation"*

➤ SECTION 02405 MECHANICAL DREDGING AND UNCONFINED OFFSHORE DISPOSAL

1.02 SUMMARY OF WORK

A.2. Perform mechanical dredging of Channel (Area 1) and Basin (Area 2),..

Should read as follows:

A.2. Perform mechanical dredging of Basin (Area 1) and Channel (Area 2),..

C. ...Rock Harbor Channel (Area 1) and Basin (Area 2).

Should read as follows:

C. ...Rock Harbor Basin (Area 1) and Channel (Area 2).

2.02 DREDGING PLANT

A. ... when dredging Area 2 located within Rock Harbor Basin..

Should read as follows:

A. ... when dredging Area 1 located within Rock Harbor Basin..

3.10 WORK IN THE VICINITY OF PROTECTED HABITAT, STRUCTURES AND UTILITY CROSSINGS

B. ... East side of the Rock Harbor Basin (Area 2)..

Should read as follows:

B. ... East side of the Rock Harbor Basin (Area 1)..

3.12 UNCONFINED OFFSHORE DISPOSAL

A. ... as shown as the Channel (Area 1) and the Basin (Area 2) on the..

Should read as follows:

B. ... as shown as the Basin (Area 1) and the Channel (Area 2) on the..

3.16 INSPECTION

Replace Section D. with:

- D.** As part of the Contractor's daily Quality Control Plan, he/she shall take daily sounding checks behind the dredge to ascertain the accuracy of their dredging operations. The means and methods used for the purposes of quality control shall be described in detail in the Contractor's Quality Control Plan. Sounding lines shall be made parallel to the direction of the dredge cut at 25 foot offsets, for the width of the dredge cut. Charts and shoal plots shall be reviewed by the Contractor as part of his Quality Control Plan, and he shall adjust his/her operations as necessary to achieve the proper dredging tolerances specified herein. Within three days of performing these surveys, the surveys shall be submitted to the Towns' Engineer for review, along with a plan and schedule for correcting any unsatisfactory work. The submittal package shall include as a minimum, copies of the charts, a plot of the soundings, and any digital data.

THE TOWN WILL ALSO CONSIDER HYDRAULIC DREDGING WITH OFFSHORE DISPOSAL AT THE CAPE COD BAY DISPOSAL SITE. THE SPECIFICATION SECTION 02430 HYDRAULIC DREDGING AND DISPOSAL HAS BEEN ATTACHED TO THIS ADDENDUM AND ADDED TO THE SCHEDULE OF PRICES (ATTACHED)

III. RESPONSE TO PLAN HOLDERS WRITTEN QUESTIONS:

REQUEST FOR INFORMATION # 1 – Section 1 INVITATION TO BID page 3

Budget: Is there a budget for this project?

RESPONSE: The Towns have established a budget of 1.8 Million to 2.0 Million Dollars. The April 2, 2014 bid opening was scheduled to allow for the contract amount may be requested at the Annual Spring Town Meeting.

REQUEST FOR INFORMATION # 2 – Section 1 INVITATION TO BID page 3

Permit Status: What is the status of the permit applications?

RESPONSE: The sediment chemical laboratory analyses have been provided to the Army Corps of Engineers Marine Analysis Section with a Request for Determination of Suitability to establish sediment disposal options. The formal response is anticipated to be issued a few days after March 28, 2014. The verbal determination noted all the sediment is suitable for either disposal at the Cape Cod Bay Disposal Site (CCBDS) or as beach nourishment. The draft permit applications have been prepared for submittal to the local, state and federal agencies that request disposal at the CCBDS, pending receipt of the Determination of Suitability allowing it.

It should be noted that the permit agencies generally prefer that suitable sand be kept in the nearshore environment for beach nourishment or dune restoration. Beach nourishment is considered as sand placement anywhere from the high tide line into the subtidal zone.

The permit applications will be finalized after the bid opening in order to incorporate any methods or disposal options presented by the contractors. This will allow for flexibility in the dredging methods and disposal options. It is anticipated the permits will be issued in September 2014.

REQUEST FOR INFORMATION # 3 – Technical Specification Section 02405

Construction methods: Will the type of equipment be limited to a barge mounted crane with a bucket?

RESPONSE: The Town will consider any alternative construction methods that can dredge the channel to the specified depth for the minimal cost while satisfying the environmental permit requirements. These could include the use of a hydraulic excavator or hydraulic dredge. It should be noted that there is no provision for a second Mobilization/Demobilization required for a change in equipment and methods.

REQUEST FOR INFORMATION # 4 – Change from Environmental Bucket to Clamshell

Bucket: IF an environmental clamshell (Cable Arm) bucket is implemented for digging in this project and it fails to sufficiently engage the material, as we suspect, what would be done at this point?

RESPONSE: The bid documents include grain size analysis. Contractors need to base their bid on expected production rates. If Permitting agencies require an environmental bucket and Contractors experience difficulties in engaging material such that it is difficult to meet the tight environmental time windows, the Town will submit an application to the permitting agencies to allow the bucket to be switched to a toothed clamshell bucket. The town will not pay additional costs or down time for switching the bucket. The Town will pay for the bathymetric survey to clear the dredged section for payment at the environmental bucket dredging pay rate. After the bucket is switched, payment will be made at the clamshell rate.

REQUEST FOR INFORMATION # 5 – Mobilization/Demobilization costs: What sort of permits/costs will the contractor be responsible for as mentioned in section MOBILIZATION/DEMobilIZATION?

RESPONSE: Possible permit costs for Mobilization/Demobilization include Wide load permits, Police escorts, and any other mobilization/demobilization permit costs typical for dredge projects.

IV. RESPONSE TO PRE-BID MEETING QUESTIONS:

1. An interim survey will be provided by the Town at the approximate half way point of the dredging project to provide a basis section clearance and for payment at that point in time.
2. There is no penalty for over dredging; the Contractor will not be paid for dredging outside the dredge template but will not be required to pay the Town for sediment quantities dredge outside the dredge template.
3. The piles from both Orleans and Eastham may be pulled by October 1, 2014 to allow for an earlier dredging start date. Both Towns will install the floats in coordination with the Contractor during pile replacement after completion of the dredging.
4. The GPS controlled positioning system described in Section 02405 1.05 D. will not be required for the horizontal or vertical bucket positioning.

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**SECTION 02430
HYDRAULIC DREDGING AND DISPOSAL**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including Supplemental General and Special Conditions and Specification sections, apply to work of this section.

1.02 SUMMARY OF WORK

- A. The work includes labor, materials, equipment and services required for completion of the work under this Section; all as shown on the drawings and as specified herein.
 - 1. Mobilization of equipment to the project site.
 - 2. Hydraulic dredging to maintain the navigable waters in the Rock Harbor Channel (Area 1). All dredging disposal operations must be completed on/before December 31, 2014.
- B. Demobilization of equipment from the project site. This Section includes all water control, manpower, fueling, maintenance, operation, positioning systems, surveys, trucking and all other work incidental to perform the required hydraulic dredging.
- C. Sediments to be removed to establish the depth within the limits shown on the Contract Drawings consists of maintenance dredging within the Rock Harbor Basin (Area 1) and Channel (Area 2). Sediment is expected to consist of primarily of silty sand in the Basin (Area 1) poorly graded sand in the Channel (Area 2). Minor variations in the subsurface materials are to be expected and, if encountered, shall not be considered as being materially different. Bidders are expected to examine the site of the work along with the sediment data provided in Attachment B and decide for themselves the character of the materials.
- D. Dredging is considered to be maintenance dredging. The depths that are sought within the Rock Harbor will require a dredge depth of three (3) feet below Mean Low Water (-3.0 feet MLW) and a one (1) foot allowable over dredge (-4.0 feet MLW) as noted on the Contract Drawings. It is estimated that a total of ±38,600 cubic yards (CY) of sediment will be dredged, including the allowable overdredge depth and side slopes. No payment will be made for any material removed from a depth greater than -4.0 feet MLW as stated above in these areas or beyond the slopes shown on the Contract Drawings.
- E. At a minimum, the work to be performed will consist of the mobilization and demobilization, hydraulic dredging and disposal at the Cape Cod Bay Disposal Site.
- F. The dredge quantity is only an estimate and the actual quantity will be dependent on the amount of material the Contractor removes to the payment limit from within the established dredge prism/areas as shown on the Contract Drawings

1.03 SUBMITTALS

The following shall be submitted in accordance with Section 01300:

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A. Dredging Work (Operations and Management Plan):

Within seven (7) days after receipt of Notice to Proceed, the Contractor shall furnish his work plan detailing his proposed sequence, equipment and procedures for performance of the work required under the Contract and as shown on the Drawings. The work plan shall include, but not be limited to, details of equipment and procedures for dredging, including plans and description indicating location, depth and sequence of dredge cuts, specifications for proposed cutter suction head, cut depths and methods for transporting dredge material to the disposal site, details of equipment and procedures for debris removal and screening sediment to separate debris, details of Contractor's proposed method for maintaining horizontal and vertical control of dredge cuts, including measures to avoid dredging below the allowable overdredge depth, methods to be used to identify locations for control points, including but not limited to tide gages, ranges and buoys.

B. Solid Debris Management Plan:

Within seven (7) days after receipt of Notice to Proceed, a solid debris management plan shall be developed and submitted by the Contractor describing the proposed method and equipment that will be used for sediment screening and removal of artificial obstructions and debris not suitable for disposal at the disposal site. The plan shall identify the methods that will be used for containing, recovering, securing, cleaning and handling of debris encountered during dredge operations and identify the approved/licensed facility where debris will be disposed. The Contractor will be required to provide documentation that all debris disposal was performed at the identified licensed facility via submittal of Bills of Lading indicating the total amount of debris (in tons) was transported and accepted. Licenses or permits shall be submitted for solid waste disposal sites that are not commercial operating facilities.

C. Quality Control Plan:

Within seven (7) calendar days after receipt of Notice to Proceed, the Contractor shall furnish his Quality Control Plan to the Towns' Engineer for review and approval. The plan shall cover in detail each feature of the hydraulic dredging. Copies of the Quality Control Plan shall be made available on site. The Quality Control Plan the Contractor proposes to implement shall identify the personnel, procedures, instructions, records, and forms, and as a minimum, shall include:

1. A description of the quality management organization.
2. The number, classifications, qualifications, duties, responsibilities and authorities of personnel. A copy of the letter signed by an authorized official of the firm, which describes the responsibilities and delegates the authorities of the system manager, shall be furnished.
3. Procedures for processing reports, samples and other submittals.
4. Quality control activities to be performed, including those of subcontractors.

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5. Compliance inspections recorded on a Daily Quality Control Report and the Dredging Report. Construction or dredging will be permitted to begin only after approval of the Quality Control Plan, or approval of that portion of the plan applicable to the particular feature of work to be started. As an additional measure to the implementation of the Quality Control Plan, the Contractor shall meet with representatives of the Owner as soon as practicable after receipt of Notice to Proceed and before start of construction or dredging to discuss the Contractor's quality control system. The meeting shall develop a mutual understanding relative to details of his Quality Control Program including the forms for recording the quality control operations; control activities, testing, administration of the system for both onsite and offsite, and the interrelationship of Contractor and Owner's Engineer's control and surveillance. There may also be occasions when subsequent conferences will be called to reconfirm understandings.

1.04 QUALITY ASSURANCE - CONTRACTOR QUALITY CONTROL

- A. Contractor Quality Control is the means by which the Contractor verifies that his construction/dredging work complies with the requirements of the contract specifications. Contractor Quality Control shall be adequate to cover all construction/dredging and disposal operations.
- B. General: The Contractor shall provide and maintain an effective quality control program. The Contractor's Quality Control Program through inspection, testing, equipment/system operation, and reporting shall demonstrate and document the extent of compliance of all work with the standards and quality established by the contract documents. Inspection and test reports shall make reference to specific drawing and/or specification requirements and shall state inspection/test procedures with both expected and actual results. The burden-of-proof of contract compliance is placed on the Contractor and not assumed by the Owner's Engineer. The Contractor's Quality Control will not be accepted without question.
- C. Notification of Changes: After approval of the Quality Control Plan, the Contractor shall notify the Owners or his authorized representative in writing of any proposed change.
- D. Work Deficiencies: The Contractor shall not build upon or conceal any work containing uncorrected defects. If deficiencies indicate that the Contractor's quality control system is not adequate or does not produce the desired results, corrective actions in both the quality control system and the work shall be taken by the Contractor. If the Contractor does not promptly make the necessary corrections, the Owners may issue an order stopping all or any part of the work until satisfactory corrective action has been taken. Payment for deficient work will be withheld until work has been satisfactorily corrected. If the above does not obtain effective improvement in the Contractor's quality control system, the Towns' Engineer or his authorized representative may direct changes be made in the quality control system and/or organization, including but not limited to the removal and replacement of unsatisfactory quality control representatives at any level or the addition of quality control personnel or services. Any additional cost to the Owners for

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providing quality control services that are not satisfactorily performed by the Contractor, will be deducted from payment due the Contractor. If recurring deficiencies in an item or items indicate that the quality control system is not adequate, such corrective actions shall be taken as directed by the Owner's Engineer or his authorized representative.

E. Quality Control Organization:

1. **System Manager:** The Contractor shall identify an individual within his organization at the site of the work, who shall be responsible for overall management and have the authority to act in all Contractor quality control matters for the Contractor.
2. **Personnel:** Staff shall be maintained under the direction of the system manager to perform all quality control activities. The actual strength of the staff during any specific work period may vary to cover work phase needs, shifts, and rates of dredging. At least one full-time Contractor quality control person fully alert and awake shall be present on-site at all times pumping operations are in progress. The personnel of this staff shall be fully qualified by experience and technically trained to perform their assigned responsibilities.

F. Control: The Contractor's quality control system shall include at least the following three phases of control and management for definable features of work:

1. **Preparatory:** Twenty-four (24) hours in advance of beginning any definable features of work, the Contractor's quality control manager shall review with the Owner's Engineer's inspector(s) the applicable provisions of the specifications and Quality Control Plan and confirm the methods to assure compliance.
2. **Initial:** This phase of control must be accomplished at the time of arrival of personnel on site to accomplish a definable feature of work and at any time new workmen or crews arrive for assignment to the work. The Contractor's control system must permit the transfer of information on quality requirements specified in this contract to each workman before he starts, demonstration from each workman that he can provide the specified quality of work, and motivate him to continue. It is also during this phase that control testing to prove the adequacy of the Contractor's control procedures shall be initiated and verified. The Owner's Engineer or his authorized representative shall be notified at least 24 hours in advance of each initial activity
3. **Follow-up:** The follow-up phase shall be performed continuously to verify that control procedures are providing an end product which complied with contract requirements. Adjustments to control procedures may be required based upon the results of this phase and compliance inspections.

G. Completion: At the completion of the work, the Contractor's quality control representative shall conduct a joint completion review with the Owner's Engineer's inspector(s). During this review the work shall be examined, quality control shall be reviewed, and a list shall be developed of work not properly completed or not conforming

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to plans and specifications. This list shall be included in the quality control documentation with an estimated date for correction of each deficiency. The Contractor shall make sure that deficiencies have been corrected prior to the specified completion date. Payment will be withheld for defective or deficient features until they are satisfactorily corrected.

- H. Quality Control Records:** The Contractor shall maintain current records, on an appropriate approved form, of quality control operations, activities, and tests performed including the work of suppliers and subcontractors. These records shall include factual evidence that the required activities or tests have been performed, including but not limited to the following:
1. Type and number of control activities and compliance inspections.
 2. Results of control activities or inspections.
 3. Nature of defects, causes for rejection, etc.
 4. Proposed remedial action.
 5. Corrective actions taken.

These records shall cover both conforming and defective or deficient features and shall include a statement that supplies and materials incorporated in the work comply with the contract. The Contractor shall submit legible, daily quality control reports to the Owner's Engineer's inspector on the day following the report period. The records shall cover activities performed during the time period for which the records are furnished. These records shall be verified by person so designated by the Contractor. Failure to follow these procedures will be considered a breach of the Quality Control Program and portions of the progress payment may be withheld until it is demonstrated by the Contractor that the construction activities covered by the delinquent reports meet the requirements of the plans and specifications.

1.05 PROJECT CONDITIONS

- A.** Information and data furnished or referred to below are furnished for information only and it is expressly understood that the Town will not be responsible for any interpretations or conclusions drawn therefore by the Contractor.
- B. Weather Conditions:** Complete weather records and reports may be obtained from the U.S. Weather Bureau. The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions during the dredging period and recognize that the suspension of work may be, at times, necessary during extreme events. Tidal currents are not expected to have an adverse effect on dredging operations.
- C. Physical Conditions of Dredge Area:** Physical conditions indicated on the Contract Documents are the results of site investigations by surveys and probing. A copy of the

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analysis performed on sediment samples taken from Rock Harbor are provided in Attachment B. The location of sediment samples are shown on the Drawings. The proposed dredging material is anticipated to consist of silty sand and poorly graded sand sediments which may include storm related debris, shells, clay, sand, silt, mud, trash, abandoned moorings and other miscellaneous debris and/or any combinations thereof. Minor variations in subsurface materials are to be expected and, if encountered, shall not be considered as being materially different. Bidders are expected to examine the site of the work and decide for themselves the character of the material. The Contractor is required to remove all sediment within the areas shown on the Contract Drawings.

- D.** The Contractor shall coordinate with the local utility companies to confirm the presence/location of underwater utilities.
- E.** Anticipated Debris/Obstructions within Dredge Areas: The Contractor shall assume that miscellaneous debris may be encountered as this site supports marine/boating activities. The Contractor shall report any possible obstructions to the Owner's Engineer for instruction prior to starting work.
- F.** Hours of Operation: The Contractor will be allowed to perform dredging operations on a 24-hour per day, seven days per week basis, including holidays for the entire performance period.
- G.** Boat Traffic: Vessel traffic consists of recreational vessels. The Contractor shall be responsible for coordinating with the Owner/Harbor Master to determine access to the site relative to uses/daily needs and shall be responsible for moving dredge plant if so required. The areas are subject to traffic from primarily recreational craft and could potentially cause minor delays to the dredging operations. No additional compensation shall be made for any required moves or minor delays.
- H.** The Owner will not undertake to keep Rock Harbor free from vessels or other obstructions, except to the extent of such regulations, if any, as may be prescribed by the Secretary of the Army, in accordance with the provisions of Section 7 of the River and Harbor Act approved 8 August 1917. The Contractor shall be required to conduct the work in such manner as to obstruct navigation as little as possible, and in case the Contractor's plant obstructs commonly navigated areas as to make passage difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessels to such an extent as may be necessary to afford a safe practicable passage. The Contractor's pipeline shall be anchored at regular intervals to prevent its random meandering ("snaking"), during the dredging operations. In addition, areas where pipeline is floating shall be marked with visible buoys to warn boaters of obstructions. The immediate dredging area, and areas where pipeline is floating freely shall be marked with U.S. Coast Guard approved regulation buoys at 300-foot intervals. Where the Contractor's pipeline crosses any highly traveled areas, it shall be weighted so as to keep it on the bottom for a minimum passage of 200 feet. Weights shall be of the minimum

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size required to keep the pipeline on the bottom, so as not to cause an obstruction, and the area of this crossing shall be conspicuously marked. Upon completion of the work the Contractor shall promptly remove his plant, including ranges, buoys, and other marks placed by him under the contract in navigable waters or onshore.

- I.** Navigation Aids: The Contractor shall not relocate or move any aids to navigation. Any movement or relocation of aids to navigation required for construction activities shall be coordinated with the Harbormaster's Office.

- J.** Notice To Mariners: Should the Contractor, during dredging operations, encounter any objects on the channel bottom which could be a hazard to navigation, he shall immediately notify the Owner's Engineer or his authorized representative as to the location of said object and any other pertinent information necessary for the Owner's Engineer or his authorized representative to determine the appropriate course of action

- K.** Bridge-to-Bridge Radio Communication: The Contractor is required to monitor both channels 13 and 16.

Channel 13: The master, operator, or designated pilot of the vessel must maintain a listening watch on the designated bridge-to-bridge frequency while underway on the navigable waters of the United States. The designated frequency is VHF-FM Channel 13. The person maintaining the watch also must be able to communicate in English.

Channel 16: In addition to the Channel 13 watch, vessels must keep a continuous watch on VHF-FM Channel 16 (International Distress and Calling Channel) while underway, except when transmitting or receiving traffic on other VHF-FM channels (e.g., vessels may switch to other channels to pass traffic, listen to weather reports, etc.) or when participating in and monitoring a VTS channel. While not required to have a VHF-FM radio onboard (Voluntary Ship Stations), vessels not subject to the bridge-to-bridge regulations must maintain a watch on Channel 16 whenever the radio, if onboard, is operating (i.e., energized) and is not being used to communicate on other channels.

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- L. Notification of the US Coast Guard: Prior to commencement of work on this contract, the Contractor shall notify the Commander, First USCG of his intended operations to dredge and request that it be published in the Local Notice to Mariners. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least one week prior to the commencement of this dredging operation.

1.06 SURVEY BENCH MARKS, LINES AND GRADES

- A. The Contractor shall employ, with the Contract Price, a competent Professional Engineer or Surveyor licensed in Massachusetts and may also be an A.C.S.M. Certified Hydrographer who has a minimum of 5-years of experience in hydrographic survey to perform work. In addition, Quality Control surveys, and dredge positioning system installation and setup shall be performed by an individual with at least five (5) years of experience in automated hydrographic surveys and dredge positioning.
- B. The Contractor shall be responsible for the layout of his work. The Owner's Engineer will furnish the coordinates of the dredge footprint. The Owner's Engineer will furnish the coordinates and the monument descriptions of existing horizontal and vertical control available within the project area. Should the existing control not be deemed adequate by the Contractor to perform operations, he/she will be responsible for establishing additional control. This work shall be performed by a Professional Land Surveyor (PLS) licensed in the State of Massachusetts and having a minimum of five (5) years of experience. The Contractor shall be responsible, by utilizing this data, to dredge within the dredging prism shown on the Contract Drawings. The Contractor shall maintain, preserve, repair or replace, at his own expense, any gages or location markers that are lost, damaged or destroyed for any reason subsequent to their initial establishment until authorized to remove them. The Contractor may, at his option, establish offset stakes, back-up stakes, and gages to be utilized in re-establishing any baseline, ranges and gages that are lost, damaged or destroyed. The contract completion time will not be increased due to work delays that result from the failure of the Contractor to maintain, repair or replace the established baselines, ranges and gages.
- C. The Contractor shall give the Owner or the Owner's Engineer adequate/advanced notice of the commencement of work in order to assure the timely completion of the Pre-dredge Survey and the establishment of any necessary dredging layouts. The notice shall be given at least ten (10) days prior to mobilization of the dredge plant to the work site. It is understood that the survey made in response to this notice will constitute the Pre-dredge Survey and any subsequent surveys occasioned through Contractor delays may be charged against the Contractor at a rate of up to \$4,000 per day. If the Contractor fails to provide adequate advance notice, the Owner will not be responsible for any delays in the commencement of work caused by incomplete dredging layouts.
- D. Datum and Bench Marks: The plane of reference Mean Low Water (MLW) shall be used in these specifications for dredging operations. The Contractor shall be responsible for

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the placement and maintenance of tidal reference points for their tide boards (or electronic gauges) at such frequency that there will always be an available tidal reference within 500 feet of the dredge until all work has been accepted as complete.

- E. Horizontal Control:** All dredge control and positioning for this project shall be accomplished by means of dredge mounted GPS controlled positioning systems. The Dredge Positioning shall consist of, as a minimum, a Differential GPS positioning system, an onboard computer with MS Windows 98 or higher, an azimuth determination system (electronic compass), a depth sensing device for the cutterhead, and positioning system software. The operator shall have a full “heads up” computer monitor display within easy view for control of his work. The software shall be “Dredge Pack” package as manufactured by Hypack, “WinOps” as manufactured by Lyman Burke Associates, or approved equal. Positioning systems shall be Differential GPS with sub-meter accuracy, and one second or less update capability. The Operator’s display shall have an outline of the project area and the limits of dredging areas. The dredging areas shall be sectioned into individual cuts which represent the real swing width of the dredge, and shall be stationed at a minimum of 50 foot increments along the direction of dredge travel. The true horizontal position of the dredge cutterhead shall be visible in real time on the display, and the depth of the cutterhead shall also be displayed. The on-board computer shall have the ability to store real-time dredge positions – this data shall be made available to the Owner’s Engineer from time to time on CD ROM format as he/she may request from time to time. The Contractor shall have an individual on site at least four (4) hours per day, who has at least five (5) years of experience in the set-up, operation, calibration and maintenance of on-board marine electronic position systems. This individual shall have a working knowledge of electronic positioning systems, and accepted survey procedures and practices. Prior to the commencement of work, the Contractor shall submit details of his/her proposed dredge positioning system, and the resume of the individual who will be in responsible charge of its setup, operation and maintenance. No dredging work will be allowed to commence until the Contractor’s dredge positioning system is approved by the Owner’s Engineer, operational, calibrated and properly functioning. Prior to the commencement of dredging, the Contractor shall demonstrate to the Owner’s Engineer that the positioning system has been properly calibrated, and shall proof all azimuth and offsets by checking against the stationary position of the dredge utilizing conventional land survey methods. Mean horizontal deviation shall be one (1) meter or less, maximum vertical deviation shall be 0.20 feet. If during dredging operations, the system should malfunction, dredging operations shall cease until such a time that the system is repaired and back in proper operation.

1.07 CODES

- A.** Comply with all applicable permits, codes, ordinances, rules, regulations and laws of all local, municipal, and state authorities having jurisdiction over the work, without additional cost to the Owners.

1.08 CONTRACTOR'S RESPONSIBILITY

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- A. The Contractor shall be responsible that his employees strictly comply with all Federal, State, and municipal laws that may apply to operations under the contract, and it is understood and agreed that the Contractor assumes full responsibility for the safety of his employees, plant, and materials, and for any damage or injury done by or to them from any source or cause, except damage caused to the plant or equipment by acts of the Owner, its officers, agents or employees, in which event such damages will be the responsibility of the Owner in accordance with applicable Federal laws. For the purpose of this clause, the terms "officers, agents or employees" of the Owner shall not include persons who are employed by the Contractor and whose services have been furnished to the Owner pursuant to this or any other contract. The Owner will not be responsible for the dredge and attendant plant, any Owners' property aboard the dredge and attendant plant, or any accidental damage thereto during the period of the contract. The Contractor shall release the Owner and its officers and agents from all responsibility for damages to any/all docking facilities, coastal structures, submerged and aerial crossings, bridges, moored vessels, or other damages ordinarily covered by fire and marine insurance.
1. Warranty: The Contractor warrants to the Owner the quiet and peaceable use of the aforesaid property, and in case of any disturbance, by suit or otherwise, will defend the same free of charge to the Owner in or before the proper State or United States courts.
 2. Delays: If the Contractor refuses or fails to make delivery of the project within the time specified or any extension thereof, as provided in specifications, or to maintain the property in serviceable condition and diligently and competently to conduct the specified operations, the Owner may, by written notice terminate the right of the Contractor to proceed with delivery or with further performance under the contract or such parts or parts thereof affected by the contract or otherwise and the Contractor shall be liable to the Owner for any excess cost occasioned thereby.
 3. Disclaimer: The Contractor shall hold and save harmless the Owner, its officers and employees, from all claims that may arise resulting from the Contractor's negligence in connection with the work to be performed under the contract, or from noncompliance by the Contractor with the provisions of the contract, contract drawings, and specifications and/or the instructions of the Owner's Engineer or his authorized representative.

PART 2 PRODUCTS

2.01 DREDGE PLANT

- A. The dredging to be performed under this contract shall be accomplished with approved modern equipment. Equipment shall be suitable for the proposed work and of a design, size and capacity to effectively perform all of the work required for the project and within the timelines specified for the project.
- B. The plant and equipment list submitted with the Contractor's Proposal shall be the minimum which the Contractor shall place and keep on the job unless otherwise

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determined by the Owner/Owner's Engineer. The listing of plant and equipment is not to be construed as an agreement on the part of the Owner that the equipment is adequate to perform the work.

- C. Plant and equipment employed on the work site shall be in satisfactory operating condition and capable of safely and efficiently performing the work under exposed environmental conditions and as set forth in the specification and shall be subject to inspection by the Owner's Engineer at all times. The pipeline for the hydraulic dredge shall be kept in good condition at all times and inspected regularly at a minimum of once per each hour during operations. Any leaks or breaks along length of the pipeline shall be promptly and properly repaired.
- D. The Contractor shall remove the dredge pipeline as soon as possible and restore any areas impacted by the pipeline to pre-construction conditions or better.
- E. No reduction in the capacity of the plant employed on the work shall be made except by written permission of the Owner's Engineer. The measure of the "Capacity of Plant" shall be its actual performance on the work to which these specifications apply.

PART 3 EXECUTION

3.01 SIGNAL LIGHTS

- A. The Contractor shall display lights and conduct his operations in accordance with the General Regulations of the U.S. Army Corps of Engineers (USACE) and U.S. Coast Guard (USCG) governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65-feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant USGS Instruction M16672.2, Navigation Rules: International-Inland (Comdtinst M16672.2), or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable. (DAEN-PRP-1984 JUL). Lighting shall be placed so as not to interfere with safe navigation.
- B. Marking of Floating Dredge Pipeline: The Contractor shall mark and maintain the floating dredge pipeline in accordance with U.S. Coast Guard navigation rules, inland - NX5-88.15. As a minimum, the Contractor shall mark the pipeline with amber lights visible on all points of the horizon for two (2) miles on a clear night. The lights shall flash at 50-70 times per minute and be placed between 1 and 3.5 meters above the water. Spacing shall be sufficient to clearly show the pipeline length and course. Where the pipeline crosses a navigable channel spacing shall be every ten (10) meters. Two red lights, visible on all points of the horizon, shall be displayed at each end of the floating

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pipeline. They shall be arranged vertically 1 meter apart with the lower light at the same elevation as the amber lights.

3.02 ENVIRONMENTAL LITIGATION: (1974 NOV OCE)

- A.** If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Owner's Engineer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Owner's Engineer in the administration of this contract under the terms of the General Conditions," Termination or Suspension of the Contract" (see Section 3, Article 17). The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.
- B.** The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Owner has not duly considered, either substantively or procedurally, the effect of the work on the environment.

3.03 WORK AT NIGHT

- A.** Each night, between sunset and sunrise and during periods of restricted visibility, the Contractor shall provide lights for floating plants, pipelines, and markers. The Contractor must also provide lights for buoys that could endanger or obstruct navigation. When night work is in progress, maintain lights from sunset to sunrise for the observation of dredging observations. Lighting shall conform to the United States Coast Guard requirements for visibility and color.

3.04 RADIO COMMUNICATIONS

- A.** At all time pumping operations are in progress, the Contractor is responsible and required to provide any and all equipment necessary to maintain 24-hour oral communication between the dredge operator and Quality Control System. Manager. For this purpose, the Contractor shall provide and maintain at his expense a marine band walkie-talkie radio for use by the Owner's Engineer inspector(s). The Contractor is responsible for any and all circumstances not conforming to the plans and specifications resulting from the inadequate operation of the equipment.

3.05 CONTINUITY OF WORK

- A.** The order of work shall commence as outlined herein and shall proceed in one continuous operation. In no case shall the Contractor advance up-station to perform dredging without having cleared the dredged sections behind him/her. The Contractor shall be required to drop back and clear all shoals within one week of completion of any acceptance section

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survey. The Contractor shall not proceed into any new acceptance sections until all known down-station shoals are removed. In the case of an event (such as a pipe break) that leads the Owner's Engineer to believe that excessive shoaling has occurred in previously dredged areas, the dredge shall drop back and correct the shoaling before proceeding into a new section.

- B.** No payment will be made for work done in any area designated by the Owner's Engineer until the full depth required under the contract is secured in the whole of such area, unless prevented by ledge rock, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the Owner's Engineer. Should any such non-adjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening.

3.06 MISPLACED MATERIAL

- A.** Should the Contractor during the progress of the work, lose, dump, throw overboard, sink, or misplace any material, plant machinery, or appliance, which in the opinion of the Owner's Engineer may be dangerous to or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such obstructions, to the Owner's Engineer or inspector, and when required shall mark or buoy such obstructions until the same are removed. Should he refuse, neglect, or delay compliance with the above requirements, such obstructions may be removed by the Owner's Engineer, and the cost of such removal may be deducted from any money due or to become due to the Contractor, or may be recovered under his bond. The liability of the Contractor of the removal of a vessel wrecked or sunk without fault or negligence shall be limited to that provided in Section 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et seq.).

3.07 SHOALING

- A.** If, before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished dredge area, because of the natural lowering of the side slopes, re-dredging at contract price, within the limit of available funds, may be done if agreeable to both the Contractor and the Owner.

3.08 OVERDEPTH AND SIDE SLOPES

- A.** Overdepth: The Contractor shall control and monitor his dredging operations carefully to limit any excess dredging and to ensure compliance with environmental permits. A one (1) foot allowable overdredge depth is authorized for this project. No payment will be made for any material removed from a depth greater than -4.0 feet MLW in these areas or beyond the side slopes shown on the Contract Drawings.
- B.** Side slopes: Material actually removed, within limits approved by the Owner's Engineer, to provide for final side slopes not flatter than 1 vertical on 3 horizontal, but not in excess of the amount originally lying above this limiting side slope will be estimated and paid

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for, whether dredged in original position or by dredging space below the pay slope plane at the bottom of the slope for upslope material capable of falling into the cut.

- C. Excessive dredging: Payment will not be made for material taken from beyond the authorized dredge prism as shown on the Contract Drawings. The Contractor will be held responsible for all disposal costs associated with the additional volume removed beyond the authorized dredge prism. Nothing herein shall be construed to prevent payment for the removal of shoals performed in accordance with the applicable provisions of Section 3.06 SHOALING and Section 3.15 FINAL EXAMINATION AND ACCEPTANCE.

3.09 PRE- AND POST-DREDGE SURVEY

- A. Prior to the start of dredging and at the completion of work (or any section thereof), the Owner's Engineer shall conduct pre- and post-dredge surveys, respectively. These surveys will be used to determine the final payment volume removed by the Contractor. Dredge volumes will be determined based upon cross sections at 25-foot intervals and calculated using Average-End-Method.
- B. Pre- and Post-Dredge surveys shall be performed using precision equipment accurate to 0.10 feet.

3.10 WORK IN THE VICINITY OF PROTECTED HABITAT, STRUCTURES AND UTILITY CROSSINGS

- A. The Contractor shall exercise caution when working in the vicinity of protected habitat, structures and utility crossings or adjacent to the channel or disposal areas. The Contractor shall constantly monitor operations, and the position of the dredge cut, as well as the natural caving of side slopes. It is intended that all dredging fall within the footprint of the Rock Harbor Channel template. Repair of any damage resulting from excessive or improper excavation in the bottom or side slopes of the dredge cut shall be the responsibility of the Contractor. Where dredging to the required elevation might endanger any structure, the Owner's Engineer or his authorized representative may reduce the required excavation in the vicinity of such structure.
- B. The Contractor shall confirm the location, conditions and bottom elevation of the existing Eastham Town Boat Ramp prior to commencing dredging. The Contractor shall identify the means/methods that will be used in the field to confirm existing conditions at the Boat Ramp as part of his/her Work Plan. The dredging of the proposed 3H:1V channel side slope shall take into consideration the conditions confirmed in the field by the Contractor. Any conflict between the Boat Ramp and the dredge operations shall be reported to the Towns' Engineer for resolution prior to commencement of dredging in the vicinity of the Boat Ramp.
- C. The Contractor shall provide at least project dimensions over all utility crossings. The Contractor shall submit for approval by the Owner's Engineer or his authorized representative a detailed plan of operation at each pipeline or utility crossing. The plan

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shall contain emergency measures to be taken in the event of an accident. The Contractor shall notify the owners of pipelines or utilities at least three calendar days prior to operating within 150 feet of a pipeline or utility. The Owners will not be responsible for any damage to structure or utilities due to the Contractor's deviation from the approved plan.

- D. Any unidentified pipelines or structures, which may be found within the limits of work shall not be disturbed nor shall dredging or the disposal of dredged material be performed at these locations unless, and until, approved by the Owner's Engineer.

3.11 WATER QUALITY

- A. The Contractor is solely responsible for meeting all water quality standards and requirements as stated in the permits issued for the project and in accordance with all local, state and federal regulations throughout the duration of dredging and disposal operations. If in the professional opinion of the Towns' Engineer, should turbidity resulting from operations exceed acceptable standards/conditions, the contractor shall be required to implement corrective measures at his/her own expense.

3.12 MISPLACED EXCAVATED MATERIAL

- A. Any material that is deposited elsewhere other than in places designated or approved by the Owner's Engineer or his authorized representative will not be paid for and the Contractor may be required to remove such misplaced material and deposit it where directed at his expense. Misplaced excavated material may constitute a violation of applicable Federal, State, and Local statutes and the Contractor shall be liable for any civil and/or criminal penalties imposed by these statutes.

3.13 RESTORATION OF LANDSCAPE DAMAGE

- A. Any tree, grassed area or other landscape scarred or damaged by the Contractor's equipment shall be restored as nearly as possible to its original condition at the Contractor's expense. The Owner's Engineer shall determine the methods of restoration to be used.

3.14 NON-COMPLIANCE

- A. The Owner's Engineer or his authorized representative will notify the Contractor in writing of any noncompliance with the foregoing provisions. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. Within 24 hours after the receipt of such notice, the Contractor shall mail, or personally deliver to the Owner's Engineer or his authorized representative, a complete proposal of the prompt correction of the noncompliance. The Owner's Engineer or his authorized representative will review the proposal and return it to the Contractor approved, subject to such changes or conditions as he finds necessary to assure correction of noncompliance. Immediately upon receipt of such approval, the Contractor shall begin the corrective work and shall carry it to completion. If the

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Contractor fails or refuses to submit his proposal or to proceed with the corrective work, the Owner's Engineer or his authorized representative may suspend all or any part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such suspension shall be made the subject of a claim for extension of time, nor for excess costs or damages by the Contractor. If he so elects, the Owner's Engineer or his authorized representative may cause the corrective work to be accomplished by others, in which event the cost thereof shall be chargeable against any monies otherwise due the Contractor from the Owner.

3.15 INSPECTION

- A.** Inspection: The work will be conducted under the general direction of the Owner's Engineer and will be subject to inspection by his appointed inspector(s) to insure strict compliance with the specifications. The Owner's Engineer's inspector(s) will direct the maintenance of the navigation system, gages, ranges, location marks, and limit marks in proper order. Portable lighting shall be provided upon request of the Owner's Engineer's inspector(s) for more detailed inspection of potential trouble areas.
- B.** The Owner's Engineer's inspector(s) will direct suspension of operations at any unit of work where the Contractor upon request does not correct:
1. A safety hazard, which is so grave as to endanger life, limb, or property or cause serious damage to the work. This includes but is not limited to a failure on the part of the Contractor (1) to have a full-time quality control person present and fully alert and awake on at all times pumping operations are in progress or (2) provide and maintain the required marine band radio for use by Owner's Engineer's inspector(s) at all times while pumping operations are in progress and/or (3) provide and maintain the approved lighting on the disposal area for safe night operations are all basis for Owner's Engineer's inspector direct suspension of work.
- C.** The Owner's Engineer's inspector(s) will direct the maintenance of the gauges, ranges, location marks and limit marks in proper order and position; but the presence of the Owner's Engineer's inspector(s) shall not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor shall be required:
1. To furnish, on the request of the Owner's Engineer, any Owner's Engineer's inspector, or authorized representative, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work. However, the Contractor will not be required to furnish such facilities for the surveys prescribed.
 2. To furnish, on the request of the Owner's Engineer, any Owner's Engineer's inspector, or authorized representative, suitable transportation from all points on shore designated by the Owner's Engineer to and from the various pieces of plant and to/from the disposal site.
 3. Should the Contractor refuse, neglect, or delay compliance with these requirements,

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the specific facilities may be furnished and maintained by the Owner's Engineer, and the cost thereof will be deducted from any amounts due or to become due the Contractor.

- D.** As part of the Contractor's daily Quality Control Plan, he/she shall take daily soundings behind the dredge to ascertain the accuracy of their dredging operations. The means and methods used for the purposes of quality control shall be described in detail in the Contractor's Quality Control Plan.
- E.** Each month, or at other times when deemed necessary, the Contractor shall perform surveys of the work as it progresses for purposes of monitoring quality control and to determine interim payment. Sounding lines shall be made parallel to the direction of the dredge cut at 25-foot offsets for the width of the dredge cut. The Contractor shall employ a competent Professional Engineer or Surveyor licensed in Massachusetts who may also be an A.C.S.M. Certified Hydrographer and has a minimum of five (5) years of experience in hydrographic survey. Surveys shall be performed by an individual with at least five (5) years of experience in hydrographic surveying in a vessel properly outfitted for hydrographic surveying. Surveys shall be "Special Order" Hydrographic Survey as specified in Appendix B of the USACE Hydrographic Surveys Manual EM-1110-2-1003 from January 2002. Minimal equipment shall include Differential GPS-sub meter positioning system, on-board computer, digital survey grade fathometer with 200 kHz transducer and survey software such as Hypack, Trimble or WinOps. Within three (3) days of performing these surveys, they shall be submitted to the Owner's Engineer for review, along with a plan and schedule for correcting any unsatisfactory work. The submittal package shall include as a minimum, copies of the fathometer charts, a plot of the soundings, and all digital data reduced to ASCII format. Final grades for interim payment purposes shall be determined by comparing the Pre-dredge survey as performed by the Owner's Engineer which will be conducted utilizing a 200 kHz transducer for the determination of depths.

3.16 FINAL EXAMINATION AND ACCEPTANCE

- A.** As soon as practicable after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the Owner's Engineer or his authorized representative, such work will be thoroughly examined at the cost and expense of the Owner by sounding or by sweeping, or both, as determined by the Owner's Engineer or his authorized representative by performing a final (post-dredge) hydrographic survey. Prior to the Owner's Engineer conducting the final survey, the Contractor shall conduct a verification survey and provide the results to the Owner's Engineer for review to determine if the site has been adequately cleared. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination, the Contractor shall be required to remove same by dredging at no additional cost to the Owner, but if the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived by the discretion of the Owner's Engineer or his authorized representative. The Contractor or his authorized

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representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping operations by the Owner's Engineer over an area be necessary by reason of work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the Contractor at the rate of four thousand (\$4,000.00) dollars per day for each day in which the Owner's Engineer's plant is engaged in sounding or sweeping and/ or is enroute to or from the site or held at or near the said site for such operations.

- B.** The Contractor shall allow sufficient time for the confirmation of dredging by the Owner's Engineer and for any associated clean-up of areas to be performed within the established window for dredging. If it is determined that the Contractor has not satisfactorily performed dredging to the required limits/depth and the established dredge window closes, the Contractor will be responsible for returning the following season to complete all required dredging, at his own expense.

- C.** Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

*****END OF SECTION*****

**SCHEDULE OF PRICES – MECHANICAL DREDGE BID
ROCK HARBOR DREDGING PROJECT
AREA 1 (BASIN) BASE BID**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			DOLLARS	CENTS	DOLLARS	CENTS
02000-1	35 in Orleans, 22 in Eastham ASSUME 57, TO BE DETERMINED (TBD)	TIMBER PILE REMOVAL/ RE-INSTALLATION _____ Dollars () per EACH				
02000-2	10 EACH TBD	TIMBER PILE (OAK) REPLACEMENT _____ Dollars () per EACH				
02000-2a	10 EACH TBD	TIMBER PILE (GREENHEART) REPLACEMENT _____ Dollars () per EACH				
02405-1	1 LS	MOBILIZATION/ DEMOBILIZATION/ MECHANICAL DREDGING _____ Dollars () per LUMP SUM				
02405-2	25,380 CY (ESTIMATE- TBD BY PRE- DREDGE SURVEY)	MECHANICAL DREDGING WITH CLAMSHELL BUCKET _____ Dollars () Per CUBIC YARD NOTE THIS VALUE MAY BE REPLACED BY BID ALT 2 OR BID ALT 4				
02405-3	2 TON	DEBRIS DISPOSAL _____ Dollars () per TON				
02405-4	1 TON	SPECIAL DEBRIS DISPOSAL _____ Dollars () per TON				
TOTAL AREA 1 DREDGE BASE BID AMOUNT						

**SCHEDULE OF PRICES – MECHANICAL DREDGE BID
 ROCK HARBOR DREDGING PROJECT
 AREA 2 (CHANNEL) BID ALTERNATE 1**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE DOLLARS CENTS		AMOUNT DOLLARS CENTS	
02000-1	8 in Orleans, 0 in Eastham ASSUME 8, TO BE DETERMINED (TBD)	TIMBER PILE REMOVAL/ RE-INSTALLATION _____ Dollars () per EACH				
02000-2	5 EACH TBD	TIMBER PILE (OAK) REPLACEMENT _____ Dollars () per EACH				
02000-2a	5 EACH TBD	TIMBER PILE (GREENHEART) REPLACEMENT _____ Dollars () per EACH				
		NOTE MOBILIZATION/DEMobilIZATION PAID AS PART OF AREA 1 BASE BID				
02405-2	13,220 CY	MECHANICAL DREDGING WITH CLAMSHELL BUCKET _____ Dollars () Per CUBIC YARD NOTE THIS VALUE MAY BE REPLACED BY BID ALT 3 OR BID ALT 5				
02405-3	5 TON	DEBRIS DISPOSAL _____ Dollars () per TON				
02405-4	1 TON	SPECIAL DEBRIS DISPOSAL _____ Dollars () per TON				
TOTAL AREA 2 DREDGE ALTERNATE 1 BID AMOUNT						

**SCHEDULE OF PRICES – MECHANICAL DREDGE- BID ALTERNATE 2
 AREA 1 (BASIN) ENVIRONMENTAL BUCKET
 ROCK HARBOR DREDGING PROJECT**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE DOLLARS CENTS		AMOUNT DOLLARS CENTS	
02405-2a	25,380 CY (ESTIMATE - TBD BY PRE- DREDGE SURVEY)	MECHANICAL DREDGING WITH ENVIRONMENTAL BUCKET IF NEEDED BY PERMITS UNCONFINED OFFSHORE DISPOSAL AT CCBDS <div style="text-align: center;"> <hr style="width: 20%; margin: 0 auto;"/> Dollars () per CUBIC YARD </div>				
TOTAL ENVIRONMENTAL BUCKET DREDGE BID ALTERNATE 2						

**SCHEDULE OF PRICES – MECHANICAL DREDGE- BID ALTERNATE 3
 AREA 2 (CHANNEL) ENVIRONMENTAL BUCKET
 ROCK HARBOR DREDGING PROJECT**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE DOLLARS CENTS		AMOUNT DOLLARS CENTS	
02405-2b	13,220 CY (ESTIMATE - TBD BY PRE- DREDGE SURVEY)	MECHANICAL DREDGING WITH ENVIRONMENTAL BUCKET IF NEEDED BY PERMITS UNCONFINED OFFSHORE DISPOSAL AT CCBDS <div style="text-align: center;"> <hr style="width: 20%; margin: 0 auto;"/> Dollars () per CUBIC YARD </div>				
TOTAL ENVIRONMENTAL BUCKET DREDGE BID ALTERNATE 3						

**SCHEDULE OF PRICES – HYDRAULIC DREDGE- BID ALTERNATE 4
 AREA 1 (BASIN)
 ROCK HARBOR DREDGING PROJECT**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			DOLLARS	CENTS	DOLLARS	CENTS
02430	25,380 CY (ESTIMATE - TBD BY PRE- DREDGE SURVEY)	HYDRAULIC DREDGING WITH UNCONFINED OFFSHORE DISPOSAL AT CCBDS _____ Dollars () per CUBIC YARD				
TOTAL HYDRAULIC DREDGE BID ALTERNATE 4						

**SCHEDULE OF PRICES – HYDRAULIC DREDGE- BID ALTERNATE 5
 AREA 2 (CHANNEL)
 ROCK HARBOR DREDGING PROJECT**

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			DOLLARS	CENTS	DOLLARS	CENTS
02430	13,220 CY (ESTIMATE - TBD BY PRE- DREDGE SURVEY)	HYDRAULIC DREDGING WITH UNCONFINED OFFSHORE DISPOSAL AT CCBDS _____ Dollars () per CUBIC YARD				
TOTAL HYDRAULIC DREDGE BID ALTERNATE 5						

	EASTHAM		ORLEANS
ITEM			
PILES REMOVE AND REPLACE	# piles		# piles
Number of Piles	22		43
	volume (CY)		
AREA 1 BASIN DREDGE VOLUME ESTIMATE	10,980		14,400
AREA 2 CHANNEL DREDGE VOLUME ESTIMATE	5,720		7,500
TOTAL VOLUME ESTIMATE	16,700		21,900
SHARE OF MOBILIZATION AND DEMOBILIZATION COST	1/2		1/2

END OF ADDENDUM #1
