



TOWN OF ORLEANS

DEPT. OF PUBLIC WORKS & NATURAL RESOURCES

THOMAS E. DALEY, P.E.
DIRECTOR

139 MAIN STREET, ORLEANS, MASSACHUSETTS 02653
Telephone (508) 240-3700 ext. 363 Fax (508) 240-3711
www.town.orleans.ma.us
tdaley@town.orleans.ma.us

To: John Kelly / Town Administrator
Fr: Tom Daley / DPW Director *TD*
Re: Rock Harbor Dredging
Date: 4/28/14

I have completed my review of the Rock Harbor Dredging project bids and specifications. Based upon the information I recommend requesting \$900,000 from Town Meeting for the project. The \$900,000 includes a 10% contingency. The attached spreadsheet illustrates the backup for the project costs. Please note at this time to the best of my knowledge, Eastham is carrying anywhere from \$650,000 to \$700,000 depending upon which contingency they carry. They are less than us for two reasons. First, they are only carrying \$24/CY and \$29/CY for dredging with a clamshell bucket whereas I am carrying \$32/CY and \$34/CY for dredging with an environmental bucket. I believe carrying the higher amount is more conservative and appropriate because we do not know yet which bucket the Army Corp will require when the permitting is completed.

Orleans is also a bit higher due to the 46% / 54% split based upon actual quantities in the respective community. The estimate is not based upon the actually Town line but a line established down the center of the channel which I agree is a reasonable approach. Our mutual engineer determined and certified the quantities. Therefore, I have no issues.

I have attached copies of the actual bid submissions.

Please let me know if you have any questions.

Thank you.

Cc: Myra Suchenicz
Nathan Sears
N. Andre'

Town of Eastham

Department of Public Works
555 Old Orchard Road
Eastham, MA. 02642



508 240-5973
Fax 508 240-6687

To: Sheila Vanderhoef, Town Administrator
From: Neil Andres, Superintendent DPW
Date: April 4, 2014
RE: Rock Harbor Bid Results

On April 2nd, bids were received for the Rock Harbor Dredge project. I am working to review the bids with Nate Sears, Acting Orleans' Natural Resource Manager and Jeff Oaks, Consulting Engineer.

If the contract is awarded to the apparent low bidder, the total cost of dredging Rock Harbor including construction inspection, is now estimated at \$1,343,290 and is summarized on the attached. These project estimates are based on mechanically dredging both the Rock Harbor basin and channel. Disposal of silt and sand would be in Cape Cod Bay Disposal Site. Project permits to dredge without an environmental bucket and to dispose of sand offshore are still pending but verbal discussions with permitting staff are favorable. If the Corps requires using the sand portion of the dredge materials for beach nourishment, the towns will have to work together with the Consulting Engineer to determine how to accomplish this using different bid alternates, while staying within an appropriation.

I recommend that the fairest and most practical way to allocate the costs between the two towns is to have each town pay for dredging the part of the Harbor that is on its side of the centerline of the channel and basin, as shown on the plan of record. The approximate quantities of dredge spoils on each side of this centerline were estimated by CLE Engineering based on a survey conducted by the Barnstable County Dredge. (See attached)

In the past, when dredge project costs were much lower and Orleans did not dredge under the Charter boats in its marina, the towns split the costs of maintenance dredging equally. Given the much higher cost of dredging in 2014 compared to several years ago, and because more dredging must take place in Orleans than Eastham, I am recommending a fairer cost allocation. Using the centerline of the channel is a practical way to determine the split in the costs to dredge the Harbor.

Based on using the centerline of the channel to allocate costs, Eastham's share of the project would be \$611,914 and Orleans would be \$731,376. With a 10% contingency added the estimated cost for Eastham would be \$675,000.

CC: Nate Sears, Acting Natural Resource Manager, Orleans

**ROCK HARBOR DREDGING PROJECT
COASTLINE CONSTRUCTION - MECHANICAL DREDGE BASIN AND CHANNEL WITH CURTIAN
COST ESTIMATE INCLUDING INSPECTION
ESTIMATED TOWN SHARES***

	EASTHAM		ORLEANS		Total \$
BASE BID - BASIN					
ITEM					
1. PILES REMOVE AND REPLACE	# piles		# piles		
Number of Piles	22		35		
Cost		\$26,400		\$42,000	\$68,400
2. PILES new	# piles		# piles		
Number of Piles	10		10		
Cost		\$30,000		\$6,000	\$36,000
2. MOB DEMOB SPLIT EVENLY		\$50,000		\$50,000	\$100,000
MECHANICAL DREDGE - Basin					
	volume (CY)	Cost (\$27/CY)	volume (CY)	Cost (\$27/CY)	
3. Estimated Total Basin Quantities and Cost	11786	\$318,222	13594	\$367,038	\$685,260
4. Debris disposal - estimated in case dredge finds debris		\$1,350		\$1,350	\$2,700
TOTAL BASE BID - BASIN					\$ 892,360.00
ALT 1 - MECHANICAL DREDGE - CHANNEL					
1. PILES REMOVE AND REPLACE	# piles		# piles		
Number of Piles			8		
Cost		\$0		\$9,600	\$9,600
2. PILES new	# piles		# piles		
Number of Piles - oak			5		
Cost		\$0		\$3,000	\$3,000
Number of Piles - greenheart			5		
Cost		\$0		\$15,000	\$15,000
MECHANICAL DREDGE - channel					
	volume (CY)	Cost (\$29/CY)	volume (CY)	Cost (\$29/CY)	
3. Estimated Total Channel Quantities and Cost	5723	\$165,967	7497	\$217,413	\$383,380
4. Debris disposal - estimated in case dredge finds debris		\$2,475		\$2,475	\$4,950
TOTAL ALT 1 CHANNEL					\$415,930
ALT 6 TURBIDITY CURTAIN		\$2,500		\$2,500	\$5,000
TOTAL MECHANICAL DREDGE - TOWN SHARES		\$596,914		\$716,376	\$1,313,290
CONSTRUCTION INSPECTION		\$15,000		\$15,000.00	\$30,000.00
ESTMATED DIRECT COST TO EACH TOWN		\$611,914		\$731,376	\$1,343,290
EASTHAM ESTIMATED COST PLUS CONTINGENCY					
	6%	\$650,000			
	10%	\$675,000			
	14%	\$700,000			

* Town shares in this analysis are based on each town paying the direct cost to dredge its side of the centerline of the Basin and Channel. Other costs are paid by each town as applicable. Engineering and mobilization costs are shared equally.

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1062500X

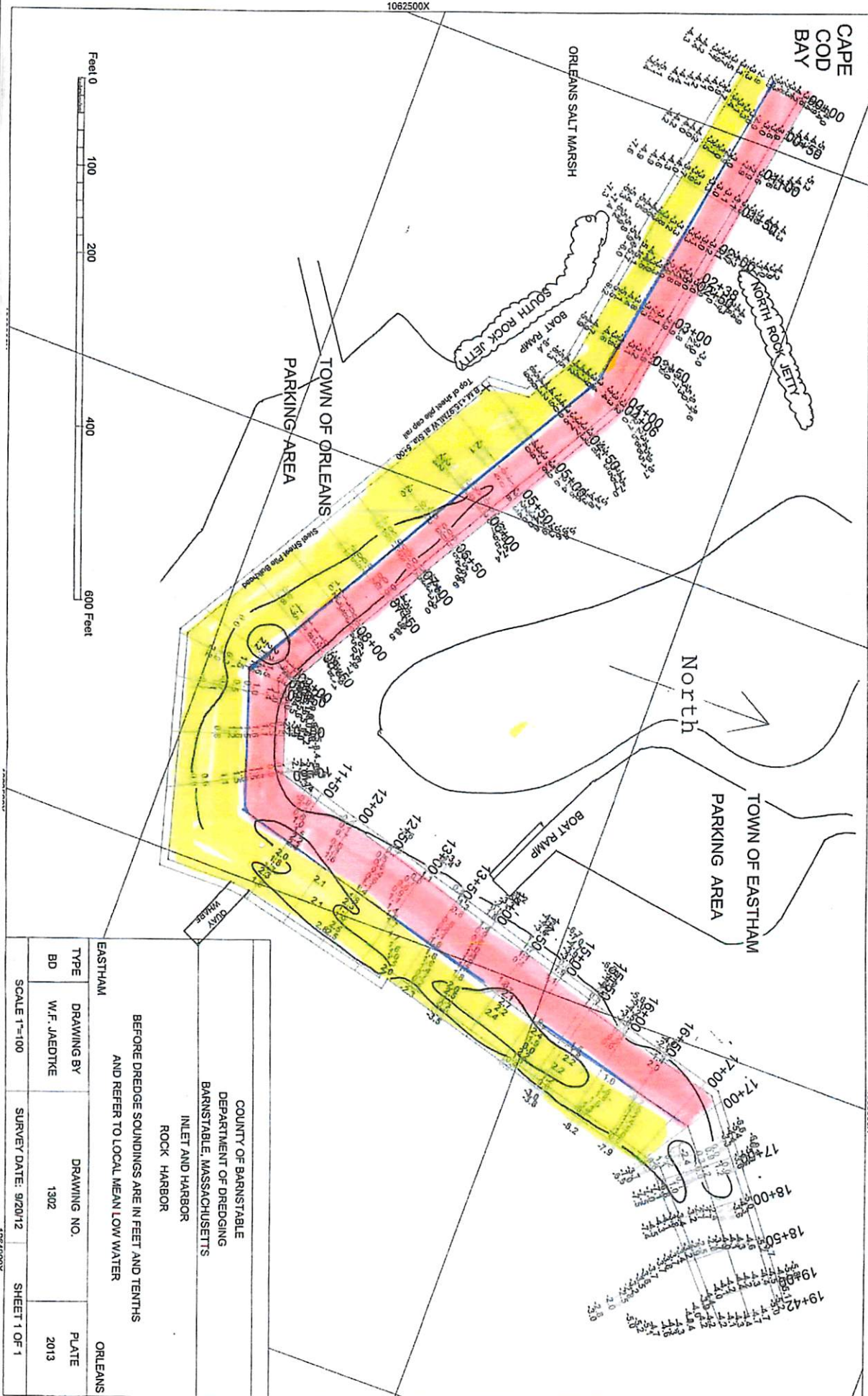
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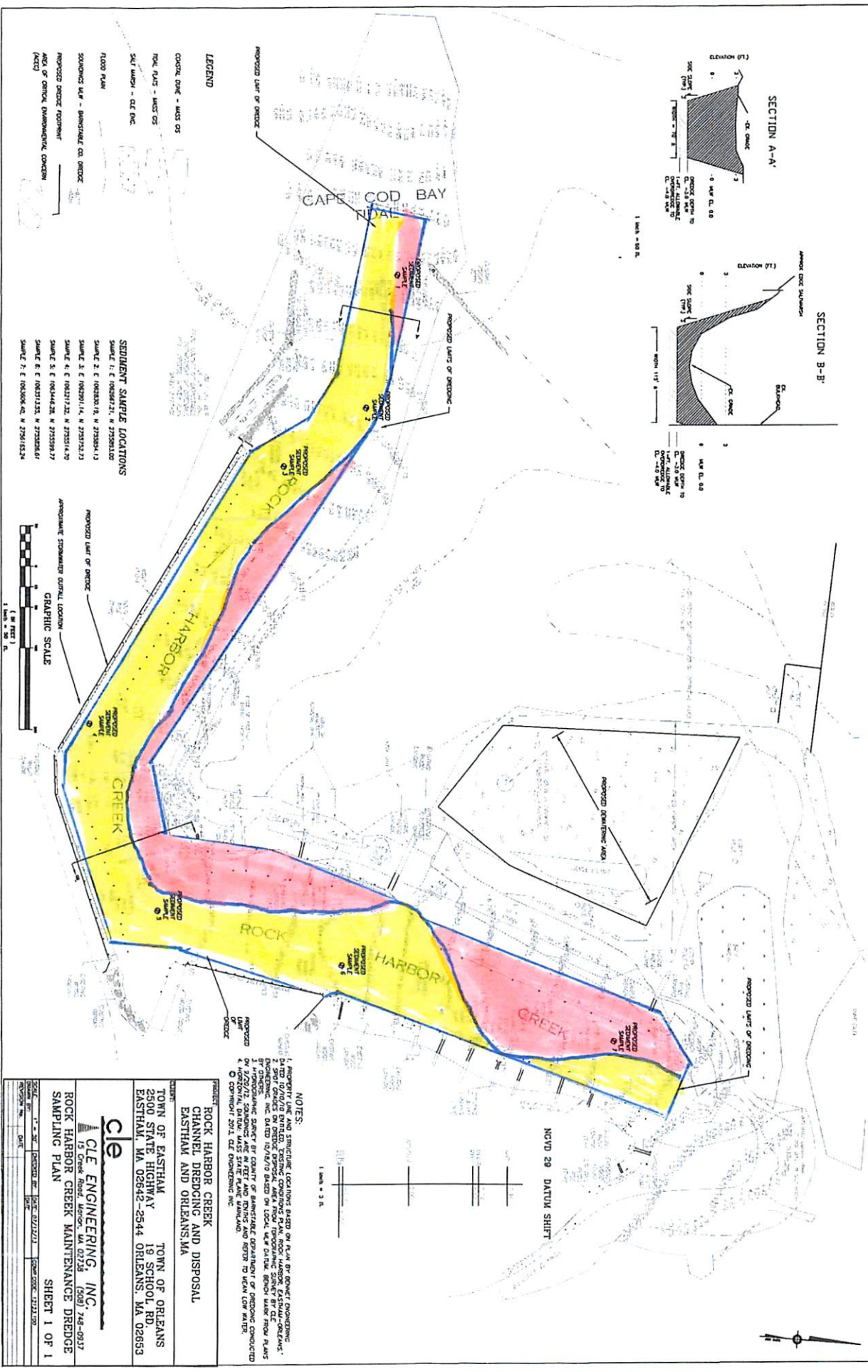
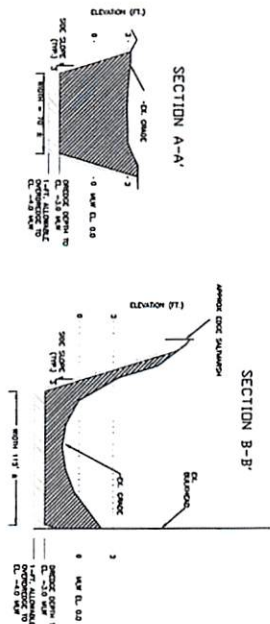
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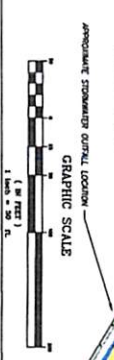


EASTHAM		ORLEANS	
TYPE	DRAWING BY	DRAWING NO.	PLATE
BD	W.F. JAEDTKE	1302	2013
SCALE 1"=100'		SURVEY DATE: 9/20/12	
		SHEET 1 OF 1	
COUNTY OF BARNSTABLE DEPARTMENT OF DREDGING BARNSTABLE, MASSACHUSETTS INLET AND HARBOR ROCK HARBOR			
BEFORE DREDGE SOUNDINGS ARE IN FEET AND TENTHS AND REFER TO LOCAL MEAN LOW WATER			

ORLEANS
 EASTHAM
 SPLIT DOWN MIDDLE



- LEGEND**
- CONCRETE DAM - MASS OS
 - PAV. PLAYS - MASS OS
 - SOIL MASHPI - C&D DRED
 - FLUVO PLAYS
 - SOUNDINGS MAP - BARNSTABLE CO. DREDGE
 - PROPOSED DREDGE FOOTPRINT
 - AGE OF CHANNEL DIMENSIONAL CONCEPT (ACT)
- SEDIMENT SAMPLE LOCATIONS**
- SAMPLE 1: E. 1062871.21, N. 2725521.22
 - SAMPLE 2: E. 1062820.19, N. 2725524.13
 - SAMPLE 3: E. 1062801.14, N. 2725512.23
 - SAMPLE 4: E. 1062817.22, N. 2725514.29
 - SAMPLE 5: E. 1063442.26, N. 2725529.27
 - SAMPLE 6: E. 1063313.21, N. 2725526.41
 - SAMPLE 7: E. 1063006.42, N. 2726153.24



NOTES:

- PROPERTY LINE AND STRUCTURE LOCATIONS BASED ON P.L.M. BY BOWEN ENGINEERING, INC. DATED 02/24/10.
- SPOT DATUMS ON DREDGE DREDGING AREA FROM HYDROGRAPHIC SURVEY BY C&D ENGINEERING, INC. DATED 02/24/10. BASED ON LOCAL MEAN DATUM. BENCH MARK FROM PLAYS 51.
- HYDROGRAPHIC SURVEY BY CANARY OF BARNSTABLE DEPARTMENT OF DREDGING CONDUCTED 02/24/10. DATUM: MASS STATE MEAN DATUM 54.0.
- CONVENTION 2011, DATUM ENGINEERING, INC.

PROJECT:
ROCK HARBOR CREEK CHANNEL DREDGING AND DISPOSAL EASTHAM AND ORLEANS, MA

CLIENT:
TOWN OF EASTHAM 2500 STATE HIGHWAY 19 SCHOOL RD. EASTHAM, MA 02642-2544 ORLEANS, MA 02653

ENGINEER:
CLE ENGINEERING, INC. 19 Creek Road, Orleans, MA 02725 (508) 748-0937

ROCK HARBOR CREEK MAINTENANCE DREDGE SAMPLING PLAN SHEET 1 OF 1

SCALE: 1" = 50' (DREDGE AREA) 1" = 200' (OTHER)

DATE: 02/27/21 2021

ORLEANS
 EASTHAM
 SPLIT BASED ON TOWN LINE

From: Tom Daley
Sent: Wednesday, April 16, 2014 8:56 AM
To: John Kelly
Subject: FW: Rock Harbor dredging
Importance: High

fyi

Thomas E. Daley, P.E.
Director of Public Works &
Natural Resources
139 Main Street
Orleans, MA 02653
(508) 240-3700 ext. 363

From: Jeff Oakes [<mailto:joakes@cleengineering.com>]
Sent: Wednesday, April 16, 2014 8:21 AM
To: nandres@eastham-ma.gov; Nathan Sears; Tom Daley
Subject: Rock Harbor dredging

Hello Gentlemen,

I attached some good news from the Corps of Engineers. Their Determination of Suitability allows for disposal of the all the dredged material as beach nourishment as well as disposal of all the dredged material at the Cape Cod Bay Disposal Site (as was the project was ultimately bid and for which you have a price). The Corps notes "the applicants should be encouraged to use these sediments for beach nourishment." I'll have to make a strong case for depositing all the material in the Cape Cod Bay Disposal Site in the permit applications. As soon as I receive authorization from the Town of Orleans to do so I'll complete the permit application process.

Thank you
Jeff



Jeffrey W. Oakes, P.E. | Senior Project Manager
t: 508.748.0937 | 800.668.3220 | f: 508.748.1363
15 Creek Rd | Marion, MA 02738 | cleengineering.com

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Memorandum Thru:

Ruth M. Ladd, Chief, Policy Analysis and Technical Support Branch

4/7/2014
X RUTH M LADD

For: Richard Kristoff, Project Manager, CENAE-R-PEA

Subject: Suitability Determination for Towns of Eastham and Orleans, Massachusetts, Rock Harbor, Application Number 2013-1792.

1. Summary:

Based on an evaluation of the data that characterize the material proposed to be dredged, this memorandum addresses the suitability of that material for disposal as proposed in accordance with applicable regulations. The Marine Analysis Section (MAS) finds that the data provide sufficient information to satisfy the evaluation and testing requirements of the appropriate regulations. These sediments are suitable for **beach disposal** as proposed. These sediments are also suitable for unconfined open water disposal at the **Cape Cod Bay Disposal Site (CCBDS)** as proposed. The applicants should be encouraged to use these sediments for beach nourishment.

2. Project Description:

The applicants are proposing to dredge in Rock Harbor a channel and basin of approximately 4.4 acres to a depth of -3' MLW, with a 1' overdredge. A total volume of approximately 38,000 cu. yds. would be produced. The applicants propose to hydraulically dredge the sandy material from the outer channel, an estimated 27,060 cu. yds., dewater it on an upland area adjacent to the Eastham boat ramp parking lot and truck it to a nearby beach for disposal. Alternately, they will mechanically dredge and dispose of this sandy material at Cape Cod Bay Disposal Site (CCBDS). In either case, they propose to mechanically dredge the inner channel and basin, an estimated 11,500 cy, and dispose of any silty material at the CCBDS. This area was last dredged in 2005.

3. Sampling and Testing:

I prepared a sampling plan for this project on 5 November 2013. The plan called for seven cores to be taken from the project area. On 29 January 2014, I created a compositing plan for the sediment chemistry tests using grain size data submitted by the applicant. The samples ranged from 0.530% to 42.6% fines. See the spreadsheets for details. Bulk sediment chemistry analyses were conducted on **2** composite samples of **2** samples each (**S-4 and**

S-5; S-6 and S-7).

Comparison to **CCBDS** Reference Values

Metals: The contaminant concentrations in the sediments represented in both samples were below or near the contaminant concentrations found at the **CCBDS** reference site. See the attached spreadsheets for details.

PAHs: In both of the project sediment samples, the PAH concentrations were below or near the 1986 means found at the **CCBDS** reference site. In both of the project sediment samples, the PAH concentrations were below or near the 1994 values found at the **CCBDS** reference site. The absolute values of the PAHs, ranging from 16.2 ppb to 111.2 ppb, can be considered “low”. See the attached spreadsheets for details.

PCBs/Pesticides: For PCBs and pesticides, the contaminant concentrations in the project were below the analytical detection limits in all of the project sediment samples tested. See the attached spreadsheets for details.

4. Regulations governing the determination of the suitability of dredged material for open-water disposal:

The disposal of dredged material seaward of the high tide line in **Cape Cod Bay** is regulated under Section 404 of the Clean Water Act (CWA). Subpart G of the Section 404(b)(1) guidelines (40 CFR Section 230.60 and 230.61) describes the procedures for determining the suitability of this material for open-water disposal, including any relevant testing that may be required.

40 CFR 230.60 General Evaluation of Dredged or Fill Material

(a) This subsection states that further testing may not be necessary if it could be determined with the evaluation under paragraph (b) that the sediment is not a carrier of contaminants. Dredged or fill material is most likely to be free from pollutants when it is composed primarily of sand, gravel or other naturally occurring inert material. Based upon our Tier 1 review, all of the proposed dredge sediment is primarily sand, gravel or other inert material in an area of high current and/or wave energy and evaluation under paragraph (b) below indicates the material is not a carrier of contaminants. Therefore, this subsection does apply.

(b) This subsection states that the site should be evaluated to determine whether it is sufficiently removed from sources of pollution. These factors include records of spills or potential routes of contamination, like outfall pipes. A storm drain outfall is located at the Orleans Marina. There have been recent small spills of fuel and hydraulic fluid in this harbor. The samples with the

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SUBJECT: Suitability Determination for Towns of Eastham and Orleans, Massachusetts, Rock Harbor, Application Number 2013-1792.

most fines and therefore most likely to be contaminated, S-4, S-5, S-6, S-7, were analyzed for bulk sediment chemistry. As discussed below in section 230.61(c), only low amounts of the contaminants of concern were detected. Therefore, these sediments are sufficiently removed from sources of pollution.

(c) This subsection states that further testing may not be necessary if certain conditions and circumstances make it unlikely that the dredged material would degrade the disposal site. For the project to meet this exclusion, the material to be dredged and the material at the disposal site must be adjacent to each other and composed of the same materials and subject to the same sources of contaminants. As the project site is not adjacent to the disposal site, this exclusion does not apply to this project.

(d) This subsection states that further testing may not be necessary if the material to be dredged is constrained, both to reduce contamination within the disposal site and to prevent transport of contaminants beyond the boundaries of the disposal site. As such constraints in handling are not proposed, this subsection does not apply.

40 CFR 230.61 Chemical, Biological and Physical Evaluation and Testing

(a) This subsection describes the purpose of Part 230.61 and does not give any criteria for the evaluation of sediments.

(b) This subsection states that dredged material may be excluded from testing for water column effects and benthic bioassays if it is determined, by evaluation under 40 CFR Part 230.60, that the likelihood of contamination is acceptably low. Such testing is not needed, as it was determined, based on evaluation under Part 230.60, that the likelihood of contamination is low.

(c) This subsection states that an inventory of the concentrations of the contaminants of concern would aid in an environmental assessment of the impact of their disposal on the designated disposal site. Such an inventory was performed at the dredge site. See Section 3 above and the attached spreadsheets for details. The dredged materials have low concentrations of all contaminants of concern and should have minimal impact at the disposal site.

CENAE and the federal agencies did not think an analysis of biological community structure was needed for this project.

(d) This subsection states the importance of the disposal of dredged materials on the characteristics of the physical substrate. MAS determined that the likelihood of physical effects from the disposal of the dredged material at the disposal site should be minimal. Although some benthic marine

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SUBJECT: Suitability Determination for Towns of Eastham and Orleans,
Massachusetts, Rock Harbor, Application Number 2013-1792.

organisms will be buried by the disposal of the project materials, the disposal site should be rapidly re-colonized.

5. Copies of the above mentioned data and of the draft suitability determination were sent to the State DEP, US EPA, and US F&WS for their review. The EPA responded to say that they concur with the determination. No response was received from the US F&WS within the 10-day response period so their concurrence may be assumed.

6. If you have any questions, please contact me at (978) 318-8660 or phillip.w.nimeskern@usace.army.mil.

3/31/2014

X 

PHILLIP W. NIMESKERN
Project Manager,
Marine Analysis Section

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SUBJECT: Suitability Determination for Towns of Eastham and Orleans,
Massachusetts, Rock Harbor, Application Number 2013-1792.

Sample	Coarse Sand	Medium Sand	% Fine Sand	% Fines
S-1	1.17	36.9	61.2	0.680
S-2A	0.550	34.8	64.1	0.530
S-2B	0.120	8.73	90.2	0.910
S-3A	0.340	27.8	71.4	0.430
S-3B	0.250	7.78	88.4	3.54
S-4	0.180	5.12	84.9	9.83
S-5	0.180	4.43	87.1	8.21
S-6	0.00	5.54	79.2	15.2
S-7	0.00	18.6	38.8	42.6

March 13, 2014

Mr. Neil Andres
Superintendent, Department of Public Works
Town of Eastham
555 Old Orchard Road
Eastham, MA 02642-2544

Mr. Dawson Farber, IV
Harbormaster, Shellfish Constable
Town of Orleans
19 School Road
Orleans, MA 02653

Via E-mail

RE: Rock Harbor Dredging

Dear Misters Andres and Farber,

CLE Engineering, Inc. (CLE) understands that based on the joint Town of Eastham and Town of Orleans Selectmen's meeting held on January 13, 2014, CLE was directed to proceed with the preparation of technical specifications for the dredging of Rock Harbor in Eastham and Orleans. The Towns of Eastham and Orleans (Towns) will incorporate CLE's technical specifications and drawings into bid documents for solicitation of technical and price proposals from dredging contractors. The Towns wish to obtain price proposals prior to the Spring Town meetings to be held in April 2014.

CLE provided a letter dated January 30, 2014 describing our intent to proceed with the development of the technical specifications based on the combined hydraulic/mechanical dredging with disposal as beach nourishment and at the Cape Cod Bay Disposal Sites (CCBDS). A draft of the technical specifications was provided for review and comment of February 26, 2014.

On March 10, 2014, CLE was instructed by the Town of Eastham to revise the scope of the project to reflect the Town of Eastham and the Town of Orleans decision to bid the project as a mechanically dredging with open ocean disposal project; eliminating the hydraulic dredging with beach nourishment component entirely. The Towns had put the advertisement in the Central Register with a publication date of March 12, 2014 at which time the bid documents incorporating CLE's technical specifications would be available to interested contractors.

CLE spent additional time to promptly revise the plans and technical specifications to accommodate the change in project scope. The bid documents were made available to

interested contractors on March 12th.

CLE was requested to provide a proposal for outstanding services required for the successful completion of the dredging project. These services generally include the revisions the technical specifications, revisions to permit applications, pre-bid meeting, response to bidders' questions and assistance with selection of the successful bidder. Additional construction oversight services include the review of submittals, pre-dredge survey with volume calculations, on-site meeting, and post-dredge survey with payment volume calculations. Further description of the proposed services is provided below; the Task numbering follows the system used in the December 20, 2012 contract between CLE and the Towns (Contract):

1. Task 5. Environmental Permitting: As noted in the second paragraph of page 7 of the Contract, "Once a Town-approved dredge and disposal plan has been devised for the proposed project, environmental permitting will commence." The Towns had agreed upon a combination of hydraulic dredging with beach nourishment and mechanical dredging of unconfined ocean disposal. A dewatering basin for the drying of hydraulically dredged sand to facilitate its trucking to the beach nourishment sites was designed. The permit plans and applications were prepared for the hydraulic and mechanical dredging project and made ready for submittal. Subsequently the project scope was revised to eliminate the hydraulic dredging and beach nourishment component which also required that CLE request that the Corps of Engineers (COE) Marine Analysis Section re-evaluate the project in their development of a determination of suitability of the sediment for a variety of disposal options. It will now also be necessary for CLE to revise all the plans and permits to reflect the change in project scope.
2. Task 6. Final Design and Specifications: As noted in Task 6, bullet item 3 of the Contract, specifications were to be prepared to obtain bids for a single dredge and disposal project consisting of both hydraulic and mechanical dredging. It was initially assumed that the Barnstable County Dredge (BCD) would be responsible for the hydraulic dredging component for which bid documents would not be written. However CLE was subsequently directed to provide technical specifications for the hydraulic dredging component for inclusion with the Town's bid documents. The intent was to solicit bids from contractors other than the BCD for the hydraulic dredge component including the construction of the dewatering facility(s), the loading and trucking of the dewatered sand to the four beach nourishment sites and the spreading of the sand on the beach nourishment sites. Those specifications were prepared at additional cost to CLE and provided on February 26, 2014. Subsequently the specifications were again revised at additional cost to CLE for mechanical dredging only and provided on March 11, 2014.

3. Task 7. Bid Phase Services: Based on our current understanding of the project and in the absence of permit conditions from local, state and federal agencies, CLE proposes to provide the following bid phase services:
 - a. Bid Phase Services: attend the Pre-Bid Conference on March 20, 2014 for which minutes will be prepared. Additionally, Contractor's requests for information will be prepared and as many as two (2) Contract Addenda will be prepared if needed. CLE will also review and provide a summary of the bids to the Towns for comparison.

PROPOSED TASK COSTS

Task Number	Description	Cost
5	Environmental Permitting	\$3,760
6	Final Designs and Specifications	\$4,665
7	Bid Phase Services	\$3,835
	TOTAL CHANGE ORDER #1	\$12,260

Cost:

CLE estimates the cost to complete the above scope of services for Tasks 5 through 9 as **\$12,260.00**. Please note this includes approximately \$4,004 for time already spent outside our existing contract from the end of the last billing period of February 16, through March 01, 2014.

Conditions & Exclusions:

1. No provisions have been made for performing any additional surveying, site inspections, testing, engineering analysis, structural evaluations, engineering designs, geotechnical investigations or environmental permitting services. CLE does not warranty that any or all permits will be issued for the project as proposed. Any and all work beyond the scope and durations of the above-described services shall be deemed an extra and contracted for prior to the commencement of work.

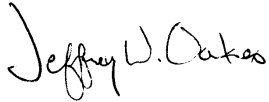
Proposed Timeline:

CLE anticipates starting the work for the additional tasks immediately upon receipt of a Notice to Proceed in the form of this approved and signed Change Order Request from the Town of Eastham for one half the value and from the Town of Orleans for on half the value. CLE proposes to first initiate conversations with the COE permitting section to obtain a sense of their position relative to the disposal of sand at the Cape Cod Bay Disposal Site (CCBDS) that may otherwise be suitable for beach nourishment. The COE Marine Analysis Section is currently preparing the sediment suitability determination. They indicated in an e-mail provided to you

that beach nourishment is the preferred alternative, so a strong case will need to be made for sand disposal at the CCBDS rather than as beach nourishment.

Please contact me with any questions.

Very truly yours
CLE Engineering, Inc.



Jeffrey W. Oakes
Senior Project Manager

Six Thousand One Hundred Thirty Dollars (\$6,130.00)
Contract Value:

Approved By:

Date:

Title:

March 13, 2014

Mr. Neil Andres
Superintendent, Department of Public Works
Town of Eastham
555 Old Orchard Road
Eastham, MA 02642-2544

Mr. Dawson Farber, IV
Harbormaster, Shellfish Constable
Town of Orleans
19 School Road
Orleans, MA 02653

Via E-mail

RE: Rock Harbor Dredging

Dear Misters Andres and Farber,

CLE was requested to provide a proposal for construction oversight services required for the successful completion of the Rock Harbor dredging project. Construction oversight services include the review of submittals, pre-dredge survey with volume calculations, on-site meetings, and post-dredge survey with payment volume calculations. Further description of the proposed services is provided below.

1. Task 1. Unclassified Meetings/Oversight/Inspections:
 - a. CLE will provide an Engineer to participate in meetings on-site or via telephone to address issues that may arise during the project relative to the design, permitting and construction.
 - b. CLE will review Submittals provided by the Contractor as required by the Technical Specifications. CLE will review the submittals for completeness and compliance with the Technical Specifications and will notify the Contractor if the submittal is accepted or if an alternative method or material is required
 - c. A maximum of 50 hours of meeting time will be provided.
 - d. CLE will provide field measurement or inspection services as requested by the Towns to determine payment for the Unit Price Pay items such as the pile removal and replacement pay item. A maximum of 40 hours of inspection time will be provided.

2. Task 2. Pre and Post Dredge Surveys: Pre and post dredge surveys of the Rock Harbor dredge footprint are required to establish the pre dredge channel bottom elevation and the

post dredge channel bottom elevations. A comparison between the pre and post dredge surveys allows for the calculation of the volume of sediment that has been dredged. The calculated volume of material removed from within the allowable dredge template is the volume for which the Contractor is paid. CLE proposes to provide a boat and crew with all equipment to perform a single – beam survey using a 200 kHz transducer and DGPS positioning integrated by means of HyPack® software. Survey lines approximately the entire width of the channel and the entire length of the approximately 1,620’ long channel 50’ spacing perpendicular to the channel centerline.

PROPOSED TASK COSTS

Task Number	Description	Cost
1	Unclassified Meetings/Oversight/Inspections	\$15,320
2	Pre and Post Dredge Surveys	\$10,500
	TOTAL CONTRACT VALUE	\$25,820

Cost:

CLE estimates the cost to complete the above scope of services for Tasks 5 through 9 as **\$25,820.00**. CLE notes that the estimated price includes assumed meeting and inspection times, the invoices will reflect only time actually expended up to that amount.

Conditions & Exclusions:

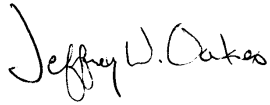
1. This proposal is contingent upon the award of the dredge contract to the successful bidder.
2. No provisions have been made for performing any additional surveying, site inspections, testing, engineering analysis, structural evaluations, engineering designs, geotechnical investigations or environmental permitting services. Any and all work beyond the scope and durations of the above-described services shall be deemed an extra and contracted for prior to the commencement of work.
3. The above listed scope and prices are subject to change upon receipt of permits and award of the dredge contract to the successful bidder.
4. The above prices are valid until March 13, 2015.

Proposed Timeline:

CLE anticipates starting the work for the additional tasks immediately upon receipt of a Notice to Proceed in the form of this approved and signed Contract from the Town of Eastham for one half the value and from the Town of Orleans for on half the value.

Please contact me with any questions.

Very truly yours
CLE Engineering, Inc.



Jeffrey W. Oakes
Senior Project Manager

Twelve Thousand Nine Hundred Ten Dollars (\$12,910.00)
Contract Value:

Approved By:

Date:

Title: