



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

June 4, 2012

Regulatory Division
CENAE-R-PEA
File Number: NAE-2009-00209

Thomas Leach
Town of Harwich Harbormaster
732 Main Street
Harwich, Massachusetts 02645

Dear Harbormaster Leach:

We have reviewed the Town of Harwich's application to modify permit numbers NAE-2009-00209 (Allen Harbor and Town Pier) NAE-2008-00028 (Allen Harbor Yacht Club), NAE-2008-01417 (Peterson), NAE-2008-01722 (Morrison), NAE-2010-00436 (Rotundi), NAE-2008-01756 (Woelfel), and NAE-2008-00027 (Allen Harbor Marine Services, Inc.). The application also includes an expansion of the dredge area to include 5,700 square feet of dredge area in front of property A1-8 on Map 6 and 4,900 square feet of area located in front of property A1-9 on Map 6 totally 1,000 cubic yards of material. The dredge depth will be to -6 mean low water with up to a 1 foot over dredge. The material will be mechanically dredged and disposed of offshore at the Massachusetts Bay Disposal Site. Dredging will be more than 25 feet from existing saltmarsh. This project is located in Allens Harbor in Harwich, Massachusetts. The work is shown on the attached plans entitled "PURPOSE: TO PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA.", on 8 sheets, and dated "DECEMBER 12, 2008", "PURPOSE: TO PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA.", on 5 sheets, with a final revision date "DEC. 08, 2008", "PLAN TO ACCOMPANY PETITION OF ALLEN HARBOR YACHT CLUB", on 5 sheets, and dated "09-10-2007", "PURPOSE: TO PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA.", on 4 sheets, with a final revision date of "JUNE 29, 2010", "PURPOSE: TO PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA.", on 4 sheets, and dated "APRIL 8, 2008", "PURPOSE: TO PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA.", on 5 sheets, and dated "APRIL 8, 2012", "PLAN TO ACCOMPANY PETITION OF ALLEN HARBOR MARINE SERVICE", on 4 sheets, and dated "09-10-2007", and plan entitled "PLAN SHOWING PROPOSED DREDGE FOOTPRINT", on 1 sheet, and dated "08-26-11."

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 2 activity under the

attached Federal permit known as the Massachusetts General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP and also in compliance with the special conditions on Attachment 1 dated "June 1, 2012."

The National Marine Fisheries Service has not provided conservation recommendations regarding the effects of your project on Essential Fish Habitat (EFH) as designated under the Magnuson-Stevens Fishery Conservation and Management Act.

You are responsible for complying with all of the GP's requirements. Please review the attached GP carefully, in particular the GP conditions beginning on Page 5, to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is underway.

This determination becomes valid only after the Massachusetts Department of Environmental Protection (MassDEP) issues or waives Water Quality Certification (WQC) as required under Section 401 of the Clean Water Act. In the event the MassDEP denies the 401 WQC, this determination becomes null and void. The address of the MassDEP Regional office for your area is provided in the attached GP.

Your project is located within, or may affect resources within the coastal zone. The Massachusetts Office of Coastal Zone Management (CZM) has already determined that no further Federal Consistency Review is required.

The time limit for completion of the open-water disposal authorized by this GP is three years from the date of this letter. There shall be no open-water disposal after that completion date without further authorization in writing from the Corps. The time limit for completing other authorized work (if any) is given in the following paragraph.

This GP expires on January 21, 2015. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to commence before this GP expires will have until January 21, 2016 to complete the activity under the terms and general conditions of the current GP. For work within Corps jurisdiction that is not completed by January 21, 2016, you will need to reference any reissued GP to see if your project is still authorized under Category 1 (no application required), or Category 2 (application required). If it is no longer authorized you must submit an application and receive written authorization before you can continue work within our jurisdiction. Please contact us immediately if you change the plans or construction methods for work within our jurisdiction. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the attached Work Start Notification Form to this office at least two weeks before the anticipated starting date. You must also complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

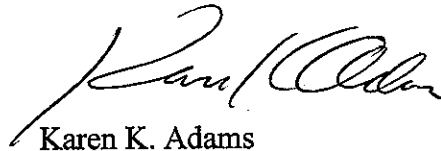
This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other federal, state, or local authorizations required by law, as listed on Page 2 of the GP. Performing work not specifically authorized by this determination or failing to comply with the special conditions attached or all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at <http://per2.nwp.usace.army.mil/survey.html>

Please contact Richard Kristoff, of my staff at 978-318-8171 if you have any questions.

Sincerely,



Karen K. Adams
Chief, Permits & Enforcement Branch
Regulatory Division

Attachments

Copies Furnished:

Ed Reiner, U.S. EPA, Region 1, Boston, Massachusetts, reiner.ed@epa.gov

Elizabeth F. Kouloheras, DEP SERO, Wetlands and Waterways, Lakeville, Massachusetts,
c/o lisa.ramos@state.ma.us

Robert Boeri, Coastal Zone Management, Boston, Massachusetts, Robert.Boeri@state.ma.us

Amy Usowski, Town of Harwich Conservation Commission, Harwich, Massachusetts,
ausowski@town.harwich.ma.us

Donald Munroe, Coastal Engineering Co, Inc., Orleans, Massachusetts,
dmunroe@coastalengineeringcompany.com

David & Joan Peterson, 18 Balsam Drive, Bedford, Massachusetts, 01730

William Thomas, Allen Harbor Yacht Club, 371 Lower County Road, Harwich Port,
Massachusetts, 02646

Michael & Patricia Rotundi, 18 Fulling Mill Lane, Hingham, Massachusetts, 02043

Thomas & Denise Morrison, 40 Birchwood Drive, Princeton, New Jersey 08540

Joan Woelfel, P.O. Box 5023, Cotton Valley Shores, Christiansted, St. Croix, Virgin Islands,
00820

Rupert Nichols, Jr., Allen Harbor Marine Service, Inc., 335 Lower County Road, Harwich Port,
Massachusetts 02646

Attachment 1
June 4, 2012

Applicant: Town of Harwich/Thomas Leach
File Number: NAE-2009-00209

1. The conditions of the original permits remain in full force and effect.
2. The work authorized herein shall not be conducted during the time of year (TOY) restriction of **January 15 to May 31** in order to minimize adverse impacts to **winter flounder**.
3. To prevent slumping of sediment or peat into waters of the U.S., dredging shall not occur within 25 feet of the marsh edge
4. To prevent sediment and turbidity impacts to eelgrass beds bottom weighted turbidity curtains shall be used around the dredge at all times.
5. In order to reduce the amount of loss of shellfish resources the shellfish constable shall coordinate with commercial and recreational shellfisherman to harvest as much of the shellfish resource as possible during the seasonally approved time of year before the start of dredging.
6. Periodic maintenance dredging to the area and depth limits described herein is authorized for ten years from the date of issuance of this permit, **provided disposal of the dredged material is at an upland site**. However, the permittee must notify this office, in writing, 60 days before the intended date of any such dredging and shall not begin such dredging until written authorization has been obtained. This 60-day notification is not required for the initial new and/or maintenance dredging authorized by this permit. A separate authorization shall be required for such dredging if the material to be dredged is to be deposited in open or ocean waters and/or wetlands.
7. At least ten working days in advance of the start date, the permittee or their agent shall notify the First Coast Guard District, Local Notice to Mariners Office, (617) 223-8356, and Aids to Navigation Office, (617) 223-8358, of the location and estimated duration of the dredging and disposal operations.
8. Except when directed otherwise by the Corps for site management purposes, all disposal of dredged material shall adhere to the following:
 - a. The permittee shall release the dredged material at a specified set of coordinates within the disposal site with the scow at a complete halt.
 - b. When a disposal buoy is present at the specified coordinates, disposal shall occur with the side of the scow at least 100 feet and no greater than 200 feet from the buoy to minimize collisions with the buoy.

These requirements must be followed except when doing so will create unsafe conditions because of weather or sea state, in which case disposal with the scow moving only fast enough to maintain safe control (generally less than one knot) is permitted. Disposal is not permitted if these requirements cannot be met due to weather or sea conditions. In that regard, special attention needs to be given to predicted conditions prior to departing for the disposal site.

9. Silent Inspector System Requirements

a. Every discharge of dredged material at the disposal site requires monitoring by the contractor. This disposal monitoring of dredging projects must be performed using the Dredging Quality Management (DQM) system software and hardware system [formerly Silent Inspector (SI)] developed by the Corps. The DQM system must have been certified by the Corps within a year of the disposal activity. See the National DQM Support Center site <https://si.usace.army.mil> for additional DQM information. Questions regarding certification should be addressed to the DQM Point of Contact at the Corps New England District [Norm Farris, (978) 318-8336].

b. The permittee is responsible for ensuring that the system is operational throughout the project and that project data are submitted to the National SI Support Center in accordance with the specifications provided at the aforementioned website. If any component of the system is inoperable, disposal may not take place unless otherwise authorized by the Corps New England District DQM Point of Contact.

c. The DQM system used by the permittee must be capable of providing the information necessary for the Scow Monitoring Profile Specification. The permittee is also responsible to provide the Corps (see below for submittal information) with a record of estimated barge volume for each trip. If barge volume information is not provided through the SI system utilized, the permittee must submit a weekly report to Corps that provides estimated volume (cubic yards), date and disposal time for each trip. The data collected by the DQM system shall, upon request, be made available to the Corps.

d. For the initiation of disposal activity and any time disposal operations resume after having ceased for one month or more, the permittee or the permittee's representative must notify the Corps at least ten working days before the date disposal operations are expected to begin or resume. See below for contact information. The information to be provided in this notification is: permit number, permittee name, address and phone number, phone number of the dredging contractor, name, address and phone number of towing contractor, estimated dates dredging is expected to begin and end, name of all disposal vessels to be employed in the work and copies of their certification documents, name of the disposal site, and estimated volume of material to be dredged. **Disposal operations shall not begin or resume until the Corps issues a letter authorizing the initiation or continuation of open-water disposal.** The letter will include disposal point coordinates to use for this specific project at that time. These coordinates may differ from those specified for other projects using the same disposal site or even from those specified earlier for this project. It is not necessary to wait ten days before starting disposal operations. They may start as soon as this letter is issued.

10. If any material is released beyond the limits specified in this permit, the Captain or the permittee must notify the Corps immediately by phone (see below for contact information). Information provided shall include disposal coordinates, permit number, volume disposed, date and time of disposal,

circumstances of incident, disposal vessel name, name of caller, and phone number of caller. If no person is reached at the number above, a voice message with the relevant information should be provided. In addition, a detailed written report must be provided to the Corps within 48 hours following any such incident.

11. Unless otherwise stated, all submittals and coordination related to these special conditions shall be submitted via: a) MAIL: PATS Branch - Regulatory Division, Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742-2751, b) EMAIL: charles.n.farris@usace.army.mil; or c) FAX: (978) 318-8303. Direct dredge related questions to (978) 318-8336 or (978) 318-8338. Documents which are not addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit.
12. The U.S. Coast Guard, Sector Boston, Waterways Management Division, (617) 223-5750, shall be notified prior to the start of this project.
13. From February 1 through May 30 of any year, a marine mammal observer [i.e. meeting the attached National Marine Fisheries Service (NMFS) criteria on observer qualifications, including the specified skill sets for sea turtles and whales, **and in receipt of written approval from NMFS**] must be present aboard disposal vessels transiting between the dredge site and the Massachusetts Bay Disposal Site during daylight hours. The permittee shall submit to the Corps of Engineers for approval a statement of qualifications for each observer. The observer(s) shall be contracted and paid for by the permittee.
14. Observers may contact NMFS (Mike Asaro as of May 2011) at (978) 282-8469 and check www.listenforwhales.org or www.nefsc.noaa.gov/psb/surveys in advance of a survey to determine the potential presence of marine mammals in the area.
15. From February 1 through May 30 of any year, disposal vessels including tugs, barges, and scows transiting between the dredge site and the Massachusetts Bay Disposal Site shall operate at speeds not to exceed 5 knots after sunset, before sunrise, or in daylight conditions where visibility is less than one nautical mile. Disposal shall not be permitted if these requirements cannot be met due to weather or sea conditions. In that regard, the permittee and contractor should be aware of predicted conditions before departing for the disposal site. The intent of this condition is to reduce the potential for vessel collisions with endangered species, including right whales.
16. When threatened or endangered species are observed to be present, the vessel captain shall, except when precluded by safety considerations, avoid harassment of or direct impact to individual animals in consultation with the marine mammal observer.
17. The permittee (or designee) shall report whale sightings to the NMFS, Habitat and Protected Resources Division, (978) 281-9328. Reports of right whales sightings should be provided to NMFS pager at (978) 585-8473.
18. The permittee (or designee) shall report any interactions with listed species within 24-hours to NMFS at (866) 755-NOAA or USCG via CH-16 and

immediately report any injured or dead marine mammals or sea turtles to NMFS at (866) 755-NOAA.

19. The permittee (or designee) shall ensure that a separate NMFS Marine Mammal Observation Report is fully completed by the observer for every sighting and that this report is received by the Corps, (978) 318-8303 fax, within one week of the trip date. The permittee shall require the observer to maintain contact with NMFS, Habitat and Protected Resources Division, (978) 281-9328 and other recognized experts to provide and receive information regarding the presence and distribution of threatened and endangered species in Massachusetts Bay. The intent of this condition is to reduce the potential for vessel collisions with threatened and endangered species, including right whales, and to minimize potential impacts of dredged material disposal on threatened and endangered species.
20. Marine mammal observers shall use the following guidelines to minimize conflicts with threatened or endangered species:
 - a. A marine mammal observer shall be posted on lookout at all times during daylight hours when disposal vessels have left the harbor and are traveling to, at or returning from the disposal site.
 - b. Disposal vessels shall not approach threatened or endangered species closer than 100 feet (see additional condition below for approaching right whales).
 - c. Disposal vessels shall adhere to the attached NMFS regulations for approaching right whales, 50 CFR 222.32, which restrict approaches within 500 yards of a right whale and specify avoidance measures for vessels that encounter right whales.
 - d. If threatened or endangered species are sighted within 500 feet from the disposal point, dredged material shall not be released. In this case, the vessel captain may elect to wait until the animals move away from the disposal point prior to disposal, or subject to consultation with the observer, may dispose at a Corps-authorized alternative disposal location under the same restrictions noted herein for disposal at the primary disposal location.
 - e. If threatened or endangered species are sighted between 500 feet and 1500 feet from the disposal point, the observer shall note the animals' behavior, relative position, and direction and speed of movement to assess if release of dredged material is likely to harass or endanger the animals. For example, whales actively feeding at or near the disposal point are more likely than resting whales to interact with released sediments. If the observer assesses that disposal is likely to harass or endanger the animals, the observer shall consult with the vessel captain and disposal shall be delayed until the animals change their behavior or move away such that the observer assesses that no danger to the animals will likely result from disposal.

GUIDELINES FOR ENDANGERED SPECIES OBSERVERS ACOE DREDGE AND DISPOSAL PROJECTS

NOAA Fisheries seeks endangered species observers who can function on dredges (e.g., hopper dredges) and dredge disposal (e.g., tugboat) operations from Maine to Texas. The species for which an endangered species observer is needed include marine mammals, sea turtles, and shortnose sturgeon. The following criteria should serve as a guideline for endangered species observers. Approved endangered species observers should have a variety of experiences, enabling them to perform the required duties with necessary skill and familiarity. Each observer is evaluated on a case-by-case basis, but the following criteria will assist in determining qualified candidates. Supporting information and documentation on these criteria should be included with the candidate's application. Note that if NOAA Fisheries conditionally approves a candidate and requests dredge watch experience, 60 hours minimum training is required, a portion of which must be alongside a NOAA Fisheries approved observer.

Education

- Does the candidate have a college degree (BS or higher) in marine biology or a related field? Please note that a degree is preferred, but not required if the candidates have a diversity of experiences and/or have taken a suitable endangered species observer training course.

At-sea experience

The candidates will be evaluated in terms of their experience on dredges and other vessels, including but not limited to the criteria listed below.

- Has the candidate worked for a minimum of two months in any capacity aboard dredges (hydraulic)?
- Has the candidate worked for a minimum of four months as a naturalist or wildlife guide aboard an active whale watch vessel or other vessel primarily engaged in the observation of large whales in the wild?

Field experience and equivalents

Please note that any of these criteria will be evaluated favorably by NOAA Fisheries, but do not independently guarantee approval as an endangered species observer.

- Has the candidate successfully completed an endangered species and dredge training course? If yes, please attach details and certification. Note that any ACOE dredge training class will be looked upon favorably.
- Does the candidate have documented field experience focused on the species or its habitat?
- Has the candidate worked for a minimum of four months as an endangered species observer-in-training aboard dredges that have interacted with protected species?
- Has the candidate been actively involved for a minimum of one year in organized responses to protected species stranding events where sea turtles and marine mammals are identified and handled?

Skill sets

The successful observer candidate should possess certain skills in order to effectively perform the observer duties.

- Is the candidate able to identify sea turtle, shortnose sturgeon, and whale species from other marine taxa, including morphological differences (i.e., between sea turtle species; shortnose and Atlantic sturgeon; humpback and right whales)?
- Is the candidate able to handle live sea turtles and shortnose sturgeon, and is he/she knowledgeable of holding and release procedures for the respective species?
- Is the candidate able to take standard field measurements of samples for sea turtles and shortnose sturgeon?
- Is the candidate able to observe and advise dredge operators on the appropriate screening of the dredge's overflow, skimmer funnels and dragheads for sea turtles and sturgeon (if hopper dredges must be employed)?
- Is the candidate able to discern whale behaviors, such as milling, traveling, and feeding?
- Is the candidate aware and knowledgeable of proper operating procedures in the presence of marine mammals?



**US Army Corps
of Engineers** ®
New England District

**GENERAL PERMIT
WORK-START NOTIFICATION FORM**
(Minimum Notice: Two weeks before work begins)

 * MAIL TO: U.S. Army Corps of Engineers, New England District *
 * Permits and Enforcement Branch *
 * Regulatory Division *
 * 696 Virginia Road *
 * Concord, Massachusetts 01742-2751 *

Corps of Engineers Permit No. NAE-2009-00209 was issued to the Town of Harwich/Thomas Leach, on June 4, 2012. This work is located in Allens Harbor, Harwich, Massachusetts. The permit authorized the permittee to dredge a total of 457,400 square feet of area within Allens Harbor and dispose of the material at the Massachusetts Bay Disposal Site.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

Telephone Numbers: () _____ () _____

Proposed Work Dates: Start: _____ Finish: _____

Permittee/Agent Signature: _____ **Date:** _____

Printed Name: _____ **Title:** _____

Date Permit Issued: _____ **Date Permit Expires:** _____

FOR USE BY THE CORPS OF ENGINEERS

PM: Richard Kristoff **Submittals Required:** _____

Inspection Recommendation: _____



**US Army Corps
of Engineers** ®
New England District

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2012-00209

Project Manager Richard Kristoff

Name of Permittee: Town of Harwich/Thomas Leach

Permit Issuance Date: June 4, 2012

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

 * MAIL TO: U.S. Army Corps of Engineers, New England District *
 * Permits and Enforcement Branch A *
 * Regulatory Division *
 * 696 Virginia Road *
 * Concord, Massachusetts 01742-2751 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

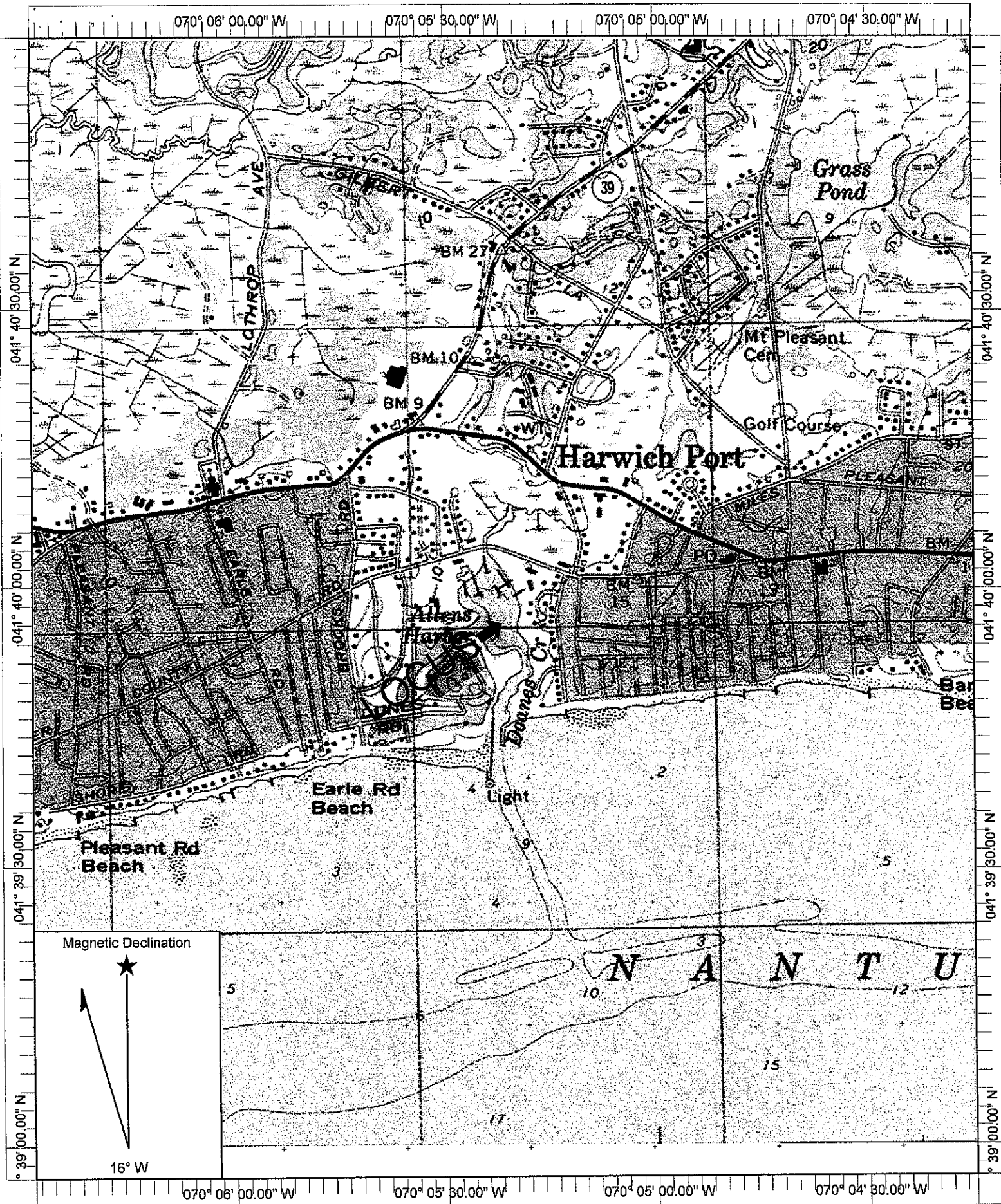
Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number

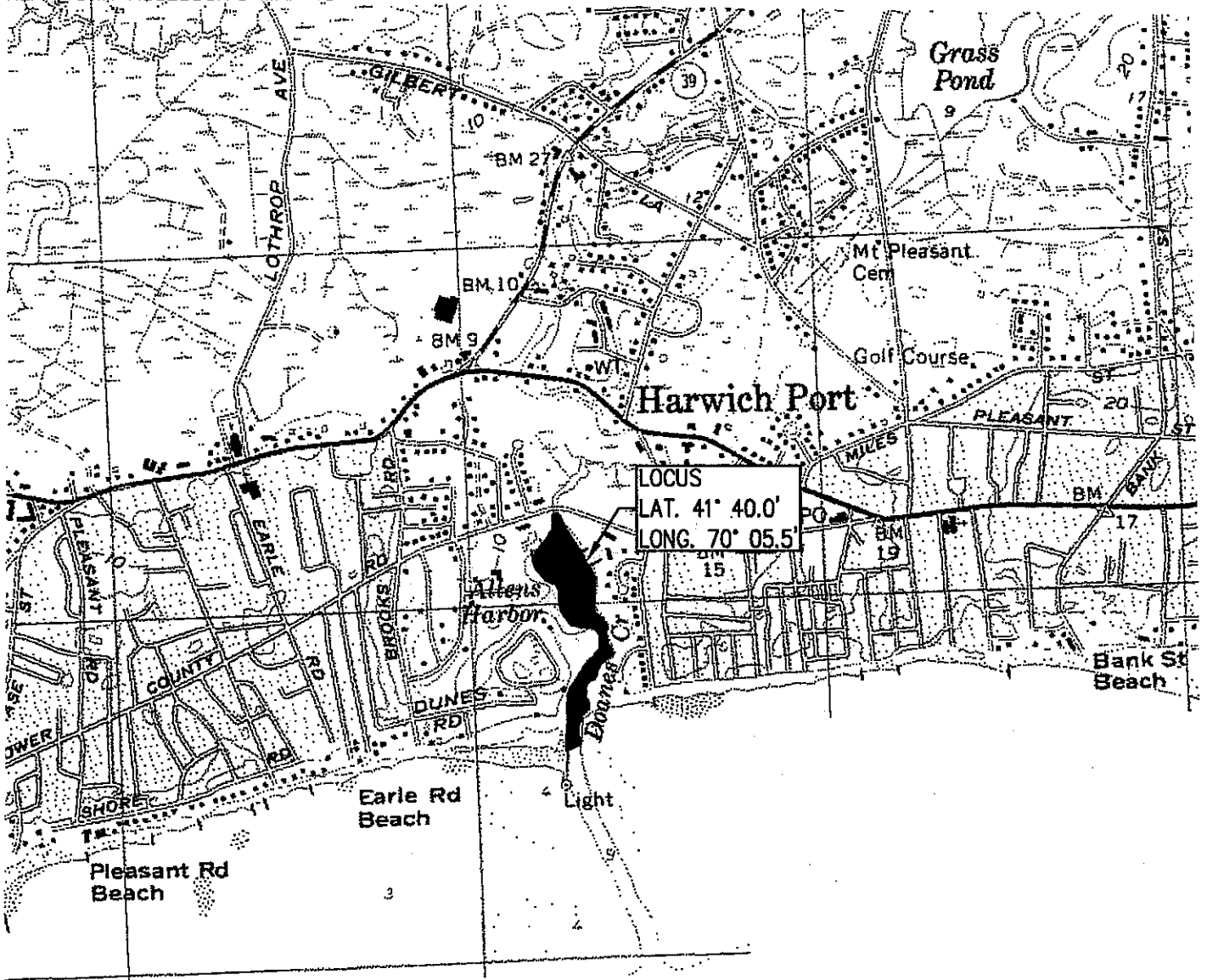


Name: HARWICH
 Date: 1/8/2009
 Scale: 1 inch equals 1333 feet

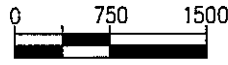
Location: 041° 39' 57.96" N 070° 05' 21.80" W NAD 27
 Caption: C16678.02/Allen Harbor/ACOE

REFERENCE DATUM IS MEAN LOW WATER=0.0
FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13



PLAN



1"=1500'

SOURCE: U.S.G.S. QUADRANGLE "HARWICH - MA."

DRAWING C16678-02.dwg
DRAWN BY: KES
C16678.02

PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

VICINITY MAP

APPLICATION BY:
THE TOWN OF HARWICH

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

DECEMBER 12, 2008

SHEET 1 OF 8

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.
 REF: TOWN ASSESSOR'S MAP 13



PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

EXISTING CONDITIONS

APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

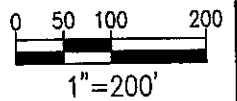
DECEMBER 12, 2008 SHEET 2 OF 8

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.
 REF: TOWN ASSESSOR'S MAP 13

NOTE:
 PROPOSED DREDGE AREA TO -6.0 M.L.W.
 319,000 SQ.FT
 25,000 CU.YDS.
 ALL DREDGING TO TAKE PLACE BELOW M.L.W.
 NO DREDGING PROPOSED IN INTERTIDAL ZONE.
 NO DREDGING PROPOSED WITHIN 25' OF MARSH
 DREDGE METHOD: MECHANICAL



PLAN



DRAWING C16678-02.dwg
 DRAWN BY: KES
 C16678.02

REVISED: 09-03-09

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

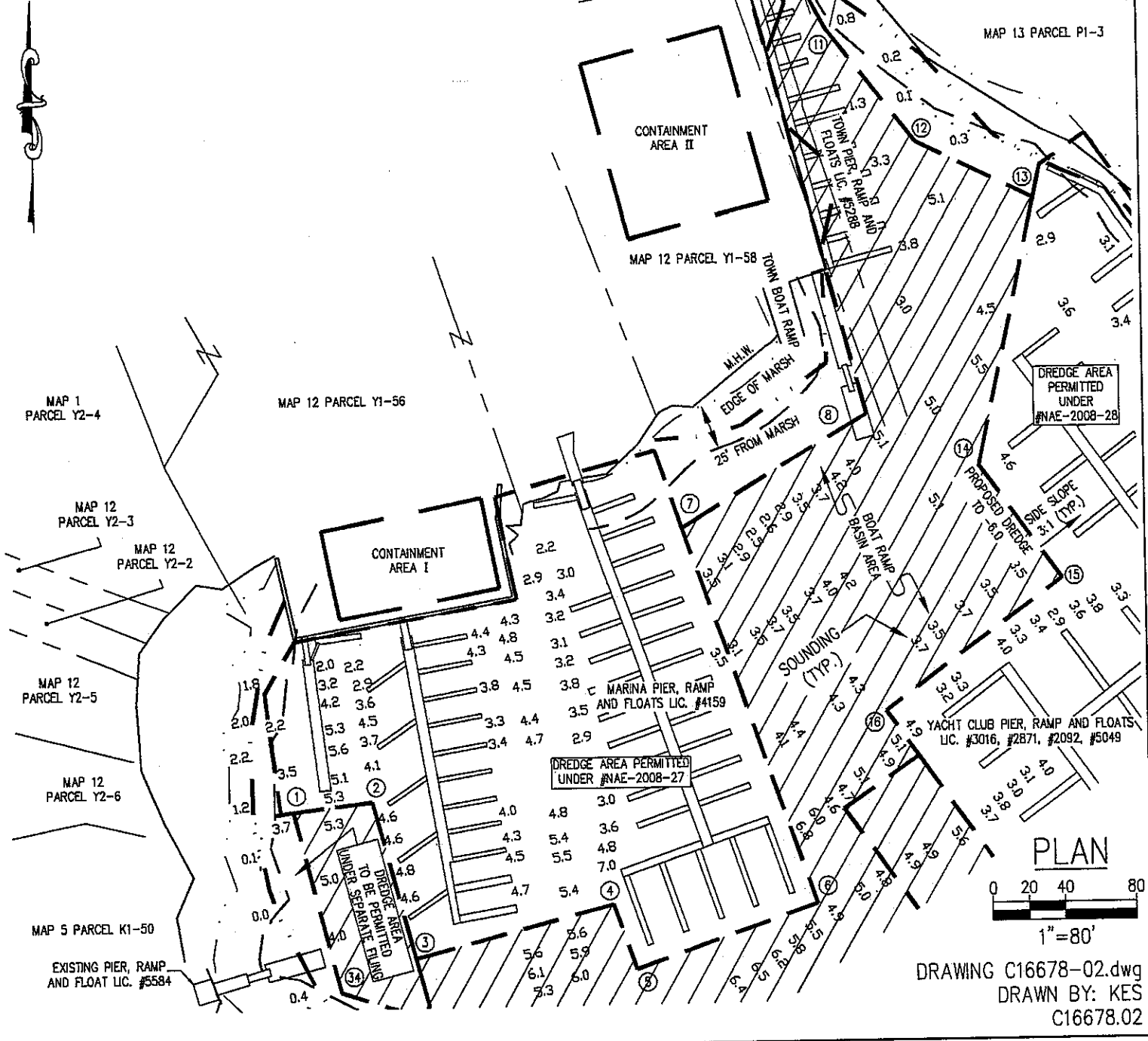
PROPOSED DREDGE PLAN
 (OVERVIEW)

APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

DECEMBER 12, 2008 SHEET 3 OF 8

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.
 REF: TOWN ASSESSOR'S MAP 13



PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

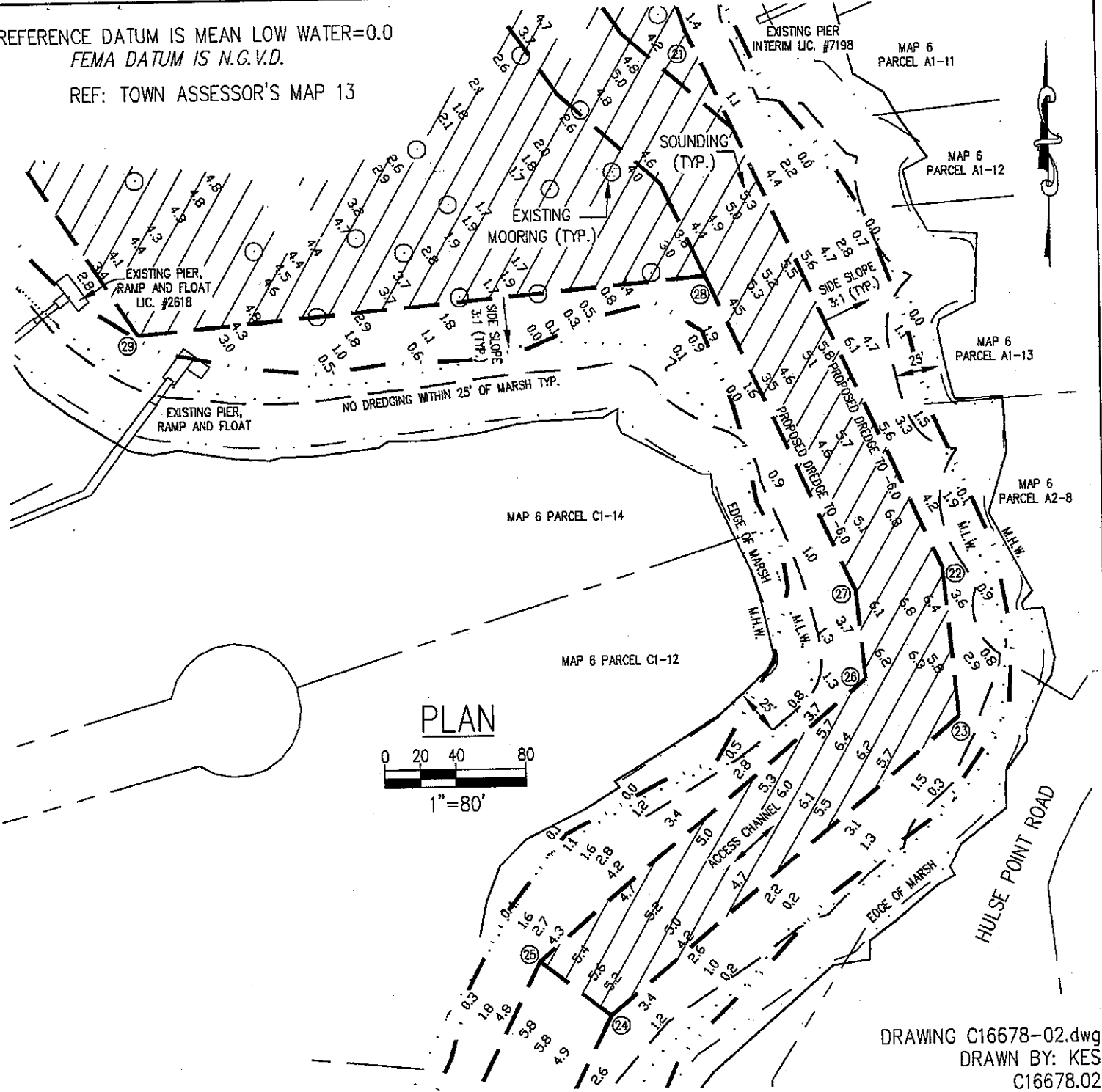
PROPOSED DREDGE PLAN

APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

DECEMBER 12, 2008 SHEET 4 OF 8

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.
 REF: TOWN ASSESSOR'S MAP 13



PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

PROPOSED DREDGE PLAN

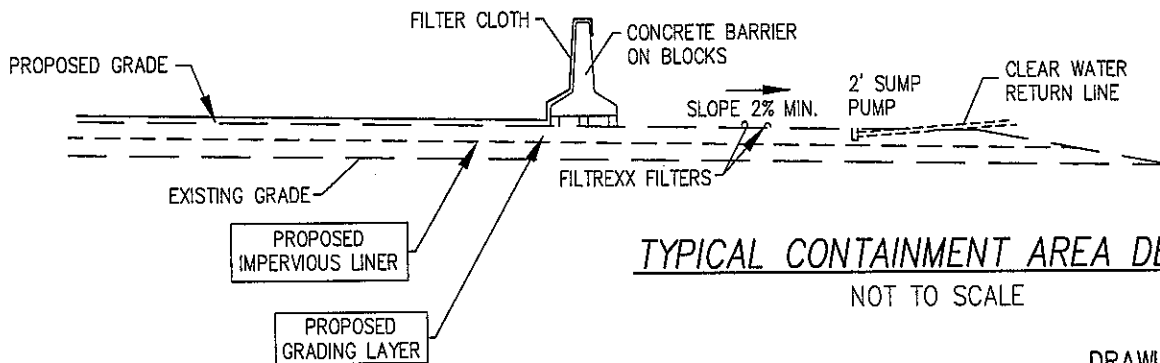
APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653
 DECEMBER 12, 2008 SHEET 6 OF 8

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C16678.02

DREDGE AREA: 319,000 SQ.FT
 DREDGE VOLUME: 25,000 CU.YDS.

DREDGE LOCATION COORDINATES ARE IN NAD83 FEET			DREDGE LOCATION COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING		NORTHING	EASTING
1	2706759.7512	1041180.7158	18	2706782.9435	1041760.9728
2	2706764.9594	1041224.0487	19	2706639.8659	1041839.5903
3	2706678.8819	1041246.9819	20	2706492.8543	1041836.4003
4	2706707.0290	1041357.1248	21	2706314.6563	1041893.2182
5	2706671.5141	1041369.3763	22	2706009.7696	1042033.4260
6	2706706.0818	1041469.5815	23	2705925.4265	1042041.5500
7	2706913.8347	1041397.9131	24	2705758.7229	1041843.0790
8	2706974.0950	1041500.2744	25	2705790.2690	1041802.8960
9	2707227.3760	1041435.2775	26	2705946.8031	1041989.2595
10	2707231.6918	1041458.0540	27	2705996.5728	1041984.4657
11	2707185.7552	1041482.1438	28	2706175.4581	1041902.3069
12	2707123.7563	1041529.4656	29	2706146.1608	1041579.8059
13	2707091.4727	1041593.7143	30	2706416.2715	1041402.1861
14	2706945.3365	1041561.2276	31	2706458.8213	1041460.3918
15	2706883.7825	1041606.5567	32	2706534.8160	1041482.5946
16	2706811.5030	1041508.4058	33	2706593.9803	1041415.3927
17	2706669.9423	1041607.5245	34	2706661.0004	1041205.5547



DRAWING C16678-02.dwg
 DRAWN BY: KES
 C16678.02

REVISED: 09-03-09

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

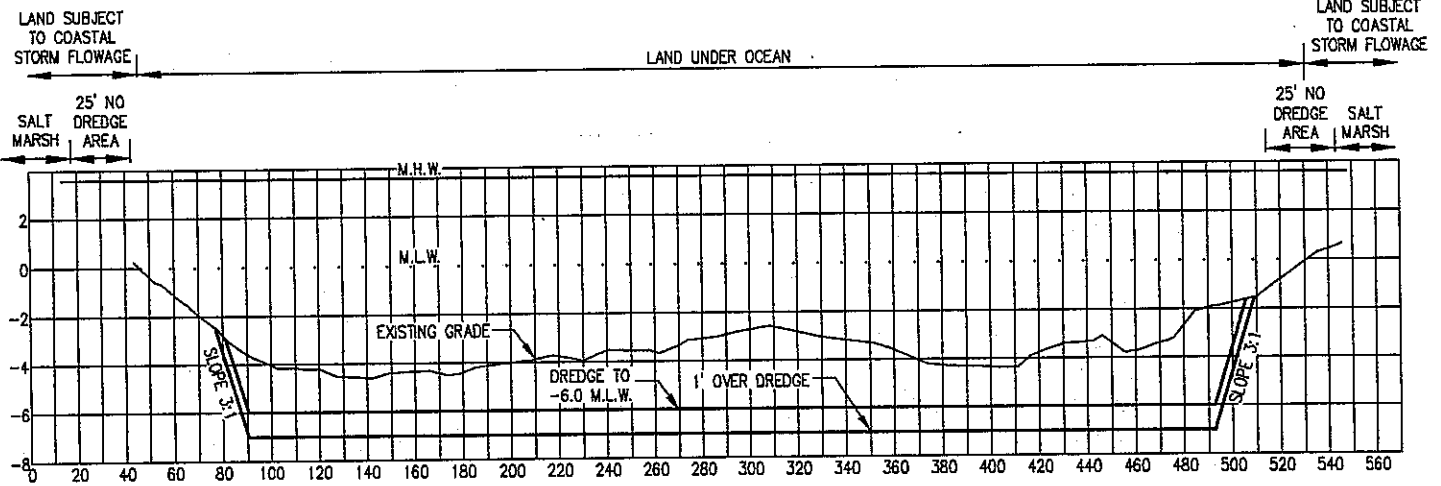
**DREDGE COORDINATES AND
 DE-WATERING DETAILS**

APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

DECEMBER 12, 2008 SHEET 7 OF 8

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.



SECTION A-A: TYPICAL DREDGE PROFILE

HORIZONTAL SCALE: 1" = 80'

VERTICAL SCALE: 1" = 8'

11.0 100 YR. TIDAL FLOOD

4.0 ANNUAL HIGH TIDE
 3.6 MEAN HIGH WATER
 1.8 MEAN TIDE LEVEL
 1.5 NATIONAL GEODETIC
 VERTICAL DATUM (NGVD)
 0.0 MEAN LOW WATER

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9
 M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW
 ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS
 OR MINUS FROM THE PLANE OF MEAN LOW WATER. EL.=0.0'

ACOE TIDAL PROFILE

NANTUCKET SOUND
TIDAL FLOOD PROFILE

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C16678.02

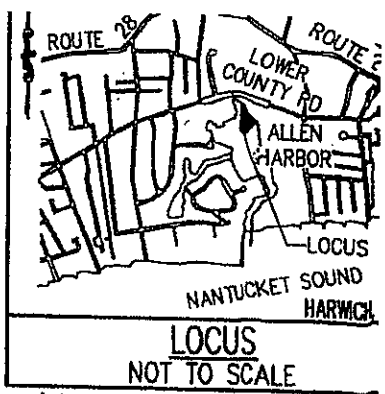
PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

SECTIONS AND DETAILS

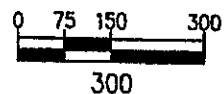
APPLICATION BY:
 THE TOWN OF HARWICH

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

DECEMBER 12, 2008 SHEET 8 OF 8

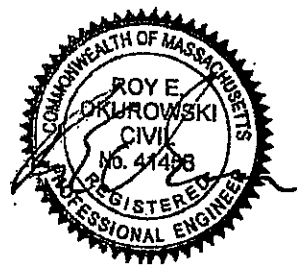


KEY MAP



NOTE:
PIERS AND FLOATS
ARE PERMANENT PILE
SUPPORTED.

NOTE:
ALL STRUCTURES ARE
EXISTING UNLESS
OTHERWISE NOTED.

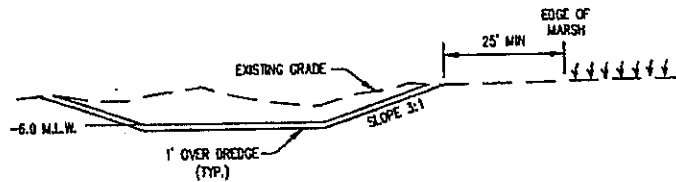


**PLAN TO ACCOMPANY PETITION OF
ALLEN HARBOR YACHT CLUB**
TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
ESTABLISH ZONE OF RECONFIGURATION, AND
PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA

REFERENCE DATUM IS MEAN LOW WATER = 0.0

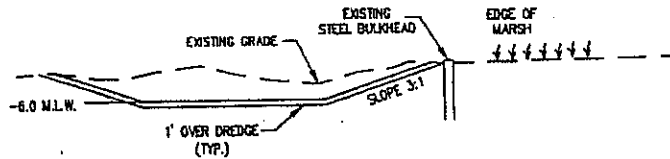
PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653
DRAWN BY: KES C16678-02.dwg

REFERENCE DATUM IS MEAN LOW WATER = 0.0



TYPICAL DREDGE PROFILE WHERE APPLICABLE

NOT TO SCALE



TYPICAL DREDGE PROFILE WHERE APPLICABLE

NOT TO SCALE

PERMITS, LICENSES AND REFERENCES

DEPARTMENT OF
ENVIRONMENTAL PROTECTION LICENSES

LICENSE #4692
LICENSE #5049
LICENSE #5259
LICENSE #2092
LICENSE #2871

REFERENCES

DPW CONTRACT NO. 1820
DPW CONTRACT NO. 2264
DPW CONTRACT NO. 2453

PLAN TO ACCOMPANY PETITION OF
ALLEN HARBOR YACHT CLUB
TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
ESTABLISH ZONE OF RECONFIGURATION, AND
PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653
DRAWN BY: KES C16678-02.dwg

C15312.01

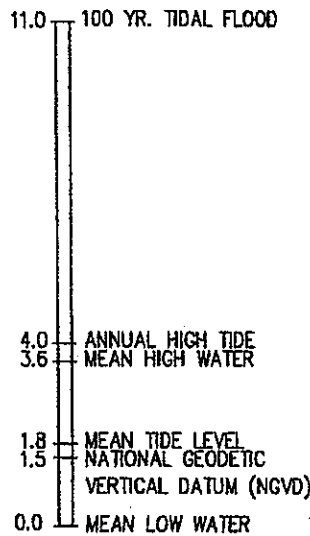
09-10-2007

REV. 05-01-08

3 5
SHEET # OF #

REFERENCE DATUM IS MEAN LOW WATER = 0.0

RECONFIGURATION ZONE		
COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2707128	1041623
2	2706832	1041828
3	2706670	1041608
4	2706816	1041508
5	2706884	1041607
6	2706945	1041561
7	2707110	1041598



NANTUCKET SOUND
TIDAL FLOOD PROFILE

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS
OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

ACOE TIDAL PROFILE

SCALE: 1"=4'

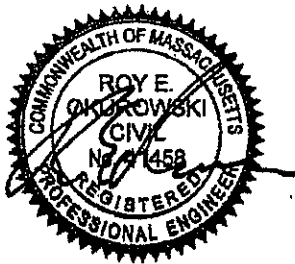
PLAN TO ACCOMPANY PETITION OF
ALLEN HARBOR YACHT CLUB

TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
ESTABLISH ZONE OF RECONFIGURATION, AND
PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

DRAWN BY: KES C16678-02.dwg





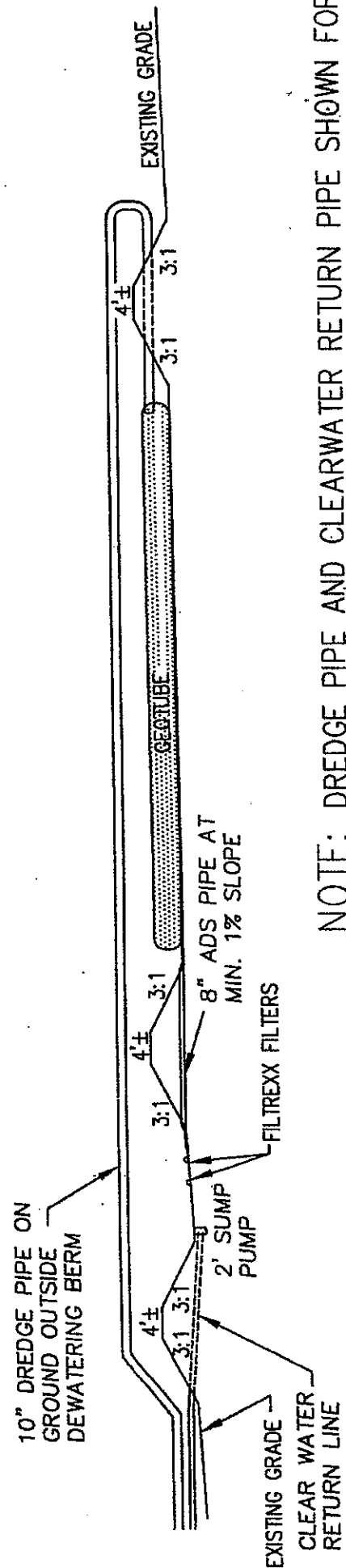
DEWATERING BASIN SECTION B-B

NO SCALE

PLAN TO ACCOMPANY PETITION OF
ALLEN HARBOR YACHT CLUB
TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
ESTABLISH ZONE OF RECONFIGURATION, AND
PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

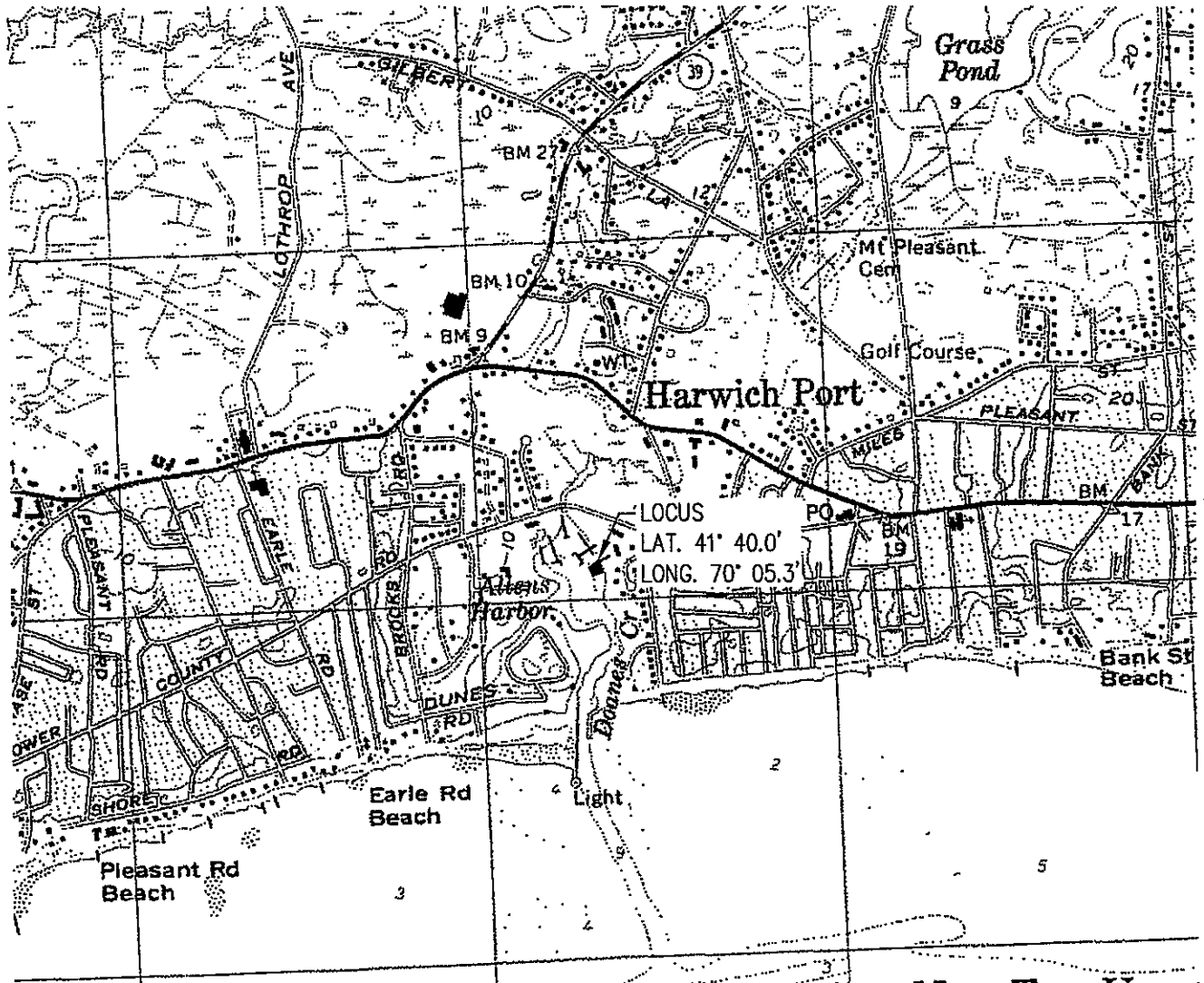
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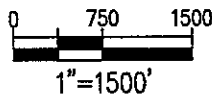
NOTE: DREDGE PIPE AND CLEARWATER RETURN PIPE SHOWN FOR ILLUSTRATION ONLY. ACTUAL PIPES LAY ON GROUND.

REFERENCE DATUM IS MEAN LOW WATER=0.0
FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R3



PLAN



SOURCE: U.S.G.S. QUADRANGLE "HARWICH - MA."

DRAWING C16678-02.dwg
DRAWN BY: KES
C17005.00

PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

VICINITY MAP

REVISED DEC. 08, 2008
REVISED SEPT. 23, 2008

APPLICATION BY:
DAVID AND JOAN PETERSON

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

APRIL 2, 2008

SHEET 1 OF 5

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R3

ALLEN HARBOR
 YACHT CLUB
 ASSESSORS MAP 13
 PARCEL PI-3

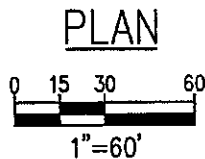
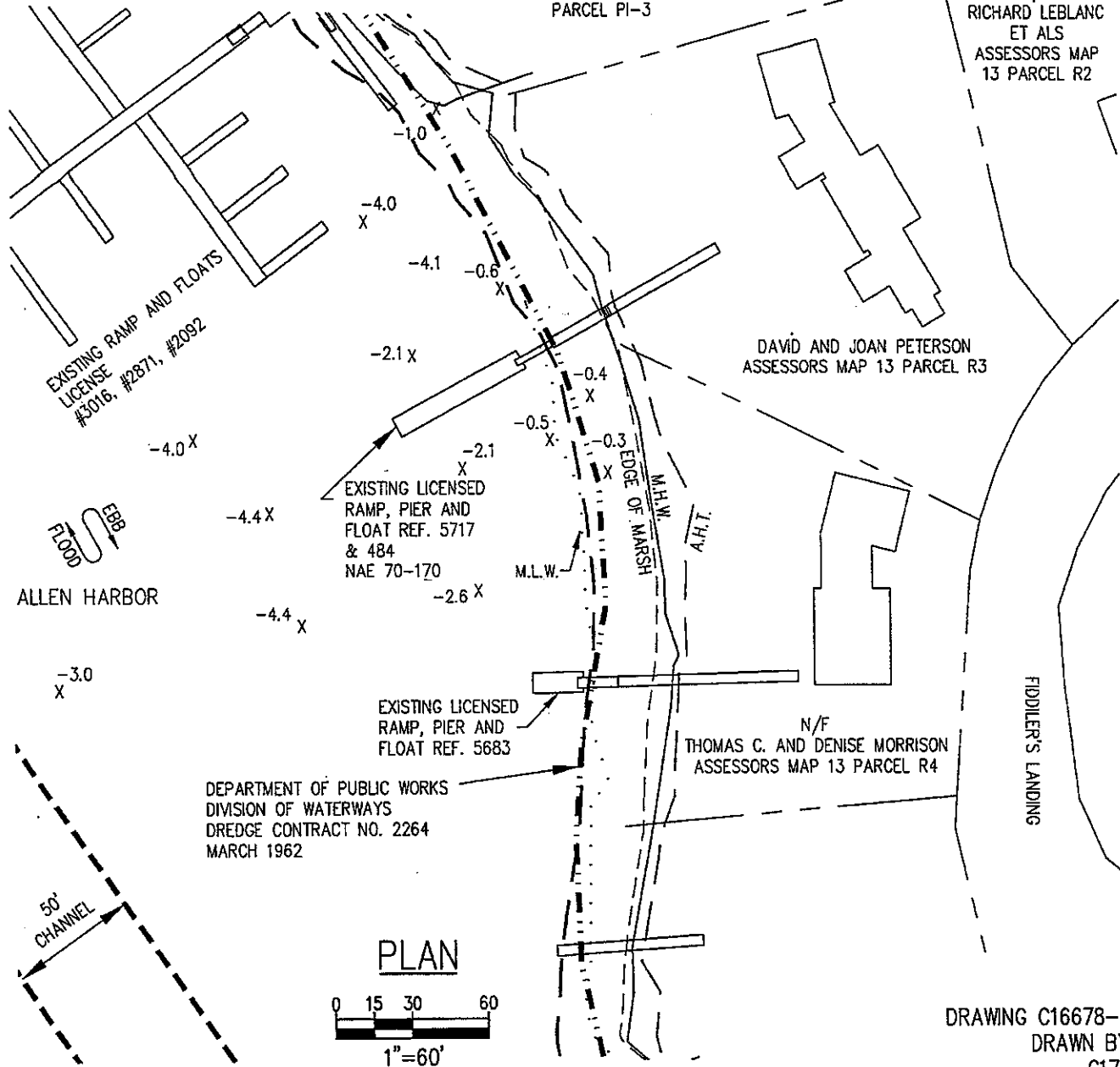
N/F
 RICHARD LEBLANC
 ET ALS
 ASSESSORS MAP
 13 PARCEL R2

DAVID AND JOAN PETERSON
 ASSESSORS MAP 13 PARCEL R3

N/F
 THOMAS C. AND DENISE MORRISON
 ASSESSORS MAP 13 PARCEL R4

FIDDLER'S LANDING

DEPARTMENT OF PUBLIC WORKS
 DIVISION OF WATERWAYS
 DREDGE CONTRACT NO. 2264
 MARCH 1962



DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17005.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

EXISTING CONDITIONS

REVISED DEC. 08, 2008
 REVISED SEPT. 23, 2008

APPLICATION BY:
 DAVID AND JOAN PETERSON

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 2, 2008

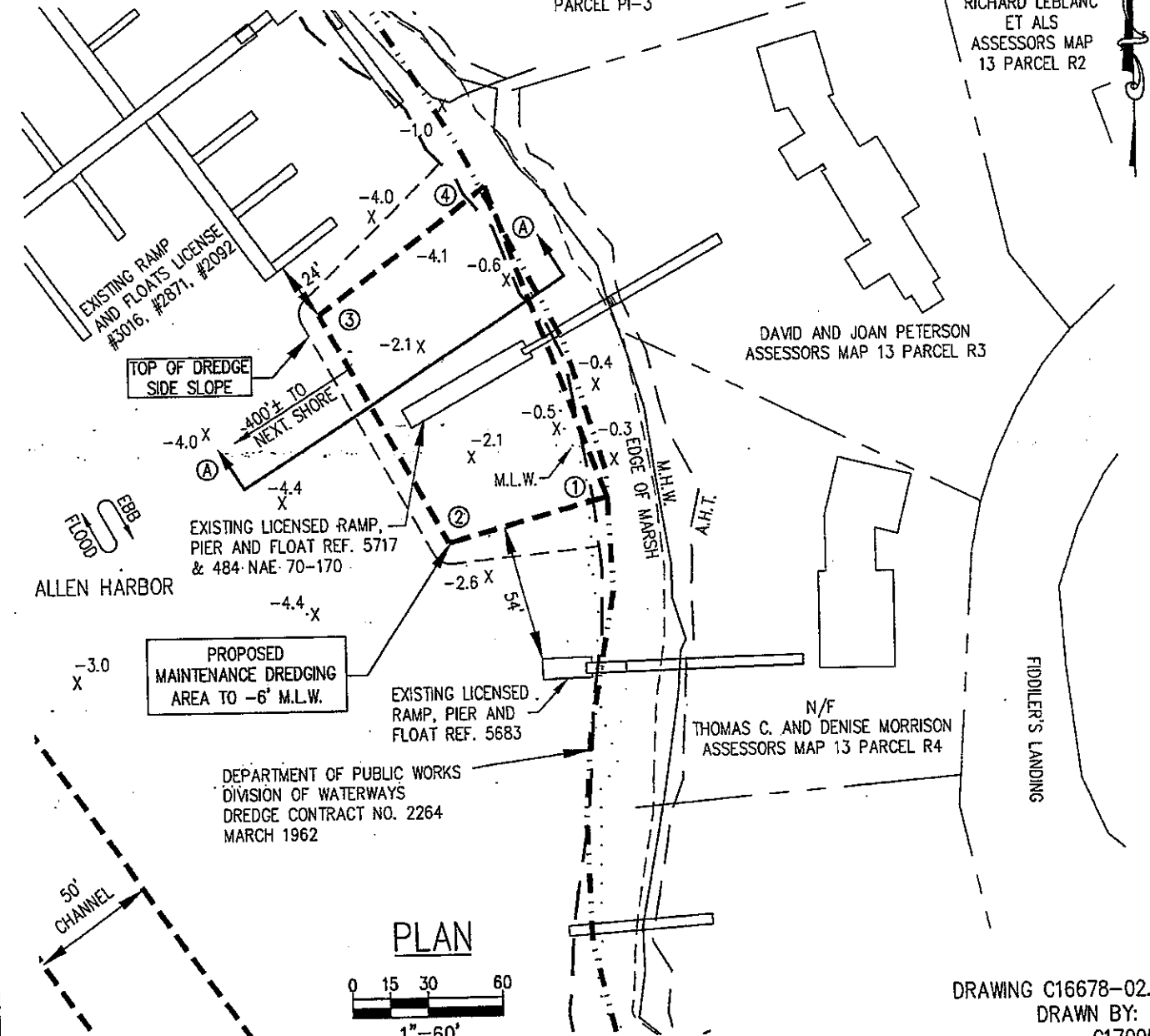
SHEET 2 OF 5

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R3

ALLEN HARBOR
 YACHT CLUB
 ASSESSORS MAP 13
 PARCEL PI-3

N/F
 RICHARD LEBLANC
 ET ALS
 ASSESSORS MAP
 13 PARCEL R2



DAVID AND JOAN PETERSON
 ASSESSORS MAP 13 PARCEL R3

N/F
 THOMAS C. AND DENISE MORRISON
 ASSESSORS MAP 13 PARCEL R4

DEPARTMENT OF PUBLIC WORKS
 DIVISION OF WATERWAYS
 DREDGE CONTRACT NO. 2264
 MARCH 1962

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17005.00

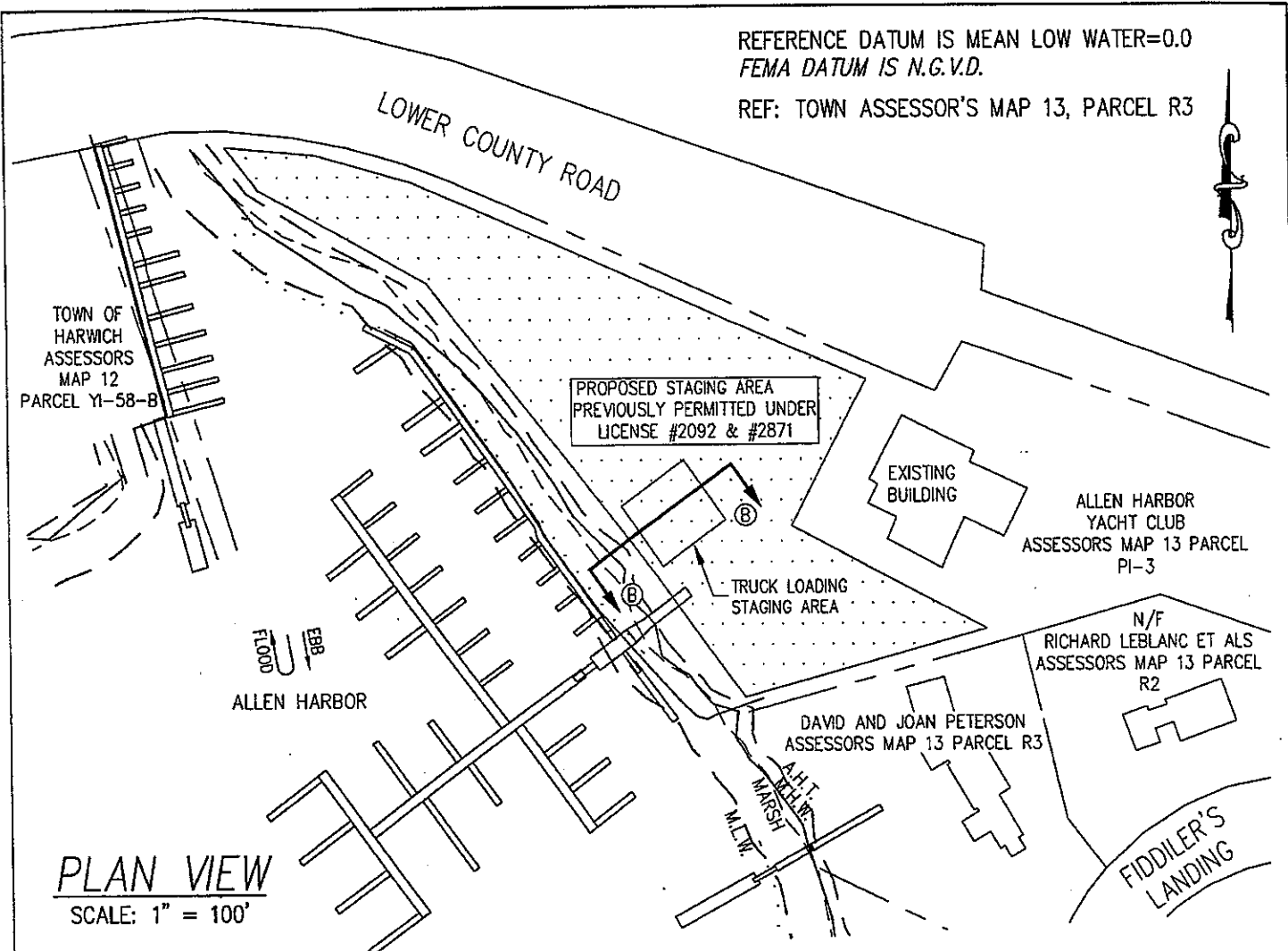
PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

PROPOSED DREDGE AREA
 REVISED DEC. 08, 2008
 REVISED SEPT. 23, 2008

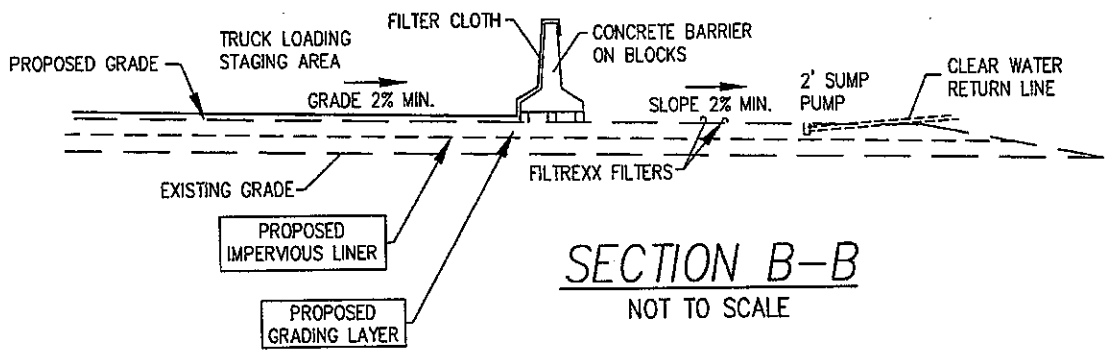
APPLICATION BY:
 DAVID AND JOAN PETERSON
 PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653
 APRIL 2, 2008 SHEET 3 OF 5

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R3



PLAN VIEW
 SCALE: 1" = 100'



SECTION B-B
 NOT TO SCALE

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17005.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

**DEWATERING
 AREA AND DETAIL**
 REVISED DEC. 08, 2008
 REVISED SEPT. 23, 2008

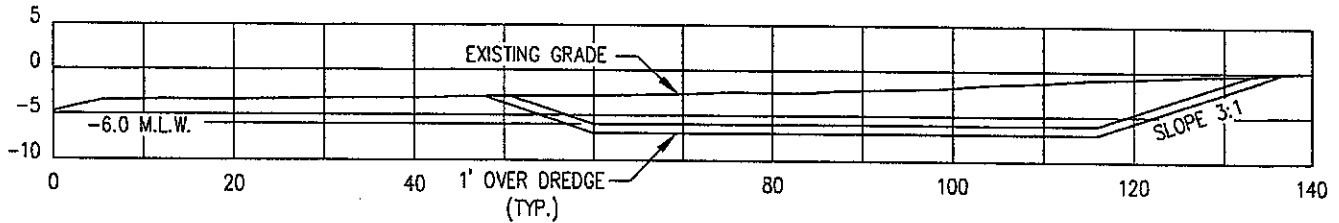
APPLICATION BY:
 DAVID AND JOAN PETERSON

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 2, 2008 SHEET 4 OF 5

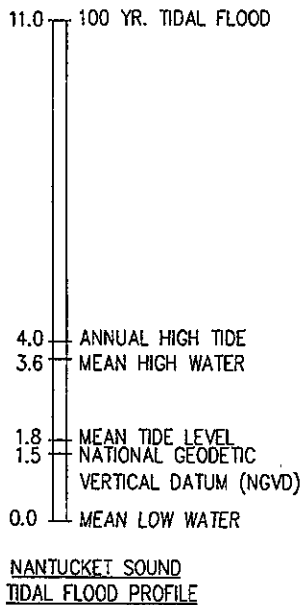
REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R3



SECTION A-A TYPICAL DREDGE PROFILE

SCALE: 1" = 20'



DREDGE AREA		
COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2706709	1041875
2	2706692	1041811
3	2706783	1041725
4	2706832	1041761
TOTAL DREDGE AREA = 8,662± SQ.FT. TOTAL DREDGE VOLUME = 800± CU.YDS. DREDGING TO BE PERFORMED MECHANICALLY		

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

ACOE TIDAL PROFILE

SCALE: 1"=4'

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17005.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

SECTIONS AND DETAILS

REVISED DEC. 08, 2008
 REVISED SEPT. 23, 2008

APPLICATION BY:
 DAVID AND JOAN PETERSON

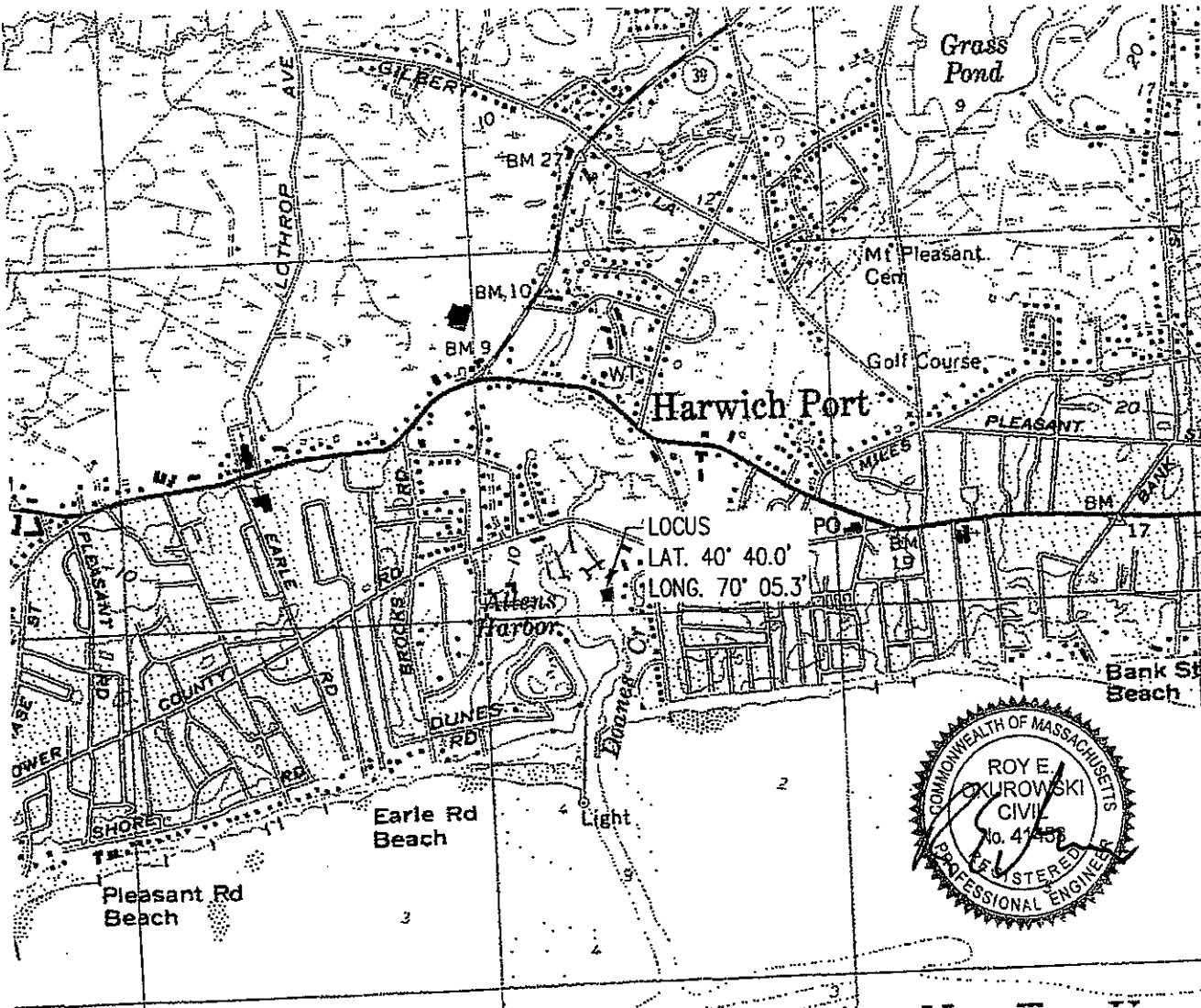
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 2, 2008-

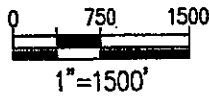
SHEET 5 OF 5

REFERENCE DATUM IS MEAN LOW WATER=0.0
FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



PLAN



DRAWING C16678-02.dwg
DRAWN BY: KES
C17001.00

SOURCE: U.S.G.S. QUADRANGLE "HARWICH - MA."

PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

VICINITY MAP

APPLICATION BY:
THOMAS C. AND DENISE MORRISON

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

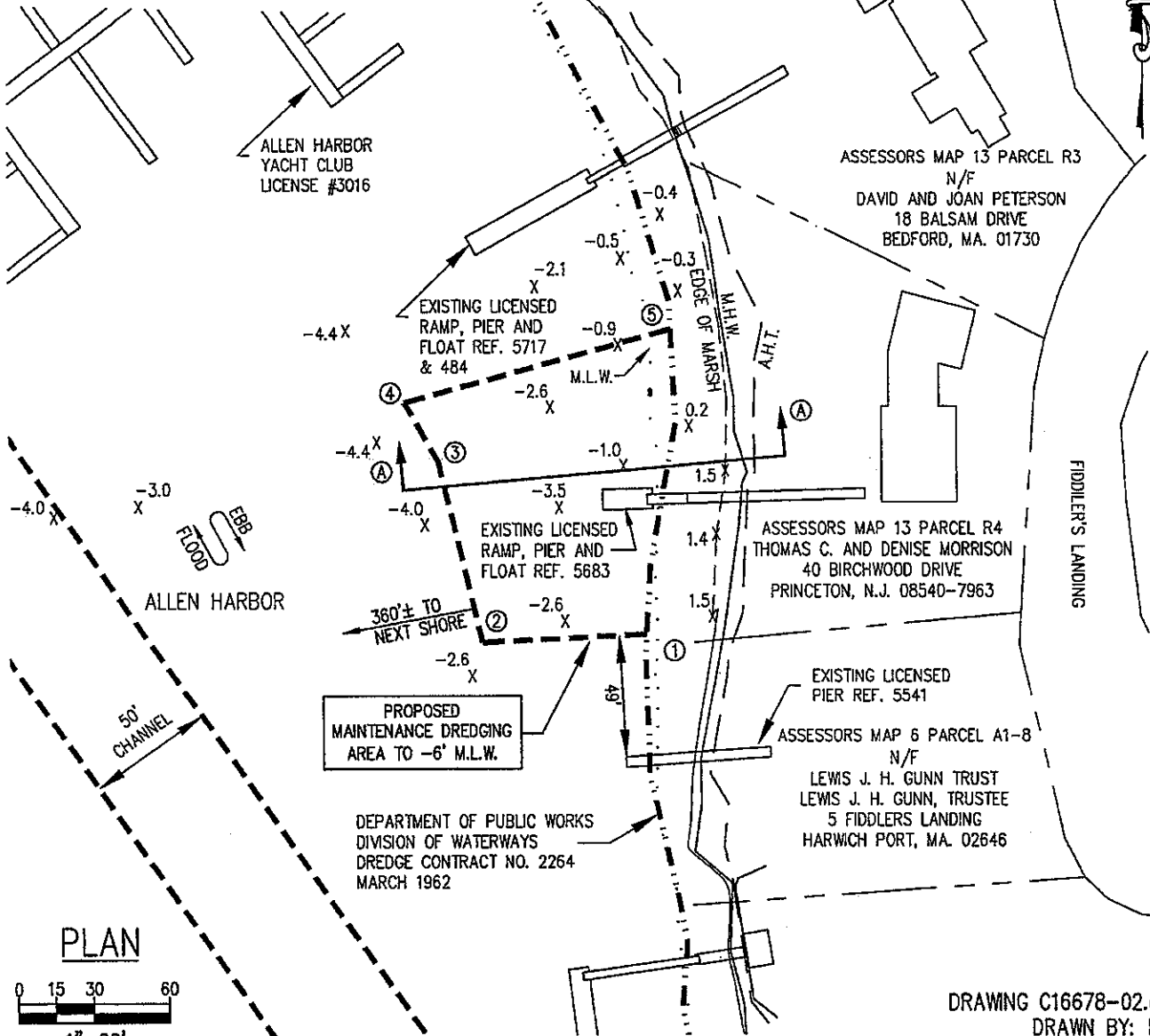
APRIL 8, 2008

SHEET 1 OF 4

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4

DREDGE VOLUME = 800 C.Y.



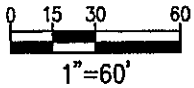
PROPOSED
 MAINTENANCE DREDGING
 AREA TO -6' M.L.W.

DEPARTMENT OF PUBLIC WORKS
 DIVISION OF WATERWAYS
 DREDGE CONTRACT NO. 2264
 MARCH 1962

ASSESSORS MAP 13 PARCEL R4
 THOMAS C. AND DENISE MORRISON
 40 BIRCHWOOD DRIVE
 PRINCETON, N.J. 08540-7963

EXISTING LICENSED
 PIER REF. 5541
 ASSESSORS MAP 6 PARCEL A1-8
 N/F
 LEWIS J. H. GUNN TRUST
 LEWIS J. H. GUNN, TRUSTEE
 5 FIDDLERS LANDING
 HARWICH PORT, MA. 02646

PLAN



DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17001.00

REVISED MAY 20, 2008

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

PROPOSED DREDGE AREA

APPLICATION BY:
 THOMAS C. AND DENISE MORRISON

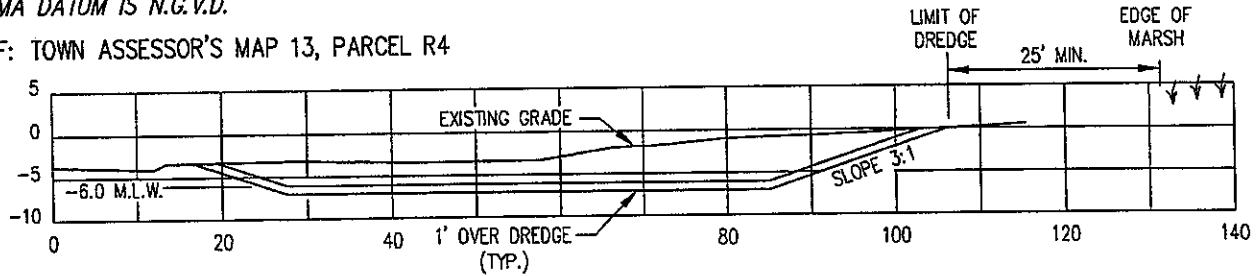
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 8, 2008

SHEET 3 OF 4

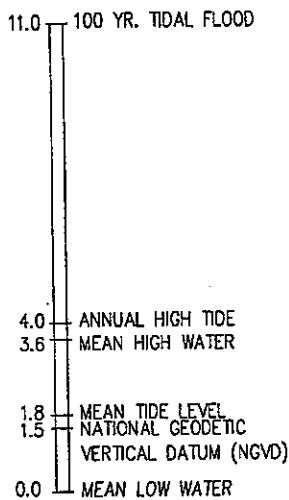
REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



SECTION A-A TYPICAL DREDGE PROFILE

SCALE: 1" = 20'



NANTUCKET SOUND
 TIDAL FLOOD PROFILE

DREDGE AREA COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2706589	1041865
2	2706586	1041799
3	2706657	1041781
4	2706680	1041768
5	2706709	1041875

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS
 OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

ACOE TIDAL PROFILE

SCALE: 1"=4'

DRAWING C16678-02.dwg

DRAWN BY: KES

REVISED MAY 20, 2008

C17001.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

SECTIONS AND DETAILS

APPLICATION BY:
 THOMAS C. AND DENISE MORRISON

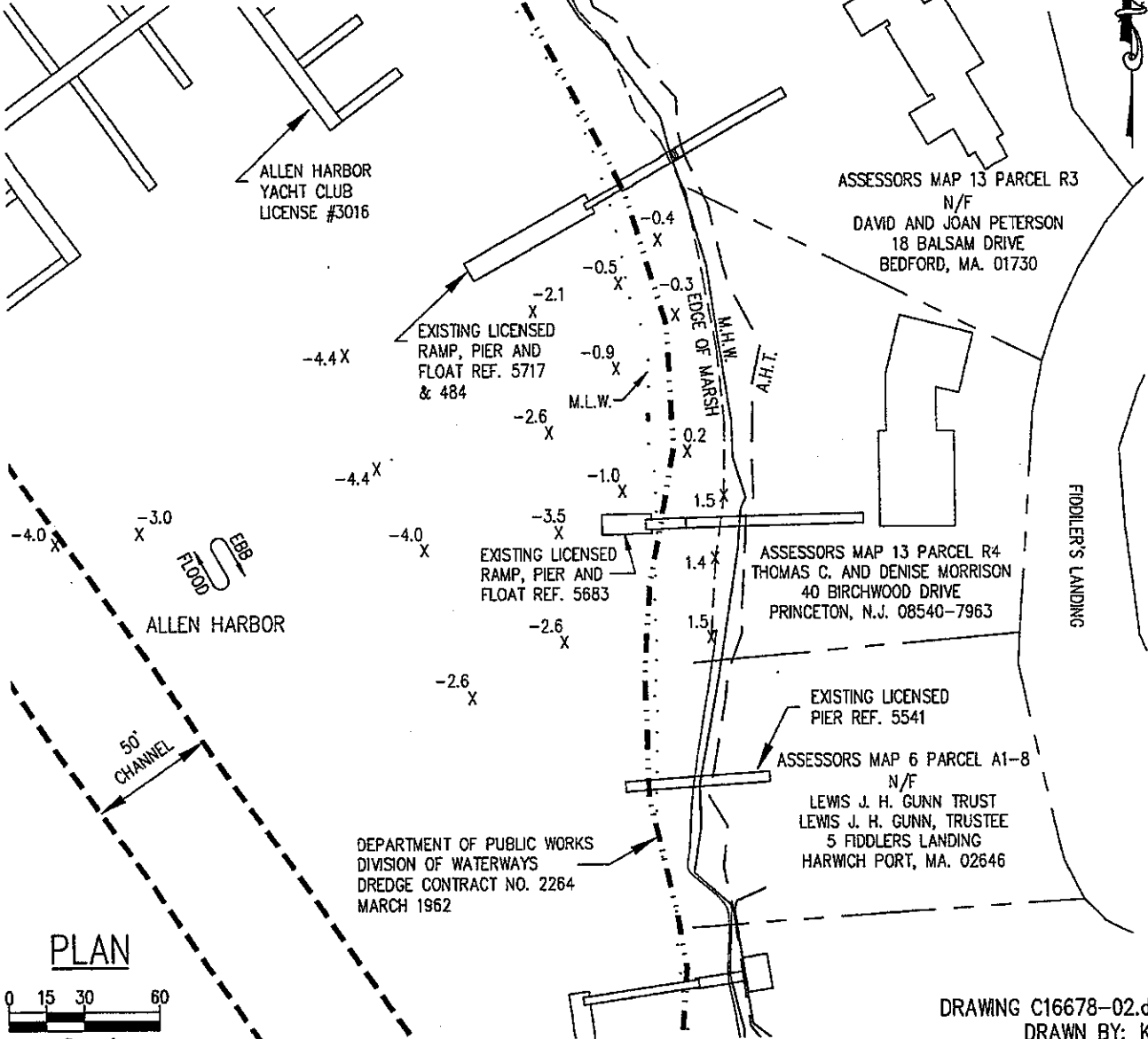
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 8, 2008

SHEET 4 OF 4

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

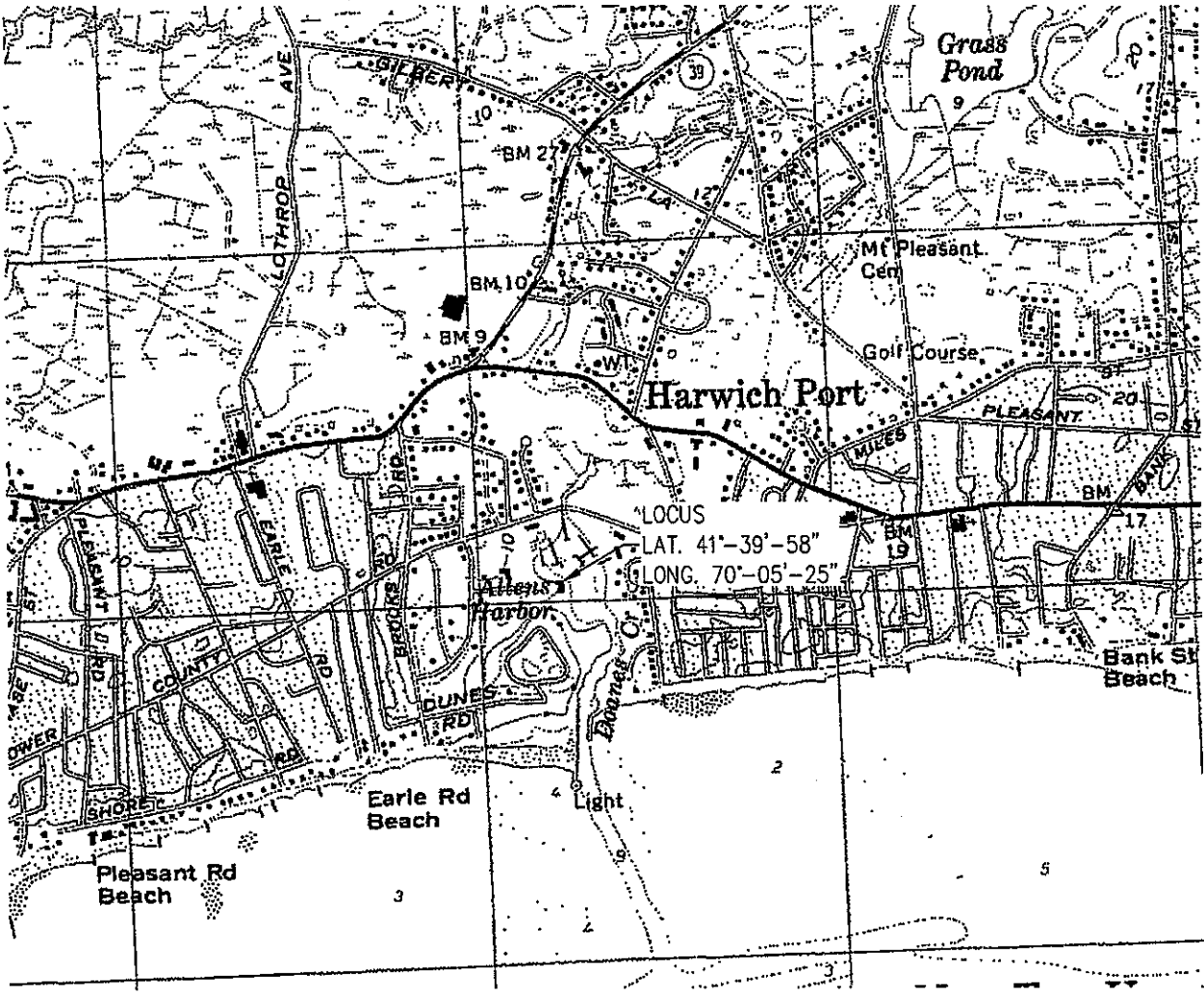
EXISTING CONDITIONS

APPLICATION BY:
 THOMAS C. AND DENISE MORRISON

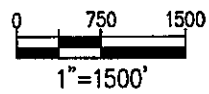
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653
 APRIL 8, 2008

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 5, PARCEL K1-47



PLAN



REVISED: JUNE 29, 2010
 REVISED: MAY 5, 2010

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17267.00

SOURCE: U.S.G.S. QUADRANGLE "HARWICH - MA."

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

VICINITY MAP

APPLICATION BY:
 MICHAEL J. AND PATRICIA C. ROTUNDI
 23 ALLENS HARBOR LANE
 PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653
 AUGUST 26, 2009 — SHEET 1 OF 4

REFERENCE DATUM IS MEAN LOW WATER=0.0
FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 5, PARCEL K1-47



ALLEN HARBOR
MARINE SERVICES,
INC.



ASSESSORS MAP 5 PARCEL K1-50
JOAN Y. WOELFEL
12 ALLENS HARBOR LANE
HARWICH PORT, MA. 02646

X -3.4 X -5.4 X 5.8

X 5.9

ALLEN HARBOR

X 5.3

X 6.2



M.L.W.
EDGE OF MARSH

X 3.9

X 3.6

X 4.0

ALLENS HARBOR LANE

EXISTING DWELLING

ASSESSORS MAP 5 PARCEL K1-47
N/F
MICHAEL J. AND PATRICIA C. ROTUNDI
18 FULLING MILL LANE
HINGHAM, MA. 02043

X 2.3

X 3.0

A.H.T.

X 0.6

X 1.7

X 1.7

X 1.5

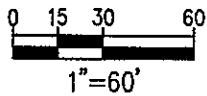
X 0.0

X 1.6

ASSESSORS
MAP 5 PARCEL K1-46
N/F
ROBERT J GERBER
41 WILSHIRE DR
SHARON, MA 02067

OYSTER CREEK

PLAN



ASSESSORS MAP 5 PARCEL W1-17
N/F
ROSEMARY GREGORSKI D ET AL
CHRISTINE GREGORSKI M
430 GRISWOLD RD
WETHERSFIELD, CT 06109

REVISED: JUNE 29, 2010
REVISED: MAY 5, 2010

DRAWING C16678-02.dwg
DRAWN BY: KES
C17267.00

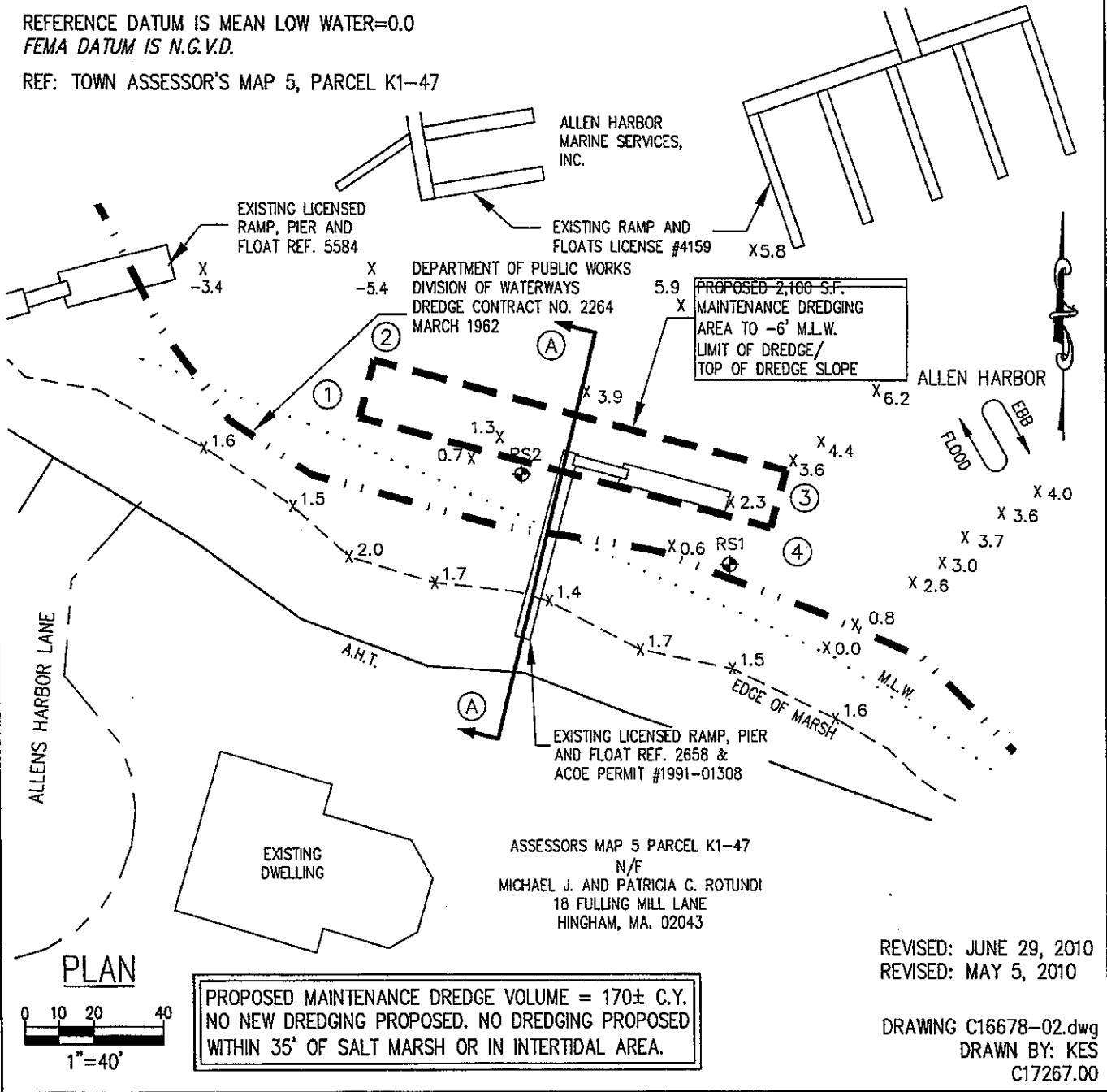
PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

EXISTING CONDITIONS

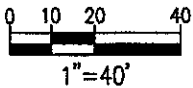
APPLICATION BY:
MICHAEL J. AND PATRICIA C. ROTUNDI
23 ALLENS HARBOR LANE
PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

AUGUST 26, 2009 SHEET 2 OF 4

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.
 REF: TOWN ASSESSOR'S MAP 5, PARCEL K1-47



PLAN



PROPOSED MAINTENANCE DREDGE VOLUME = 170± C.Y.
 NO NEW DREDGING PROPOSED. NO DREDGING PROPOSED
 WITHIN 35' OF SALT MARSH OR IN INTERTIDAL AREA.

REVISED: JUNE 29, 2010
 REVISED: MAY 5, 2010

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17267.00

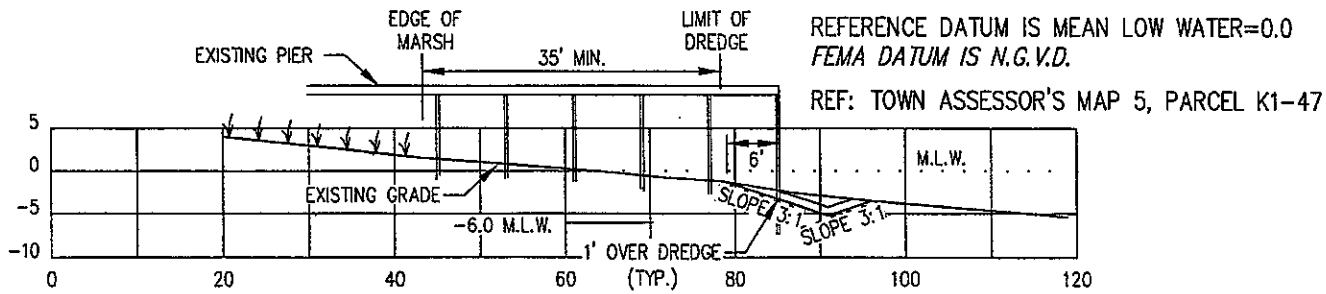
PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

PROPOSED DREDGE AREA

APPLICATION BY:
 MICHAEL J. AND PATRICIA C. ROTUNDI
 23 ALLENS HARBOR LANE

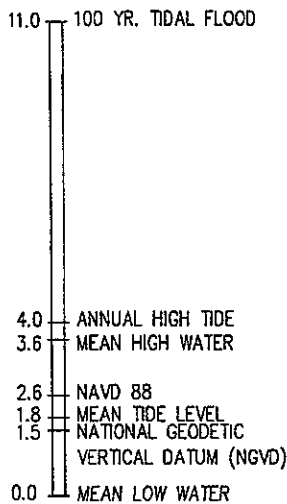
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

AUGUST 26, 2009 — SHEET 3 OF 4



SECTION A-A TYPICAL DREDGE PROFILE

SCALE: 1" = 20'



DREDGE AREA		
COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2706636.80	1041249.50
2	2706653.06	1041253.86
3	2706621.50	1041373.00
4	2706604.88	1041368.54

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

REVISED: JUNE 29, 2010

REVISED: MAY 5, 2010

ACOE TIDAL PROFILE

SCALE: 1"=4'

DRAWING C16678-02.dwg

DRAWN BY: KES

C17267.00

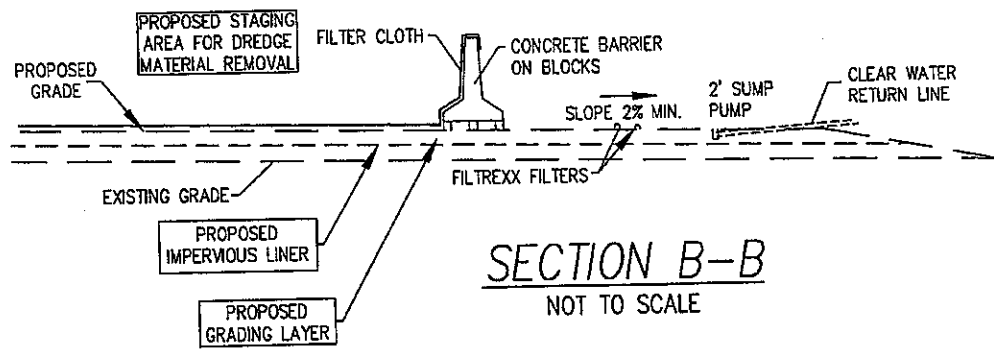
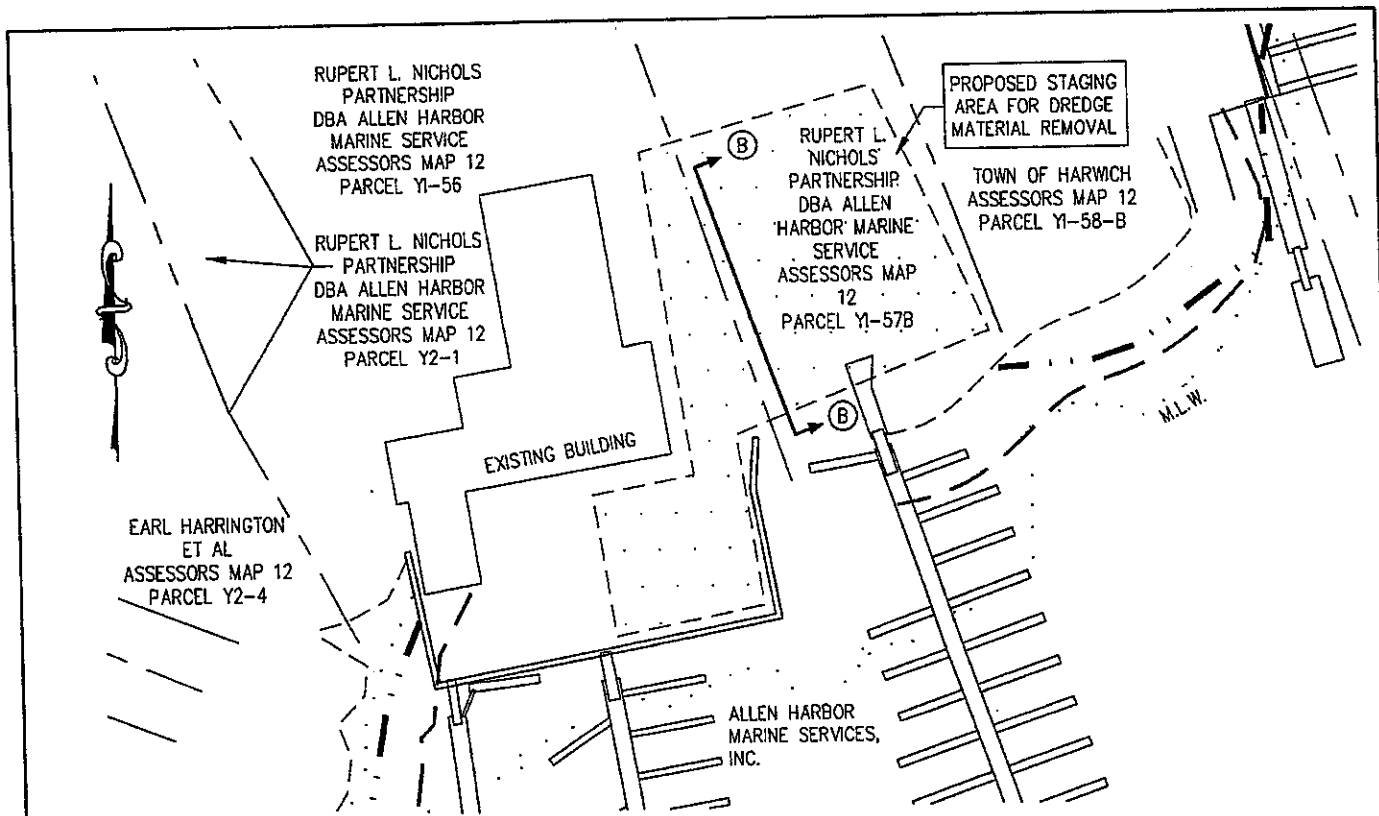
PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

SECTIONS AND DETAILS

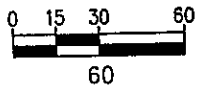
APPLICATION BY:
MICHAEL J. AND PATRICIA C. ROTUNDI
23 ALLENS HARBOR LANE

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

AUGUST 26, 2009 — SHEET 4 OF 4



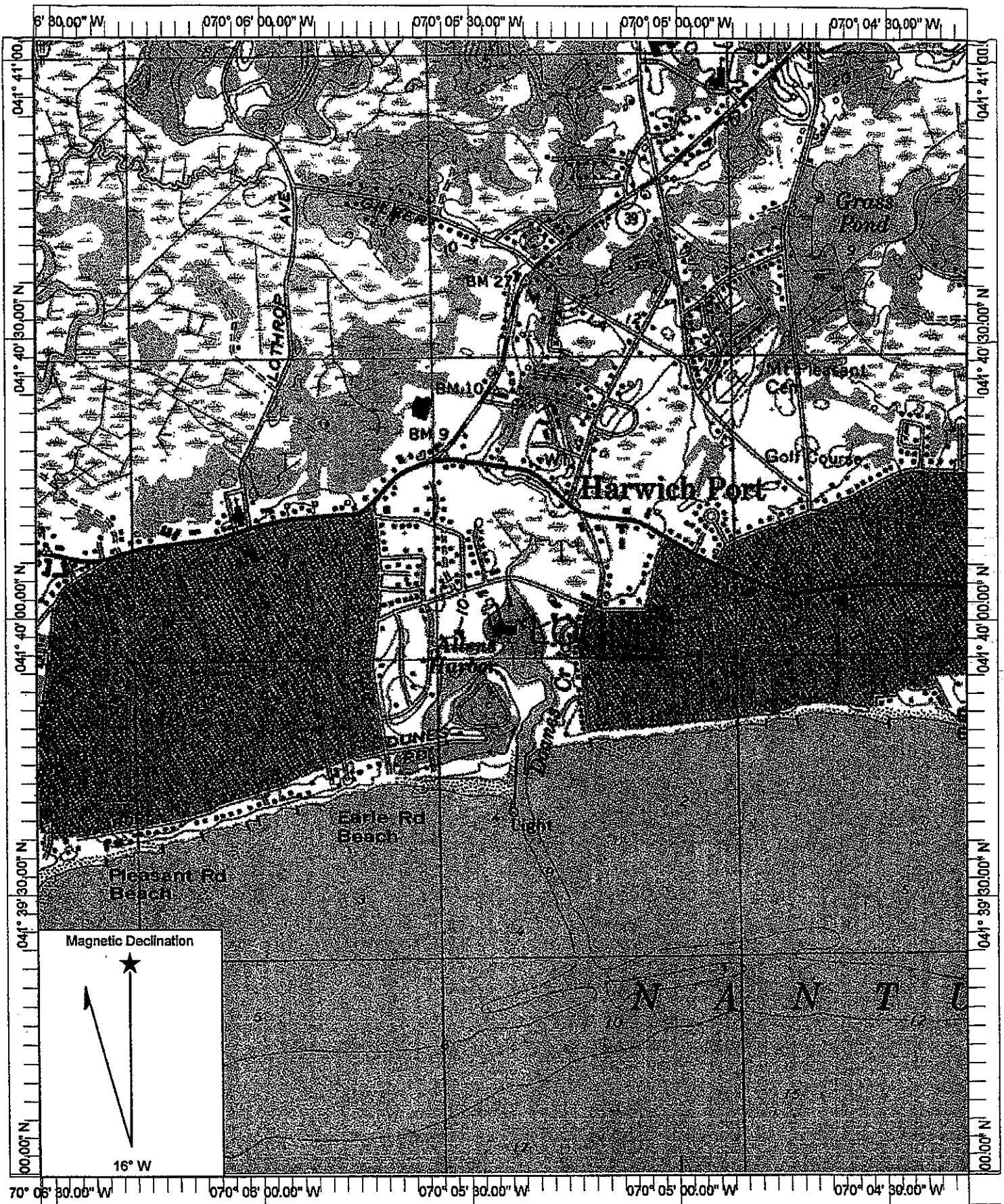
PLAN



PROPOSED DEWATERING CONTAINMENT
AREA FOR MICHAEL ROTUNDI

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

DRAWN BY: KES C16678-02.dwg

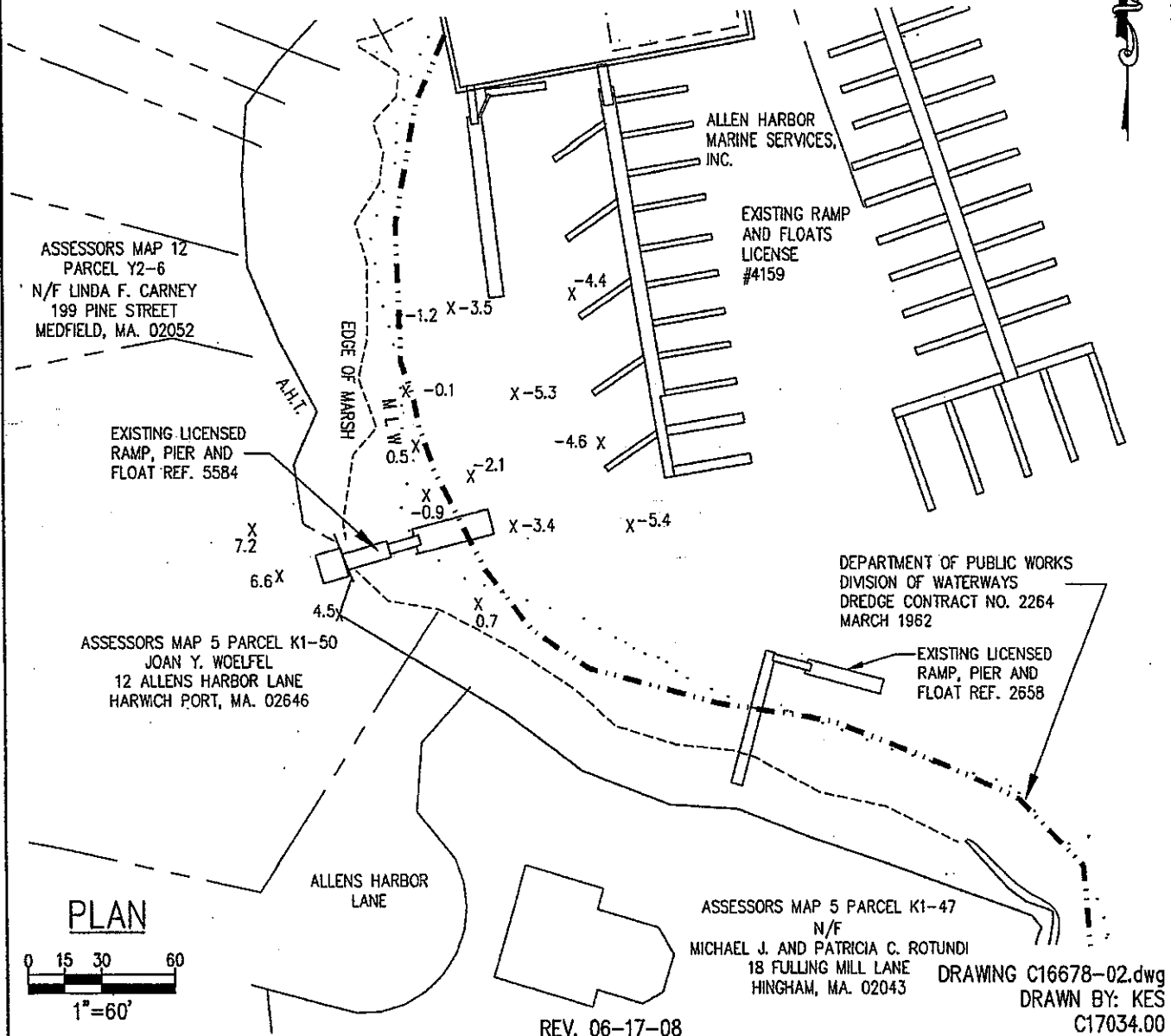


Name: HARWICH
 Date: 5/7/2008
 Scale: 1 inch equals 1333 feet

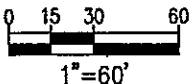
Location: 041° 40' 01.08" N 070° 05' 25.27" W NAD 27
 Caption: C17034.00/Woelfel/ACOE
 12 Allens Harbor Lane
 Map 5 Parcel K1-50

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



PLAN



REV. 06-17-08

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17034.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

EXISTING CONDITIONS

APPLICATION BY:
 JOAN Y. WOELFEL

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

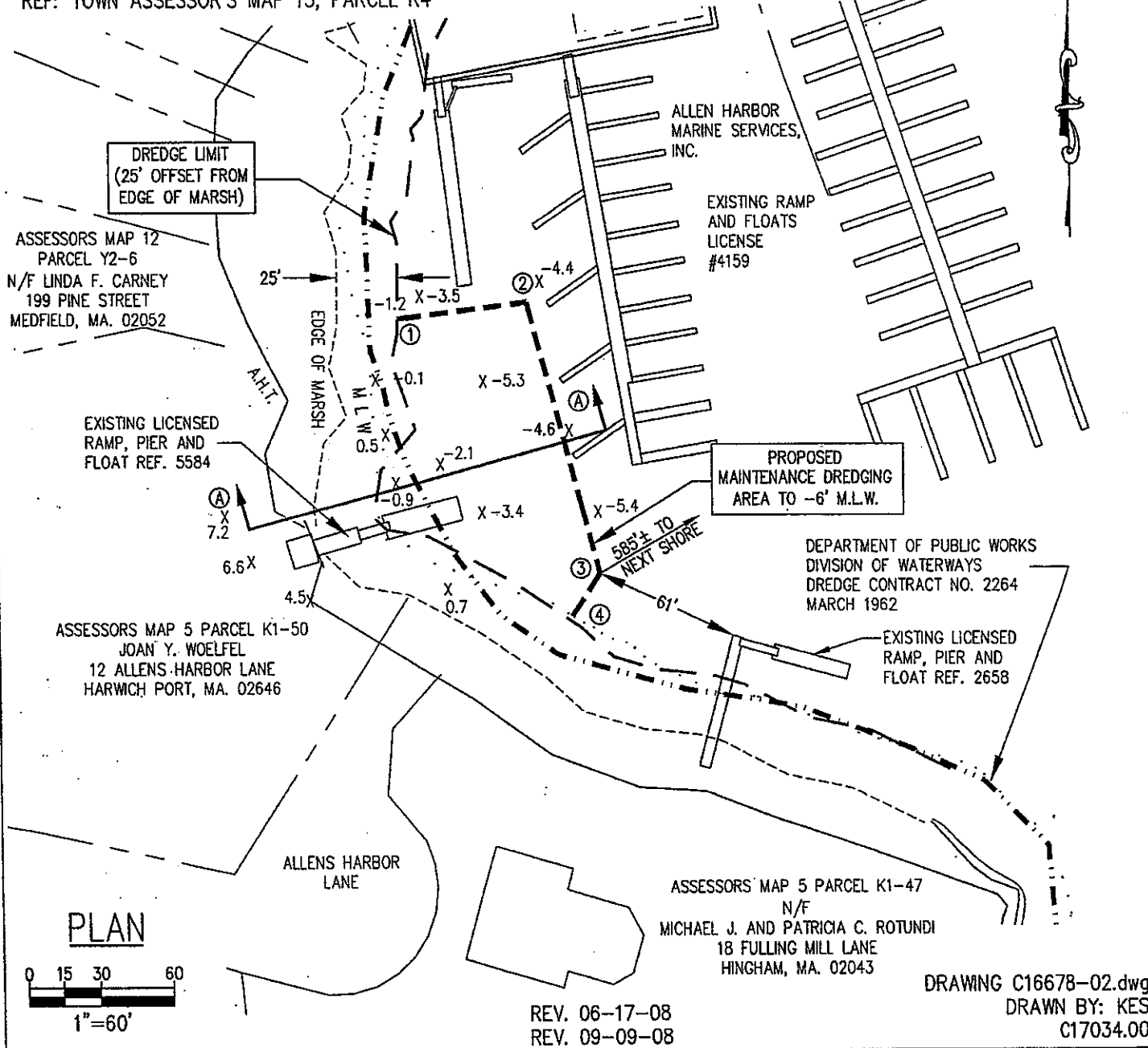
APRIL 8, 2008 SHEET 2 OF 5

REFERENCE DATUM IS MEAN LOW WATER=0.0
FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4

NOTE:
ALL DREDGING TO TAKE PLACE BELOW M.L.W.
NO DREDGING PROPOSED IN INTERTIDAL ZONE.

DREDGE VOLUME = 422± C.Y.



PURPOSE:
TO PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA.

PROPOSED DREDGE AREA

APPLICATION BY:
JOAN Y. WOELFEL

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

APRIL 8, 2008

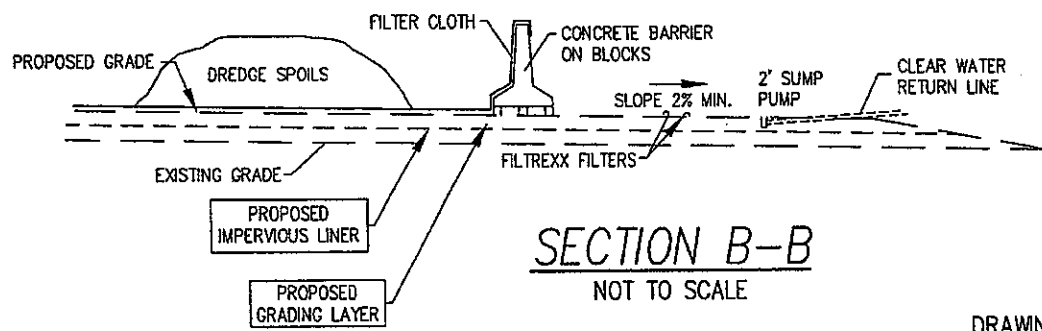
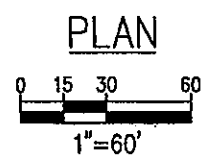
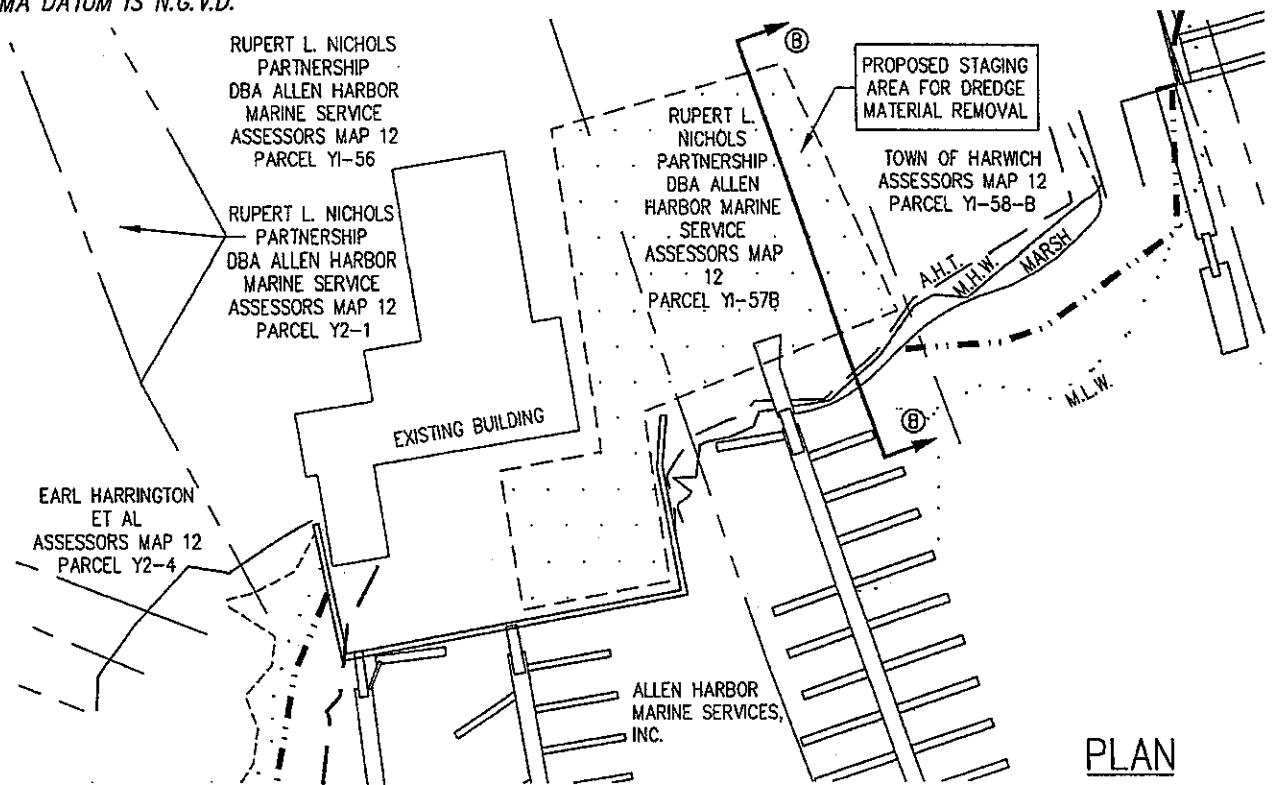
SHEET 3 OF 5

REV. 06-17-08
REV. 09-09-08

DRAWING C16678-02.dwg
DRAWN BY: KES
C17034.00

REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17034.00

REV. 06-17-08

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

DE-WATERING DETAILS

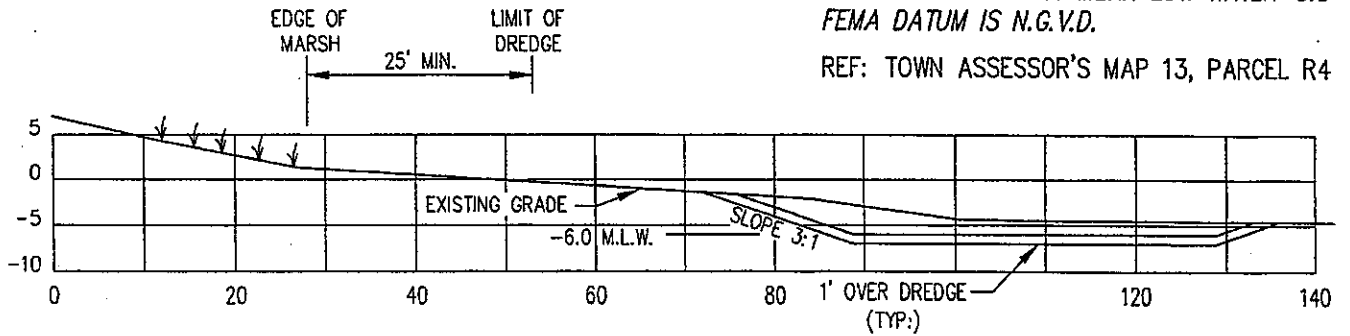
APPLICATION BY:
 JOAN Y. WOELFEL

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

APRIL 8, 2008 SHEET 4 OF 5

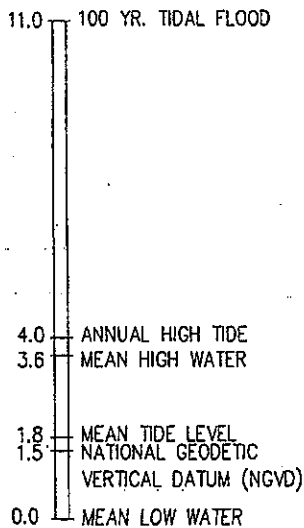
REFERENCE DATUM IS MEAN LOW WATER=0.0
 FEMA DATUM IS N.G.V.D.

REF: TOWN ASSESSOR'S MAP 13, PARCEL R4



SECTION A-A TYPICAL DREDGE PROFILE

SCALE: 1" = 20'



DREDGE AREA		
COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2706759	1041170
2	2706765	1041224
3	2706653	1041254
4	2706635	1041242

NANTUCKET SOUND
 TIDAL FLOOD PROFILE

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETIC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS
 OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

ACOE TIDAL PROFILE

SCALE: 1"=4'

REV. 06-17-08
 REV. 09-09-08

DRAWING C16678-02.dwg
 DRAWN BY: KES
 C17034.00

PURPOSE:
 TO PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA.

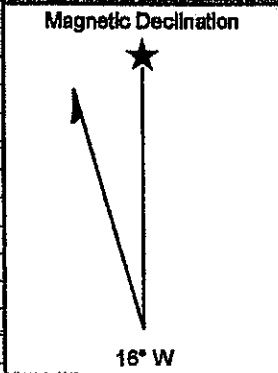
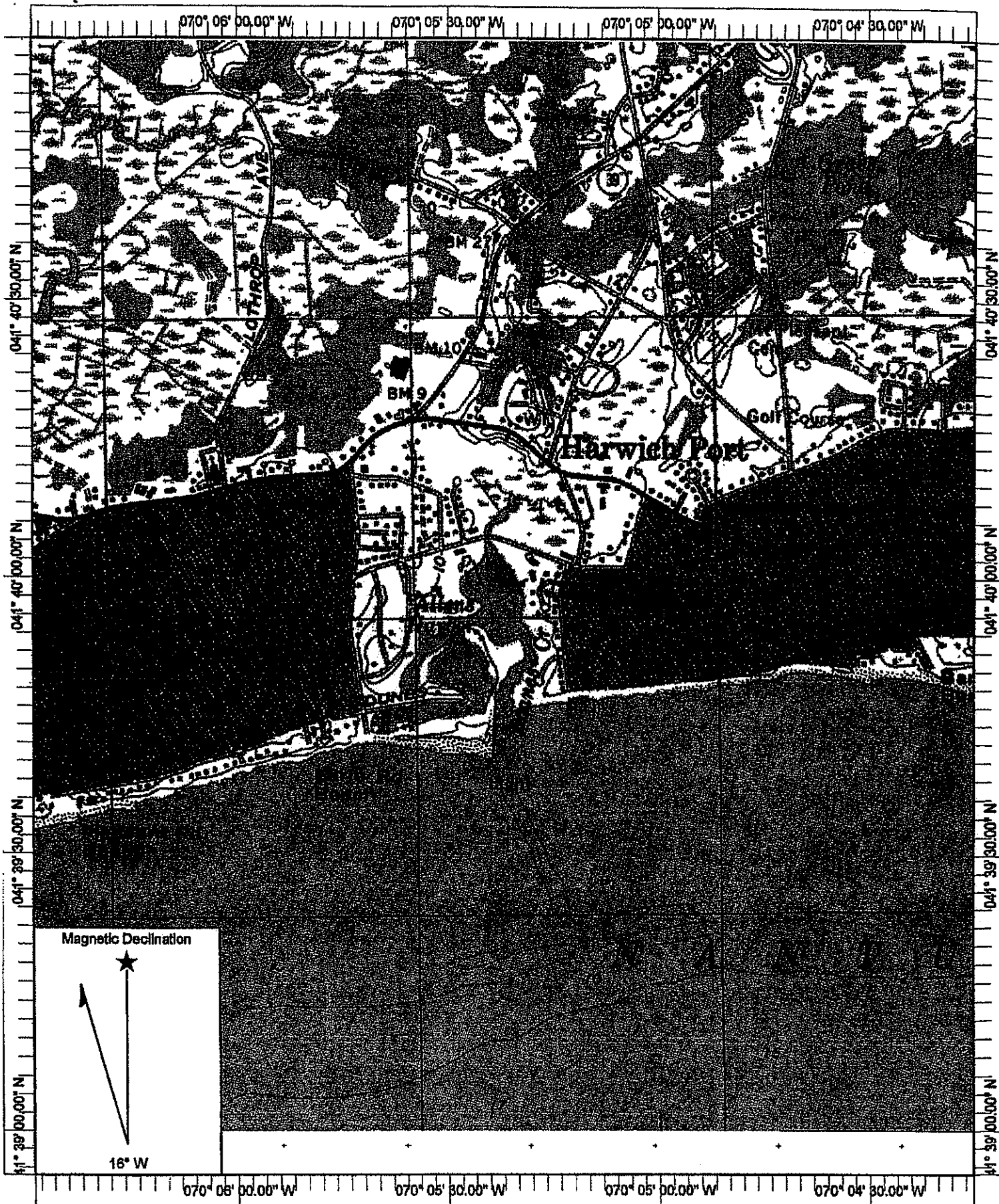
SECTIONS AND DETAILS

APPLICATION BY:
 JOAN Y. WOELFEL

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

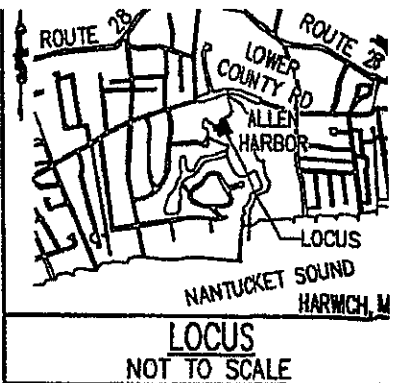
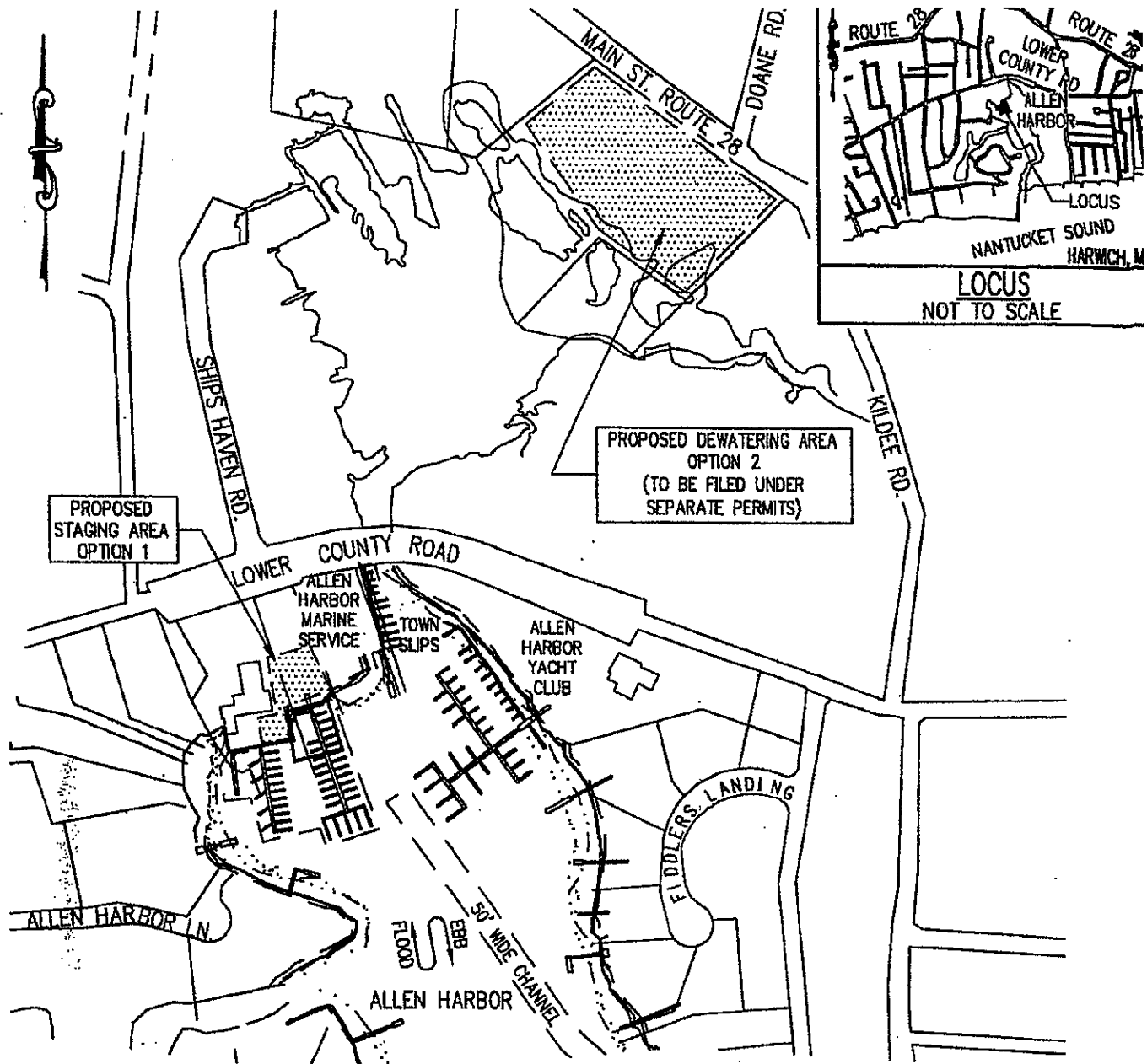
APRIL 8, 2008

SHEET 5 OF 5



Name: HARWICH
 Date: 12/19/2007
 Scale: 1 inch equals 1333 feet

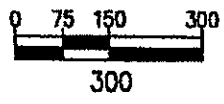
Location: 041° 39' 56.58" N 070° 05' 21.91" W NAD 27
 Caption: C15997.00/AHMS/ACOE/DKM/all
 335 Lower County Road
 Map 13 Parcel P1-3



PROPOSED STAGING AREA OPTION 1

PROPOSED DEWATERING AREA OPTION 2
(TO BE FILED UNDER SEPARATE PERMITS)

KEY MAP



NOTE:
PIERS AND FLOATS
ARE PERMANENT PILE
SUPPORTED.



NOTE:
ALL STRUCTURES ARE
EXISTING UNLESS
OTHERWISE NOTED.

PLAN TO ACCOMPANY PETITION OF
ALLEN HARBOR MARINE SERVICE
 TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
 ESTABLISH ZONE OF RECONFIGURATION, AND
 PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA

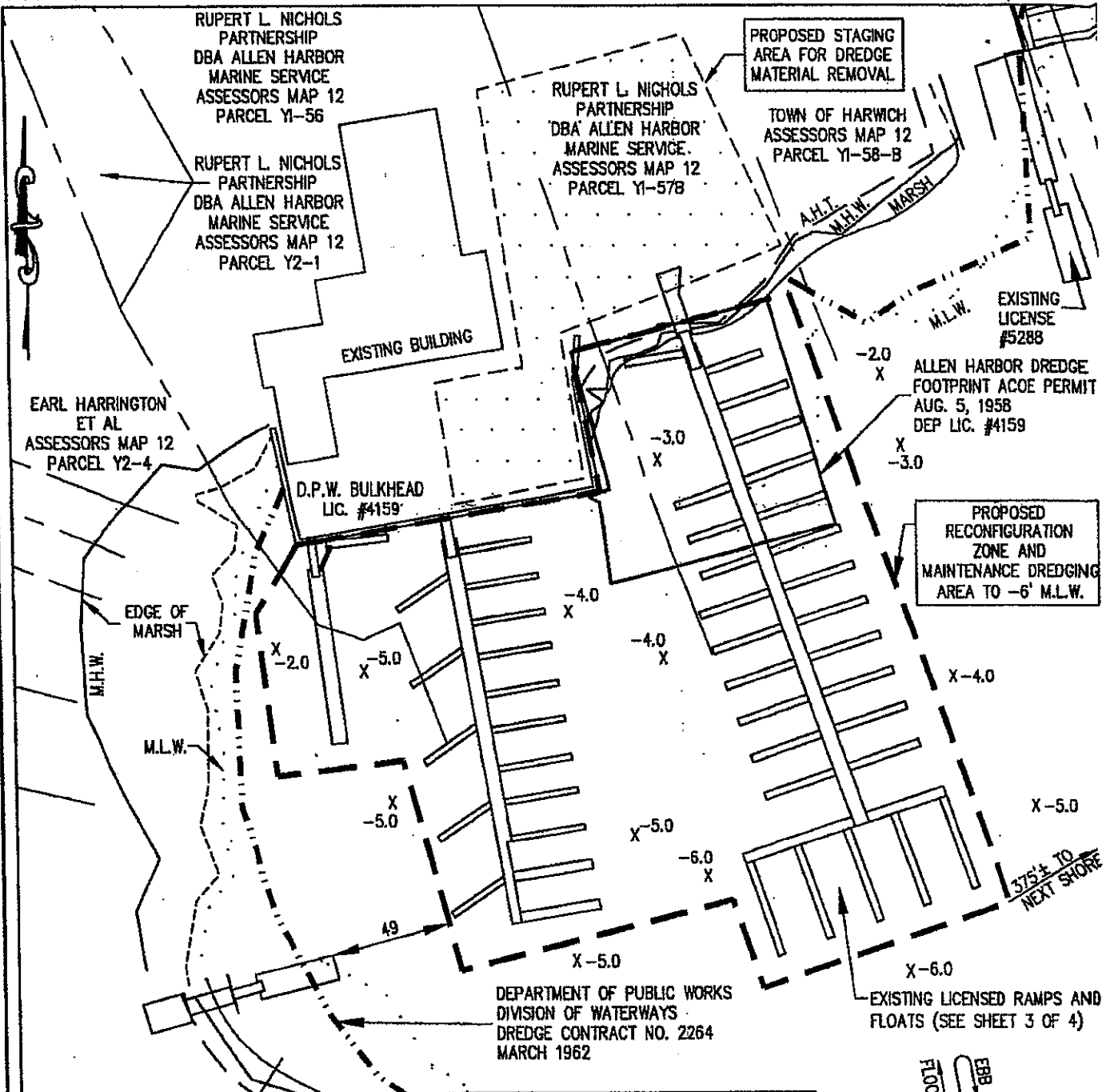
PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653

DRAWN BY: KES C16678-02.dwg

PROPOSED DREDGE VOLUME: 5,400± cu.yds.

REFERENCE DATUM IS MEAN LOW WATER = 0.0

NOTE: DREDGE MATERIAL TO BE DISPOSED AT A DEP APPROVED UPLAND SITE.



PLAN



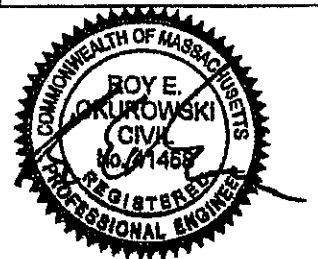
PLAN TO ACCOMPANY PETITION OF ALLEN HARBOR MARINE SERVICE

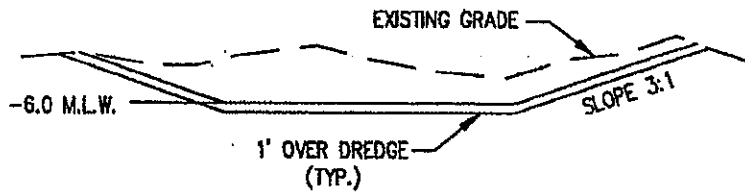
TO LICENSE AND MAINTAIN EXISTING STRUCTURES, ESTABLISH ZONE OF RECONFIGURATION, AND PERFORM MAINTENANCE DREDGING IN ALLEN HARBOR, HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

DRAWN BY: KES C16678-02.dwg

ALLEN HARBOR





TYPICAL DREDGE PROFILE

NOT TO SCALE

PERMITS, LICENSES AND REFERENCES

DEPARTMENT OF ENVIRONMENTAL PROTECTION LICENSES

LICENSE #1062
 LICENSE #3652
 LICENSE #4080
 LICENSE #4159
 LICENSE #4222
 LICENSE #4792
 LICENSE #5023
 LICENSE #1559
 LICENSE #1491

REFERENCES

DPW CONTRACT NO. 1820
 DPW CONTRACT NO. 2264
 DPW CONTRACT NO. 2453



PLAN TO ACCOMPANY PETITION OF ALLEN HARBOR MARINE SERVICE

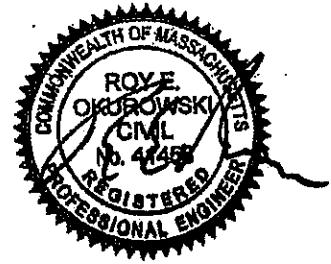
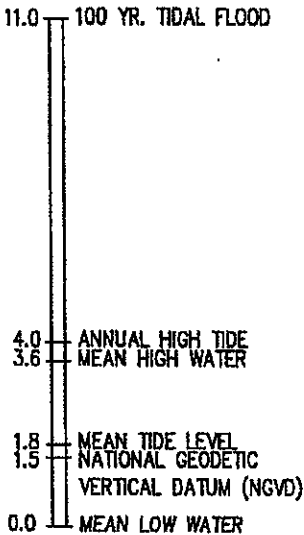
TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
 ESTABLISH ZONE OF RECONFIGURATION, AND
 PERFORM MAINTENANCE DREDGING
 IN ALLEN HARBOR,
 HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
 COASTAL ENGINEERING CO., INC.
 260 CRANBERRY HIGHWAY
 ORLEANS, MA 02653
 DRAWN BY: KES C16678-02.dwg

REFERENCE DATUM IS MEAN LOW WATER = 0.0

RECONFIGURATION ZONE COORDINATES ARE IN NAD83 FEET		
	NORTHING	EASTING
1	2706956	1041383
2	2706706	1041470
3	2706672	1041369
4	2706707	1041357
5	2706679	1041247
6	2706765	1041224
7	2706759	1041174
8	2706825	1041166
9	2706854	1041182
10	2706876	1041306
11	2706932	1041295

11.0 100 YR. TIDAL FLOOD



NANTUCKET SOUND
TIDAL FLOOD PROFILE

REF: A.C.O.E. TIDAL FLOOD SURVEY, SEPT. 1988 PLATE C-23 PROFILE 9

M28U MASS GEODETEC STATION ELEVATION 15.17 NGVD; 15.17= 16.97 MLW

ELEVATIONS SHOWN ARE MEASURED IN FEET AND TENTHS PLUS
OR MINUS FROM THE PLANE OF MEAN LOW WATER EL.=0.0'

ACOE TIDAL PROFILE

SCALE: 1"=4'

PLAN TO ACCOMPANY PETITION OF ALLEN HARBOR MARINE SERVICE

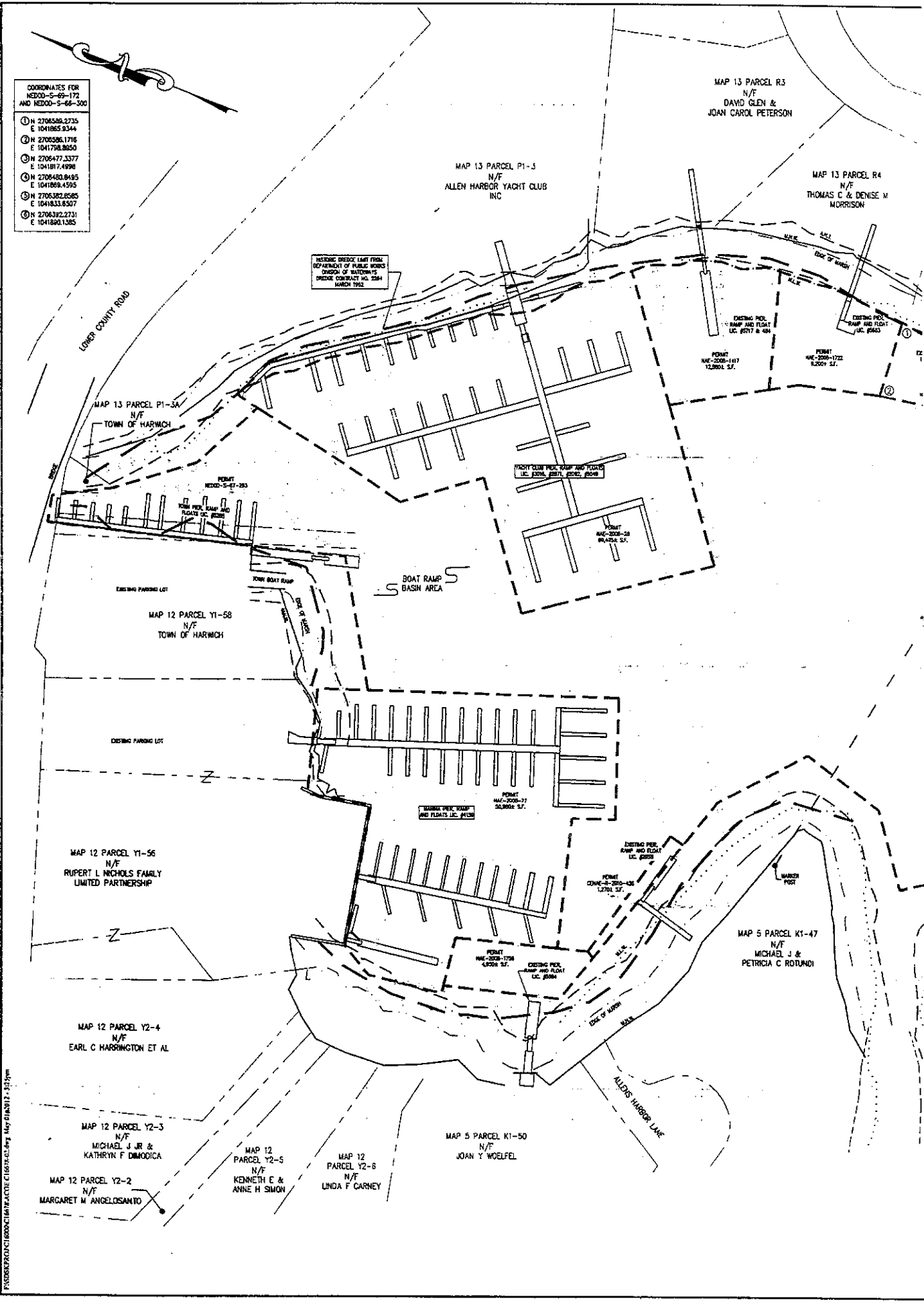
TO LICENSE AND MAINTAIN EXISTING STRUCTURES,
ESTABLISH ZONE OF RECONFIGURATION, AND
PERFORM MAINTENANCE DREDGING
IN ALLEN HARBOR,
HARWICH, BARNSTABLE COUNTY, MA

PREPARED BY
COASTAL ENGINEERING CO., INC.
260 CRANBERRY HIGHWAY
ORLEANS, MA 02653

DRAWN BY: KES C16678-02.dwg

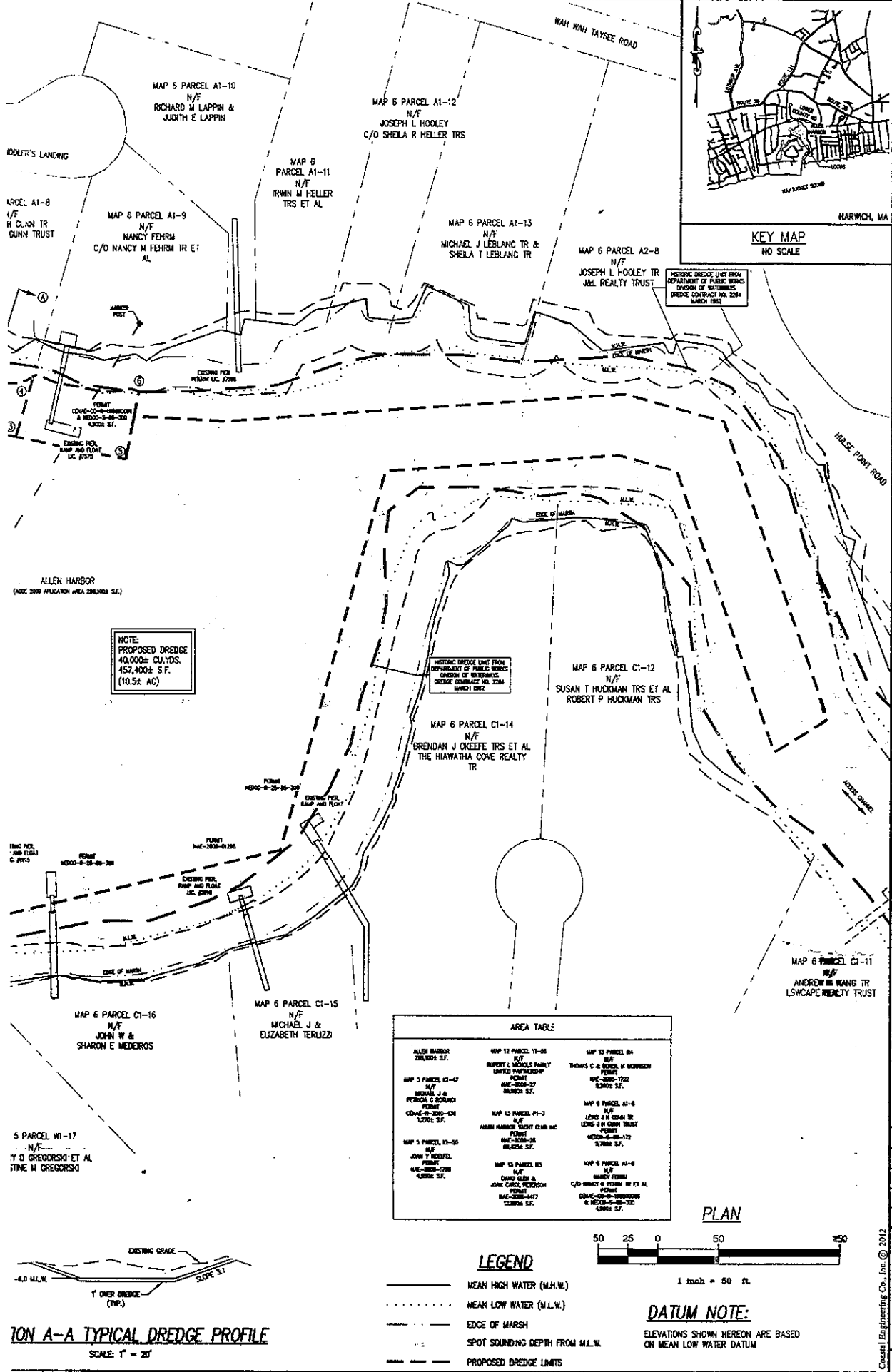
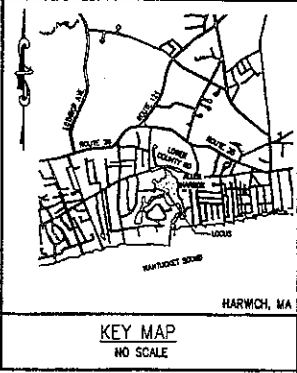
COORDINATES FOR
NEEDS-5-69-172
AND NEEDS-5-66-300

- ① N 2706580.2735
E 1041865.9344
- ② N 2706586.1716
E 1041798.8850
- ③ N 2706477.3377
E 1041817.4998
- ④ N 2706480.8495
E 1041868.4595
- ⑤ N 2706382.6585
E 1041833.8507
- ⑥ N 2706392.2731
E 1041800.1385



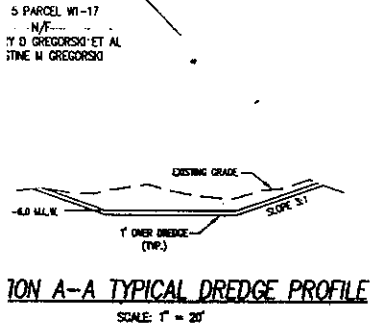
EXISTING DREDGE LIMIT FROM
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATERWAYS
DREDGE CONTRACT NO. 2584
MARCH 1982

PREPARED BY: GEORGE J. LAMAR, CIVIL ENGINEER, 1015 W. 10th St., Map 01/04/2017 - 3:53pm

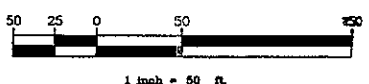


NOTE:
 PROPOSED DREDGE
 40,000± CU.YDS.
 157,400± S.F.
 (110.52 AC)

AREA TABLE		
ALLEN HARBOR 28,000± S.F.	MAP 12 PARCEL 11-05 N/F RUFY & WENZELS FAMILY LIMITED PARTNERSHIP POINT MAP-2005-1722 8,000± S.F.	MAP 13 PARCEL 8A N/F THOMAS C & DENISE W. BROWN FEDER MAP-2005-1722 8,000± S.F.
MAP 5 PARCEL C1-17 N/F MICHAEL J & PATRICIA C BORDINI POINT MAP-04-200-434 1,200± S.F.	MAP 13 PARCEL 11-3 N/F ALLEN HARBOR TRUST CLUB INC. POINT MAP-2005-05 8,000± S.F.	MAP 8 PARCEL A1-8 N/F LENE J & EDWARD DE LENG & N. CORN TRUST POINT MAP-04-09-172 9,700± S.F.
MAP 3 PARCEL C1-50 N/F JOHN T. HOFFER POINT MAP-2005-1726 4,000± S.F.	MAP 13 PARCEL 8B N/F DANN GLEN & JANE CAROL FREDERSON POINT MAP-2005-1477 12,000± S.F.	MAP 6 PARCEL A1-8 N/F WENDY FORD C/O HANCOCK & FISHBEIN POINT MAP-04-02-178-1000 & MAP-04-02-178-1001 1,000± S.F.



- LEGEND**
- MEAN HIGH WATER (M.H.W.)
 - MEAN LOW WATER (M.L.W.)
 - EDGE OF MARSH
 - · · · · SPOT SOUNDING DEPTH FROM M.L.W.
 - PROPOSED DREDGE LIMITS



DATUM NOTE:
 ELEVATIONS SHOWN HEREON ARE BASED
 ON MEAN LOW WATER DATUM

NO.	DATE	REVISION

SEAL

TOWN OF HARWICH
 LOWER COUNTY ROAD
 SHEET TITLE
PLAN SHOWING PROPOSED DREDGE FOOTPRINT
 HARWICH, MA

SCALE AS NOTED
 DRAWING FILE AC06-C16678-02.dwg
 DATE 08-26-11
 DRAWN BY KES
 CHECKED BY

C3.11
 1 OF 1 SHEETS
 PROJECT NO. C16678.02

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