



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

696 Virginia Road  
Concord, MA 01742-2751

# PUBLIC NOTICE

**Date:** November 1, 2005  
**Comment Period Ends:** January 3, 2006  
**File Number:** 2004-2355  
**In Reply Refer To:** Ted Lento

## **Revised Public Notice and Announcement of a Public Hearing**

Weaver's Cove Energy, LLC. ("Weaver's Cove") and Mill River Pipeline, LLC. ("Mill River") (collectively, the "Applicant") have requested Corps of Engineers ("Corps") permits under Section 10 of the Rivers and Harbors Act of 1899, Section 103 of the Marine Protection, Research and Sanctuaries Act and Section 404 of the Clean Water Act to conduct dredging in an existing Federal navigation channel, install structures and discharge fill material in wetlands and waterways for the construction of a liquefied natural gas ("LNG") import terminal and natural gas pipeline facilities. The LNG terminal would be located on a 73 acre site adjacent to the Taunton River primarily at One New Street in the City of Fall River, Massachusetts. Mill River is proposing to temporarily alter wetlands and waterways in order to construct two new lateral pipelines (referred to as the Western Lateral and Northern Lateral) that will facilitate the delivery of re-gasified LNG to the existing interstate pipeline network. The facilities of Weaver's Cove and Mill River are together referred to as "the Project". The Project facilities are also subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC") pursuant to Sections 3 and 7 of the Natural Gas Act. A prior Corps Public Notice was issued for this project on August 3, 2004 and joint Corps / FERC Public Hearings were held September 8, 2004 in Massachusetts and September 9, 2004 in Rhode Island. Due to proposed project modifications we are issuing this revised notice and will convene two additional public hearings to seek comment on aspects of the Project within Corps jurisdiction.

The Applicants require Section 10/404/103 permits because the proposed work occurs within jurisdictional waters of the United States. The proposed work will predominantly occur in the Commonwealth of Massachusetts, but a portion of the navigation channel dredging will occur within the Federal Channel limits in the State of Rhode Island. This terminal site is located on the USGS Fall River quadrangle sheet at UTM zone 19 coordinates 4622349 N and 0321927 E.

The work is depicted on two sets of plans, one entitled "Weaver's Cove Energy, LLC" consisting of 37 sheets dated September 2005 with Attachment A entitled "Proposed Conceptual Site Plan", Sheet 6 of 38 revised September 2005, depicting the onshore disposal site configuration and Attachment B consisting of two figures entitled "Figure 1, Dredging Plan with Offshore Disposal and Time of Year Restrictions and Figure 2, Original Dredging Plan with Upland Placement". A second separate plan set entitled "Mill River Pipeline, LLC" consisting of 37 sheets revised October 20, 2005 depicts proposed work for construction of the Mill River pipeline laterals. These plan sets are available for viewing or downloading from the Corps Internet site [www.nae.usace.army.mil](http://www.nae.usace.army.mil) under the link for Regulatory Public Notices. Copies of the permit plans can also be mailed upon request.

## FERC National Environmental Policy Act (NEPA) Review

The NEPA review of the Project was conducted by the FERC with the participation and assistance of cooperating agencies including the Corps. The Final Environmental Impact Statement (“FEIS”) for the Project was issued by the FERC in May 2005. The FERC Commissioners voted to approve construction and operation of the Project on June 30, 2005. The FERC subsequently issued an Order (i.e., FERC Certificate) on July 15, 2005 authorizing construction and operation of the Project that includes a number of conditions with respect to facility design and environmental mitigation. This FEIS will serve as the baseline document for the Corps in performing its evaluation of the public interest factors described below. The FEIS has been placed in the public files of the FERC (Reference Docket No. CP04-36-000) and is available for distribution and public inspection at:

Federal Energy Regulatory Commission  
Public Reference Room  
888 First Street, N.E., Room 2A  
Washington, DC 20426  
(202) 502-8371

A limited number of copies are available from the Public Reference Room identified above. In addition, copies of the FEIS have been mailed to federal, state, and local agencies; public interest groups; individuals and affected landowners who requested a copy of the FEIS; libraries; newspapers; and parties to this proceeding. The FEIS is also available on the FERC Internet website ([www.ferc.gov](http://www.ferc.gov)) using the eLibrary link. Click on the eLibrary link, click on “General Search” and enter the docket number CP04-36 in the Docket Number field. Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, contact (202) 502-8659.

**The U.S. Coast Guard and FERC are the federal agencies responsible for safe vessel transit and facility operation, and the Corps will utilize the findings of these two agencies on these issues in its deliberations. The focus of this comment period and these hearings is to receive comments on the dredging and dredged material disposal aspects of the project, which is the Corps primary area of jurisdiction for this project.**

### Work Proposed By Weaver’s Cove

The LNG Terminal to be constructed by Weaver’s Cove will include LNG transfer piping, a 200,000 m<sup>3</sup> LNG storage tank, vaporization equipment, an LNG truck loading area, and necessary ancillary equipment. In addition, an existing woodpile pier and associated ship mooring structures at the LNG Terminal site will be removed and replaced with a new pile supported jetty and mooring structures required to support the berthing and unloading of LNG vessels delivering product to the terminal. Sheet piling and riprap will be used to stabilize and straighten approximately 2,650 ft of waterfront at the proposed LNG Terminal site. The existing waterfront is a mix of timber sheeting, stone riprap and gravel bank. The new sheet piling will be driven landward of the existing timber sheeting. The LNG Terminal facilities will be located within the 55-acre portion of the site that is located largely within a Massachusetts Designated Port Area (“DPA”). Approximately 0.6 acres of intertidal and subtidal habitat will be permanently filled by shoreline site development activities. The current site layout has eliminated the need to fill three small salt marsh areas as originally proposed (see Attachment A).

The Project requires maintenance and improvement dredging of the existing 7-mile long Mount

Hope Bay – Fall River Harbor Federal Channel and Turning Basin, construction of a new pier/jetty, and stabilization of the shoreline at the LNG Terminal site. Weaver’s Cove anticipates that proposed maintenance and improvement dredging operations will occur within a footprint of approximately 200 acres and will produce approximately 2.1 to 2.5 million cubic yards (in situ) of dredged material. Two dredge disposal alternatives remain under consideration by Weaver’s Cove. The Project’s preferred alternative is to dispose of all suitable dredged material offshore in Federal waters at the Rhode Island Sound Disposal Site (“RISDS”) and/or the Massachusetts Bay Disposal Site (“MBDS”). An estimated 60,000 cubic yards of material beneath and around the existing wooden pier will be disposed of at an appropriate upland site (other than the LNG Terminal site). The second alternative proposes use of stabilized dredged material as engineered fill to develop the LNG Terminal site in Fall River, Massachusetts as depicted on sheet 6 of 38, Attachment A.

### **Dredged Material Management Alternatives**

The Applicant filed its December 2003 FERC application, its Corps permit application and other documents with on-site placement of stabilized dredged material as its preferred dredged material management option. In the original dredging plan, the pace of dredging was largely controlled by the pace of the on-site stabilization and placement effort. Relatively high dredging and placement rates (6,000-8,000-10,000 CY/day) were programmed for the late spring, summer and early fall months when warm, generally drier conditions would be expected. These conditions facilitate the stabilization, drying and compaction necessary for placement of the material. Much lower dredging and placement rates (approximately 2,000 cy/day) were programmed for the cold, wetter months of the year.

It was expected that one dredge would be used with locations programmed to match the seasonal placement rates (i.e., high rates in the Turning Basin in the summer months, intermediate rates in the “S-bend” area during the shoulder months, low rates in the southern reaches of the channel in the winter months). In total, the dredging effort was expected to require approximately 650 good production days over a period of approximately 975 to 1,000 calendar days (nearly 3 years). Allowances for weather delays and equipment related delays account for the difference between 650 days and the nearly three year schedule.

However, in order to work within agency recommendations for time of year restrictions for the protection of winter flounder eggs and larvae as well as the protection of the upstream anadromous fish migration, the Project is now proposing to place the suitable dredged material in a designated ocean disposal site(s). In the July 15, 2005 Certificate, FERC directs the Project to observe a January 15 through May 31 dredge restriction for the protection of winter flounder eggs and larvae. With respect to the protection of the upstream anadromous fish migration in Massachusetts, the Massachusetts Wetlands Protection Act regulations stipulate a March 15 through June 15 restriction. The combination of the two restrictions would limit dredging to a seven-month season in Massachusetts (June 16 through January 14) of each year. As shown in Attachment B to the Weaver’s Cove plan set, a dredging plan using offshore disposal and multiple dredges could be completed in three years while observing these time of year restrictions.

The National Marine Fisheries Service (NMFS) has recommended that an expanded restriction be implemented for the protection of the upstream anadromous fish migration, specifically March 1 through July 31. When combined with the winter flounder restriction, this would limit dredging to a 5 ½ month season (August 1 through January 14 of each year).

In support of the preferred offshore disposal alternative, a Tier III Sediment Analysis Plan (“SAP”) was

submitted to USEPA and the Corps in January 2004. The Tier III SAP included plans for further sediment sampling as well as the necessary bioassay and bioaccumulation analyses. The Tier III sampling plan was approved by the Corps and USEPA on September 10, 2004. On April 11, 2005, Weaver's Cove provided the Corps and the USEPA with the full laboratory results and analysis from the Tier III sampling program. After an extensive review of the data, USEPA and the Corps concluded that all of the tested sediments meet the criteria for acceptability for ocean disposal as described in Sections 227.6 and 227.27 of the Ocean Dumping Regulations, and is suitable for unrestricted ocean disposal at the RISDS and/or MBDS under USEPA Region 1/USACE-NAE (2004) guidance.

### **Potential Offshore Disposal Sites**

The Rhode Island Sound Disposal Site was designated by the Environmental Protection Agency to be usable for disposal of dredged sediments in December 2004. Prior to its site designation, it was selected for temporary use and was employed during 2003-2004 for placement of over 5 million cubic yards of sediment from the Providence River (primarily from the Federal Navigation Project). All sediments disposed at this site have been determined suitable through case-by-case analyses. The site is monitored through the Corps Disposal Area Monitoring System (DAMOS) program. The DAMOS studies show that the site is a low energy environment such that sediments deposited at this location will remain within the site's boundaries. The DAMOS monitoring has also shown that distinct dredged material mounds have been formed at the site. Sediment deposited at the disposal site has not been found to affect areas outside the disposal site.

The Massachusetts Bay Disposal Site is frequently used for disposal of bottom sediments from various harbors in the Boston area. Approximately 300,000 cubic yards of suitable sediments (suitability determined through case-by-case analyses) are deposited at this site annually. The site is monitored through the Corps Disposal Area Monitoring System (DAMOS) program. The DAMOS studies show that the site is a low energy environment such that sediments deposited at this location will remain within the site's boundaries. The DAMOS monitoring has also shown that a distinct dredged material mound has been formed at the site. Levels of metals and organics in the sediments within the disposal site are generally above background levels, indicative of the industrial nature of the areas dredged that utilize the site. Sediment deposited at the disposal site has not been found to affect areas outside the disposal site. The USEPA has designated the Massachusetts Bay Disposal Site usable for disposal of dredged sediments.

The dredged material has undergone physical, chemical, and biological testing and has satisfied the criteria for ocean disposal of dredged material as specified in part 227 of the Ocean Dumping Act regulations. It is our determination that the material is acceptable for disposal at these disposal sites.

### **Proposed Mitigation For Adverse Affects To Wetlands And Waterways**

Weaver's Cove submitted mitigation plans for permanent impacts to non-jurisdictional isolated vegetated wetlands on the North Parcel of the LNG Terminal site and for approximately 0.04 acres of salt marsh fill on the South Parcel of the LNG Terminal site. As a result of the revised site layout depicted on the drawings referenced herein and Attachment A of the Weaver's Cove plan set, salt marsh impacts are no longer proposed and mitigation for lost functions and values is no longer required. Notwithstanding, Weaver's Cove will continue to evaluate approximately 0.7 acres of on-site salt marsh restoration/creation in conjunction with other mitigation plans being developed for the project including an approximately 0.18 acre Palustrine, Scrub-Shrub freshwater wetland to compensate for impacts to the non-jurisdictional isolated vegetated wetlands on the North Parcel.

In addition to the above wetland mitigation plans Weaver' Cove provided the Corps with proposed shellfish habitat mitigation plans and intertidal/subtidal fill/winter flounder mitigation plans for review and comment. NMFS has indicated that approximately 11 acres of winter flounder spawning habitat may be impacted as a consequence of shoreline straightening and deepening and widening of the Turning Basin at the terminus of the Fall River-Mount Hope Bay Federal Navigation Channel. These plans remain under review by the Corps and other resource agencies and are available for public review on the Corps Internet site [www.nae.usace.army.mil](http://www.nae.usace.army.mil) under the link for Regulatory Public Notices.

### **Work Proposed By Mill River**

The facilities to be constructed by Mill River include two 24-inch diameter pipeline laterals and associated facilities that will connect the Weaver's Cove LNG Terminal to the existing pipeline facilities of Algonquin Gas Transmission Company ("Algonquin," a subsidiary of Duke Energy Corporation). The proposed approximately 2.5 mile Western Lateral will be located in Fall River, Somerset, and Swansea. It will cross under the Taunton River and then traverse in a westerly direction principally within an existing electric transmission corridor. Approximately 33,000 cy of material will be dredged for pipeline installation under the Taunton River. The proposed approximately 3.6 mile Northern Lateral will follow an existing pipeline right-of-way from Fall River into the Town of Freetown.

Approximately 14 intermittent and perennial streams (not including the Taunton River), 3.0 ac of inland vegetated wetlands, 0.52 ac of intertidal habitat (including 0.02 ac salt marsh habitat) and 0.5 ac of subtidal habitat (i.e., Taunton River crossing) will be temporarily altered by pipeline construction activities associated with the proposed Western and Northern Laterals. Approximately 0.03 ac of forested wetlands will be permanently converted to scrub shrub or emergent wetlands. Approximately 0.4 ac of scrub shrub wetland habitat will be converted to emergent wetlands.

### **General Information**

The Project purpose is to bring a new natural gas supply to the New England market. The facility will provide 0.4 Bcf/day on average, with the ability to provide 0.8 Bcf/day on peak demand days (nearly 20% of New England's current peak demand). The facility will also introduce a competitive source of LNG for delivery by truck to peak shaving facilities throughout New England.

This Project will potentially impact approximately 200 acres of Essential Fish Habitat (EFH) for the following species and life stages: haddock (larvae), red hake (larvae, juveniles, and adults), winter flounder (all life stages), windowpane flounder (all life stages), American plaice (larvae, juveniles, and adults), Atlantic sea herring (larvae, juveniles, and adults), bluefish (juveniles, and adults), Atlantic mackerel (all life stages), summer flounder (larvae, juveniles, adults), Scup (all life stages), black sea bass (juveniles, adults), King mackerel (all life stages), spanish mackerel (all life stages), and cobia (all life stages). This habitat consists primarily of subtidal bottom. The impacts on essential fish habitat from this project include shading of the bottom from the fixed structures (note: shading from new pier will be offset by removal of existing pier) temporary water quality impacts from suspended sediment during the dredging, the permanent loss of approximately 0.6 acres of the aquatic habitat areas as a result of filling inter-tidal areas for site development, and temporary loss of bottom habitat during the Taunton River pipeline construction (dredging and refilling of trench). To minimize these impacts, the Applicants have agreed to use a closed or "environmental" bucket for all work in soft depositional sediments and will conduct the dredging operations without significant scow overflow. As previously described, time of year restrictions for the protection of winter

flounder eggs and larvae as well as the upstream anadromous fish migration will be observed. All suitable dredged material will be placed in a designated offshore disposal site (RISDS and/or MBDS)

The Corps District Engineer has made a preliminary determination that the site-specific impacts may be more than minimal. An expanded EFH Assessment is being reviewed by the NMFS and further consultation with NMFS regarding EFH conservation recommendations will be concluded prior to the final permit decision.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the date in the title block above. If you have any questions, please contact Ted Lento at (978) 318-8863 or (800) 362-4367, if calling from within Massachusetts.

In addition to or in lieu of sending written comments, we invite you to attend the public hearings listed below that the Corps will conduct in the project area. Attached to this notice are directions to the public hearing sites. By attending these public hearings, the Corps seeks to fulfill its regulatory requirements to solicit public comments and input about the proposals. These comments will be considered in evaluating whether the applications should be issued or denied.

#### PUBLIC HEARING LOCATIONS

December 14, 2005

B.M.C. Durfee High School

Robert J. Nagle Auditorium

360 Elsbree Street

Fall River, MA 02720

December 15, 2005

Mt Hope High School

Performing Arts Center

199 Chestnut Street

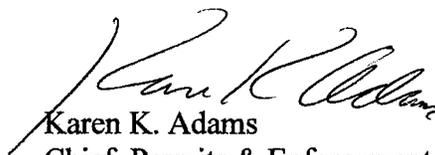
Bristol, RI 02809

Registration begins at 4 p.m. Hearing begins at 5 p.m.

Hearing ends when public comments are complete (not later than 10 p.m.)

All interested Federal, State and local agencies, interested private and public organizations, and individuals are invited to attend either of these public hearings. Persons wishing to provide oral comments are required to register prior to the start of each hearing. Time limitations may be imposed on all comments received during the hearings.

SEE NEXT PAGE FOR  
DETAILS OF EVALUATION  
FACTORS



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

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 as amended.

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfill requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

Pursuant to the Endangered Species Act, the District Engineer is hereby requesting that the appropriate Federal Agency provide comments regarding the presence of and potential impacts to listed species or its critical habitat.

The following authorizations have been applied for or will be obtained:

- (X) Permit, License or Assent from State (Rhode Island and Massachusetts).
- (X) Permit from Local Wetland Agency or Conservation Commission.
- (X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State(s) concurrence or objection to the applicant's consistency statement.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

**THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.**

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If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

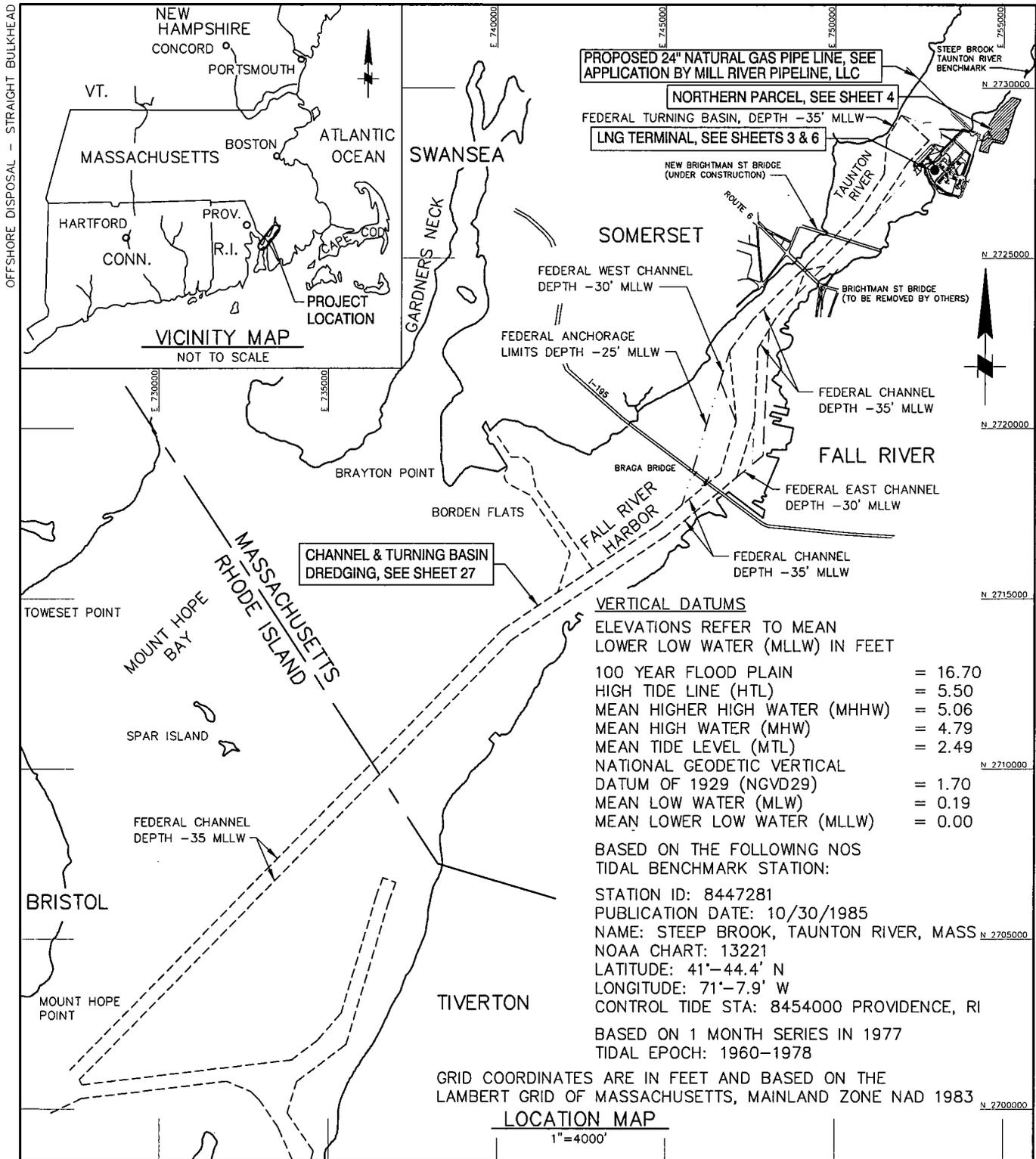
B.M.C. Durfee High School , 360 Elsbree Street, Fall River, MA 02720

1. Take Route 24 South to Exit 5 (President Ave/Eastern Ave.)
2. Take first right off rotary onto President Ave.
3. Get into right lane
4. Pass Newport Creamery, McDonald's and CVS on your right
5. Take right at lights onto Elsbree St.
6. Get into left lane
7. Pass Driscoll Skating Rink on your left
8. Take first left after Driscoll Rink for Main Entrance to Durfee

Mt Hope High School, 199 Chestnut Street, Bristol , RI 02809

From Providence : Take I-95 to Exit 2. Bear right off exit onto Rte 136 South. At the 10th traffic light turn right onto Chestnut Street.

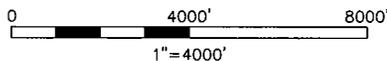
From Newport : Take RT-138, W. Main Rd. to RT-114 Cross the Mt. Hope Bridge to RT-136 Follow RT-136 to the second traffic light and take a left onto Chestnut Street



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

**VICINITY AND LOCATION MAP**

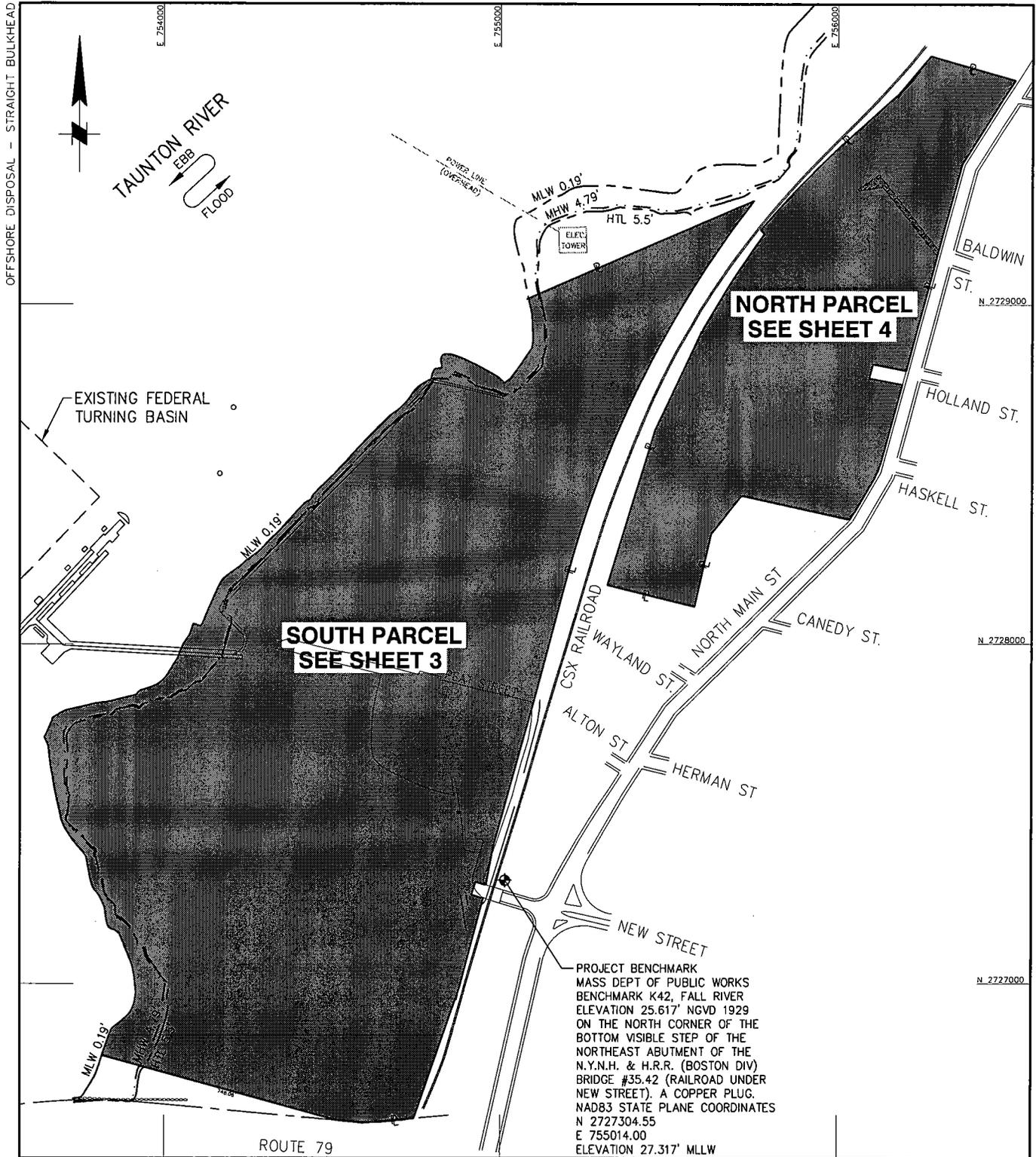


APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

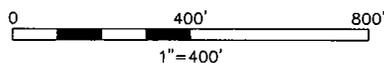
SHEET 1 OF 37 DATE: 9/05



PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**EXISTING CONDITIONS  
KEY PLAN**

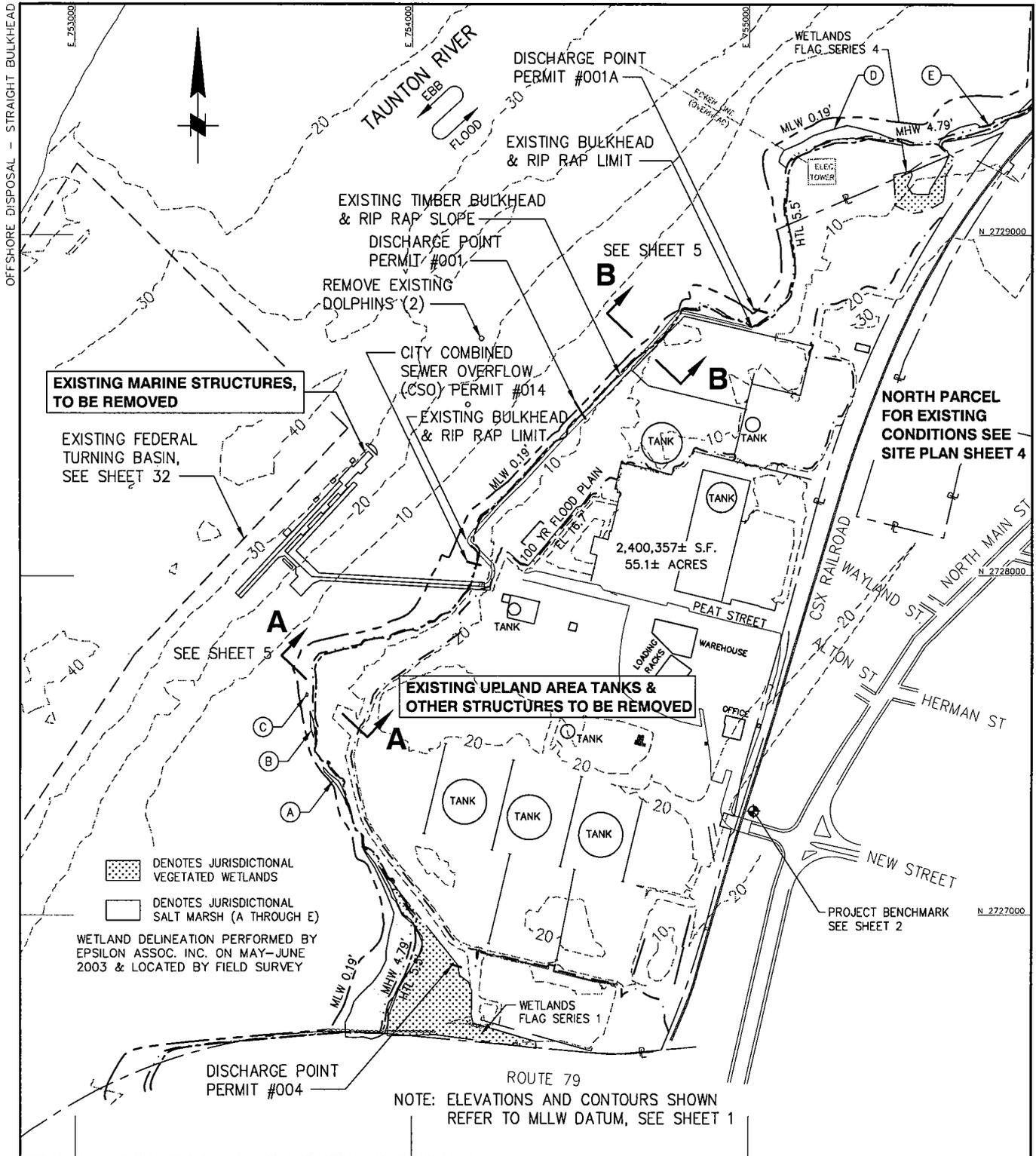


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

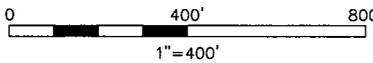
SHEET 2 OF 37 DATE: 9/05



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

**EXISTING CONDITIONS SOUTH PARCEL SITE PLAN**



APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 3 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD

E 755000

E 756000

E 757000

N 2729000

N 2728000

N 2727000

TAUNTON RIVER  
EBB  
FLOOD

WETLANDS  
FLAG SERIES 4

MLW 0.19'  
MHW 4.79'  
HTL 5.5'

787,333± S.F.  
18.07± ACRES

SIDNEY ST.

BALDWIN ST.

HOLLAND ST.

HASKELL ST.

CONCRETE

GRAVEL DRIVE

CSX RAILROAD

WAYLAND ST.

NORTH MAIN ST.

CANEDY ST.

HERMAN ST.

-  DENOTES JURISDICTIONAL VEGETATED WETLANDS
-  DENOTES JURISDICTIONAL SALT MARSH (A THROUGH E)
-  DENOTES NON-JURISDICTIONAL VEGETATED WETLANDS

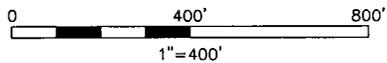
WETLAND DELINEATION PERFORMED BY  
EPSILON ASSOC. INC. ON MAY-JUNE  
2003 & LOCATED BY FIELD SURVEY



PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**EXISTING CONDITIONS  
NORTH PARCEL SITE PLAN**



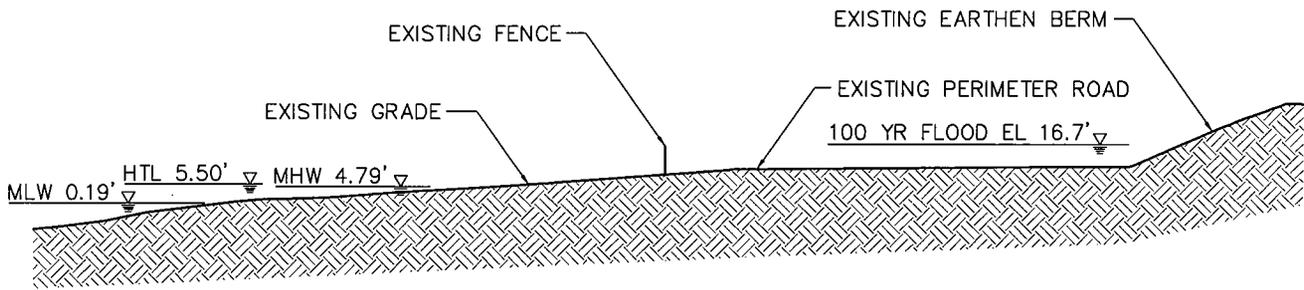
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 4 OF 37 DATE: 9/05

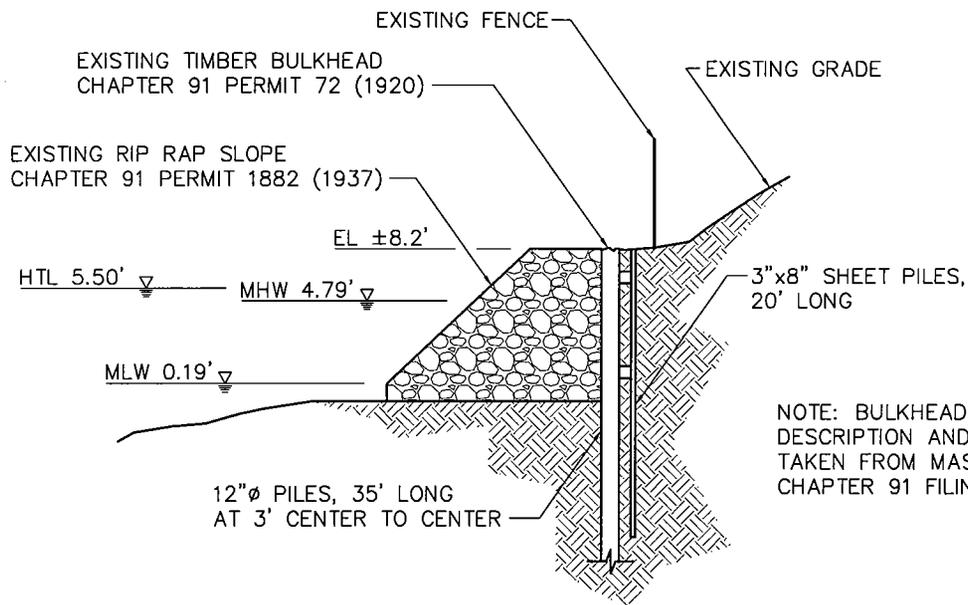
OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



TYPICAL OF EXISTING SHORELINE ALONG SOUTH HALF OF SITE FROM PEAT STREET CSO SOUTH TO WEAVER'S COVE (SEE SHEET 3).

**SECTION A-A**

SCALE: 1"=50'



NOTE: BULKHEAD & RIP RAP DESCRIPTION AND DIMENSIONS TAKEN FROM MASSACHUSETTS CHAPTER 91 FILINGS.

TYPICAL OF EXISTING SHORELINE ALONG NORTH HALF OF SITE FROM PEAT STREET CSO NORTH TO EXISTING COVE (SEE SHEET 3).

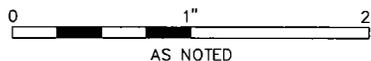
**SECTION B-B**

SCALE: 1"=10'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

EXISTING CONDITIONS  
TYPICAL SECTIONS



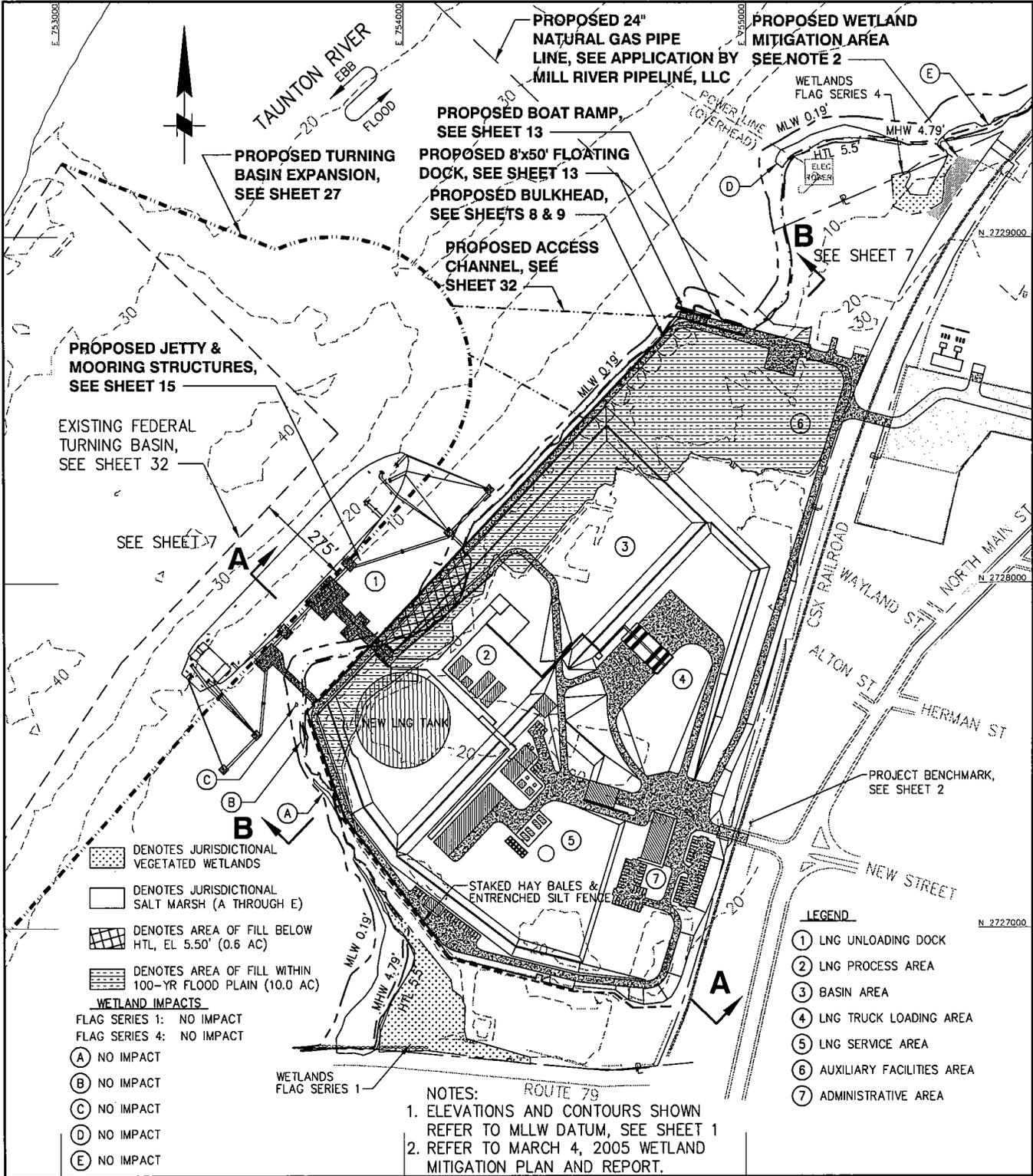
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 5 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



PROPOSED TURNING BASIN EXPANSION, SEE SHEET 27

PROPOSED 24" NATURAL GAS PIPE LINE, SEE APPLICATION BY MILL RIVER PIPELINE, LLC

PROPOSED WETLAND MITIGATION AREA SEE NOTE 2

PROPOSED BOAT RAMP, SEE SHEET 13  
 PROPOSED 8'x50' FLOATING DOCK, SEE SHEET 13  
 PROPOSED BULKHEAD, SEE SHEETS 8 & 9  
 PROPOSED ACCESS CHANNEL, SEE SHEET 32

PROPOSED JETTY & MOORING STRUCTURES, SEE SHEET 15

EXISTING FEDERAL TURNING BASIN, SEE SHEET 32

- DENOTES JURISDICTIONAL VEGETATED WETLANDS
- DENOTES JURISDICTIONAL SALT MARSH (A THROUGH E)
- DENOTES AREA OF FILL BELOW HTL, EL. 5.50' (0.6 AC)
- DENOTES AREA OF FILL WITHIN 100-YR FLOOD PLAIN (10.0 AC)

- WETLAND IMPACTS**
- FLAG SERIES 1: NO IMPACT  
 FLAG SERIES 4: NO IMPACT
- (A) NO IMPACT
  - (B) NO IMPACT
  - (C) NO IMPACT
  - (D) NO IMPACT
  - (E) NO IMPACT

- LEGEND**
- (1) LNG UNLOADING DOCK
  - (2) LNG PROCESS AREA
  - (3) BASIN AREA
  - (4) LNG TRUCK LOADING AREA
  - (5) LNG SERVICE AREA
  - (6) AUXILIARY FACILITIES AREA
  - (7) ADMINISTRATIVE AREA

**NOTES:**

1. ELEVATIONS AND CONTOURS SHOWN REFER TO MLLW DATUM, SEE SHEET 1

2. REFER TO MARCH 4, 2005 WETLAND MITIGATION PLAN AND REPORT.

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

**PROPOSED CONCEPTUAL SITE PLAN**

0 400' 800'  
 1" = 400'

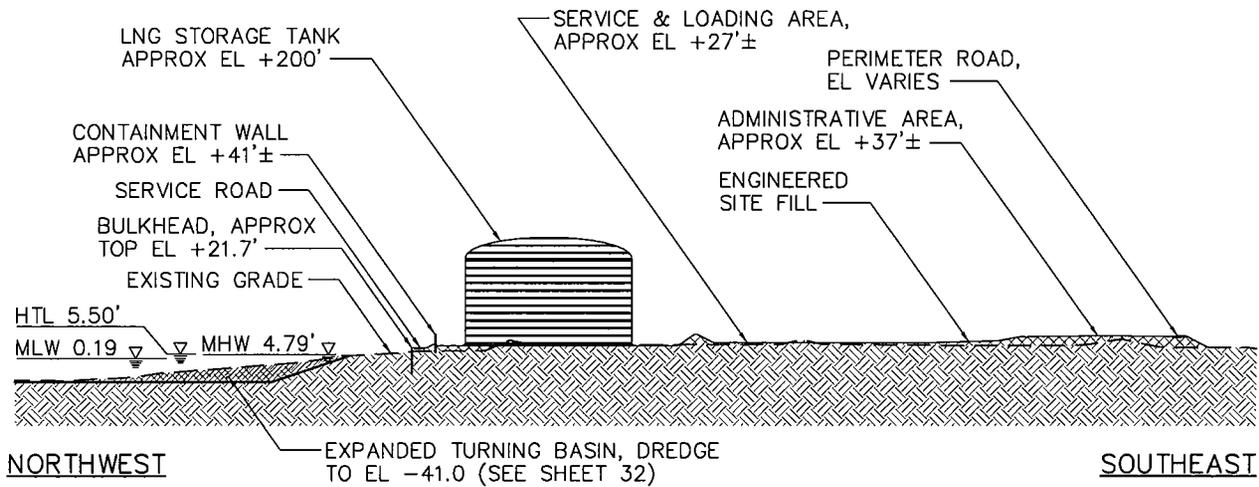
APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

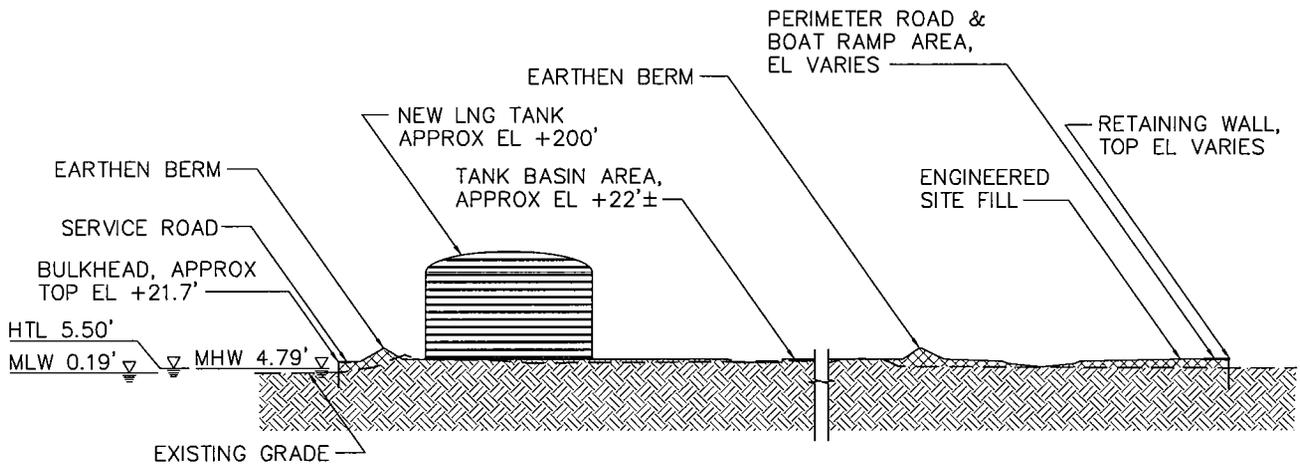
ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 6 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



**SECTION A-A**  
SCALE: 1"=300'

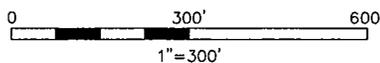


**SECTION B-B**  
SCALE: 1"=300'

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**CONCEPTUAL  
TYPICAL SECTIONS**



APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 7 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



TAUNTON RIVER  
EBB  
FLOOD

PROPOSED 24" NATURAL GAS PIPE LINE, SEE APPLICATION BY MILL RIVER PIPELINE, LLC

PROPOSED BOAT RAMP, SEE SHEET 13

PROPOSED 8'x50' FLOATING DOCK, SEE SHEET 13

PROPOSED ACCESS CHANNEL, SEE SHEET 32

PROPOSED TURNING BASIN EXPANSION, SEE SHEET 32

N 2728768  
E 754806

PROPOSED BULKHEAD  
SEE SHEET 10

SEE SHEET 10

SEE SHEET 11

MATCHLINE - SEE SHEET 9

B

A

C

C

SECTION SECTION B-B  
C-C

SECTION SECTION B-B  
A-A

B

A

B

A

C

C

MLW 0.19'

MHW 4.79'

HTL 5.3'  
WETLANDS  
FLAG SERIES 4

ELEC. TOWER

N 2729000

N 2728500

N 2728000

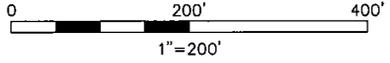
CSX RAILROAD

- DENOTES JURISDICTIONAL VEGETATED WETLANDS
- DENOTES JURISDICTIONAL SALT MARSH

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

MOFFATT & NICHOL INTERNATIONAL  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

PROPOSED SHORELINE IMPROVEMENTS  
NORTHERN HALF SITE PLAN



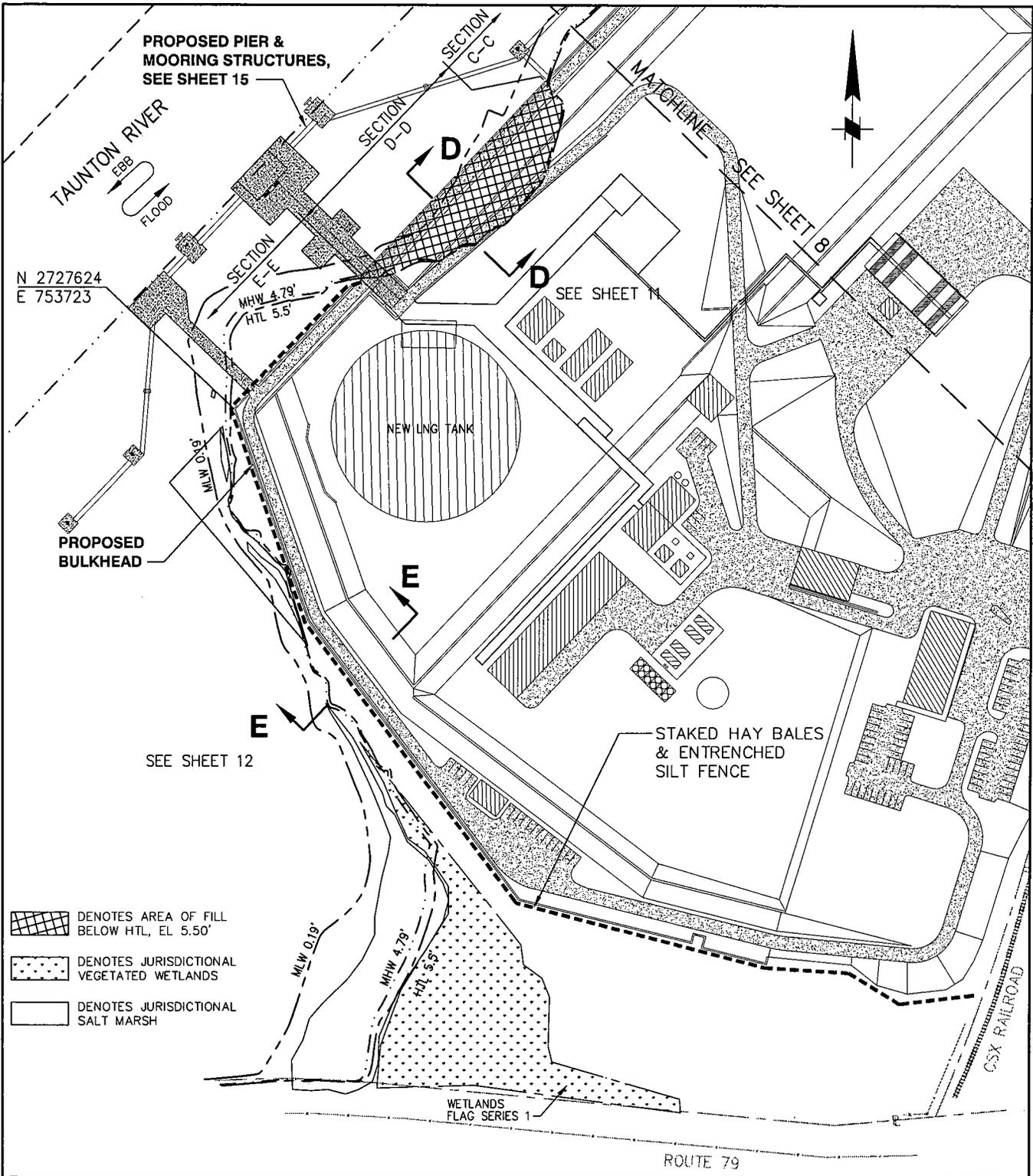
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 8 OF 37 DATE: 9/05

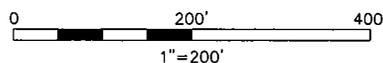
OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

**PROPOSED SHORELINE IMPROVEMENTS SOUTHERN HALF SITE PLAN**



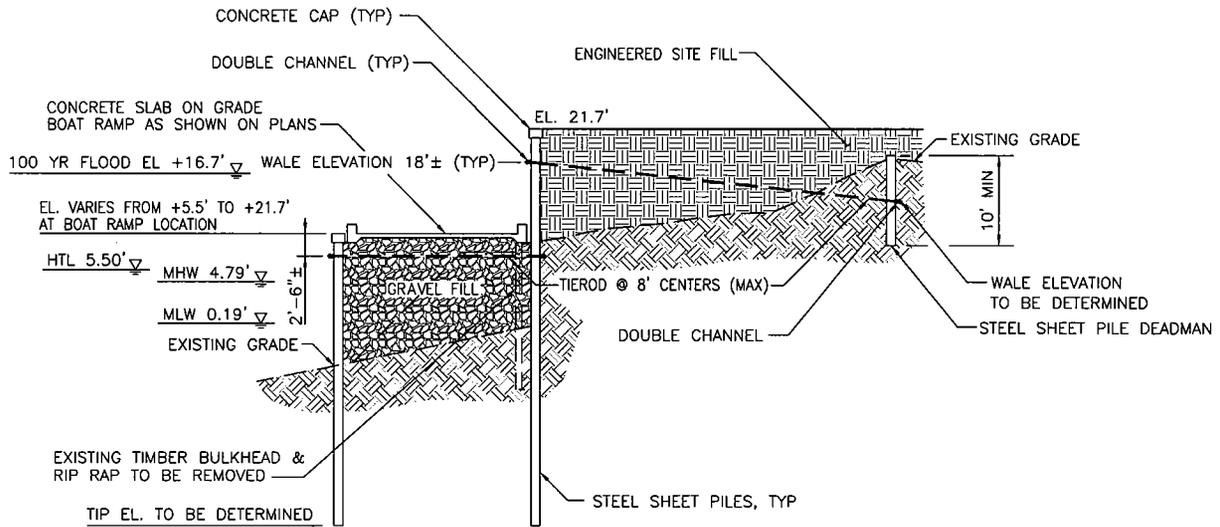
APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 9 OF 37 DATE: 9/05

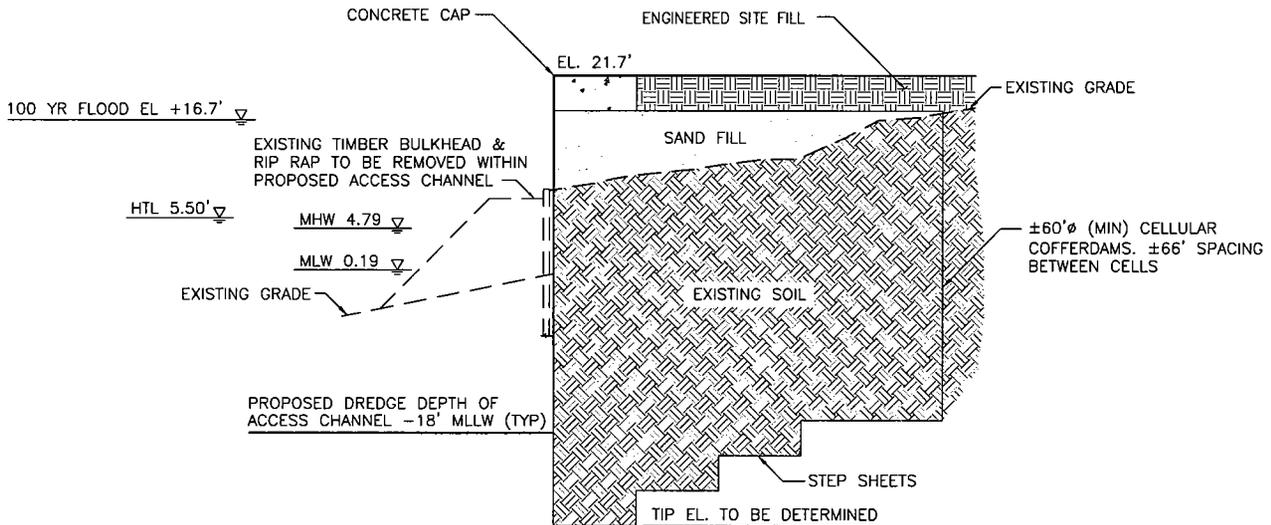
OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



NOTE:  
1. DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR CONSTRUCTION.

### SECTION A-A

SCALE: 1" = 20'



NOTE:  
1. DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR CONSTRUCTION.

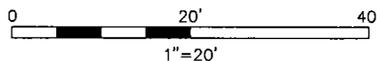
### SECTION B-B

SCALE: 1" = 20'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-- FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

PROPOSED SHORELINE IMPROVEMENTS  
TYPICAL SECTIONS SHEET 1 OF 3



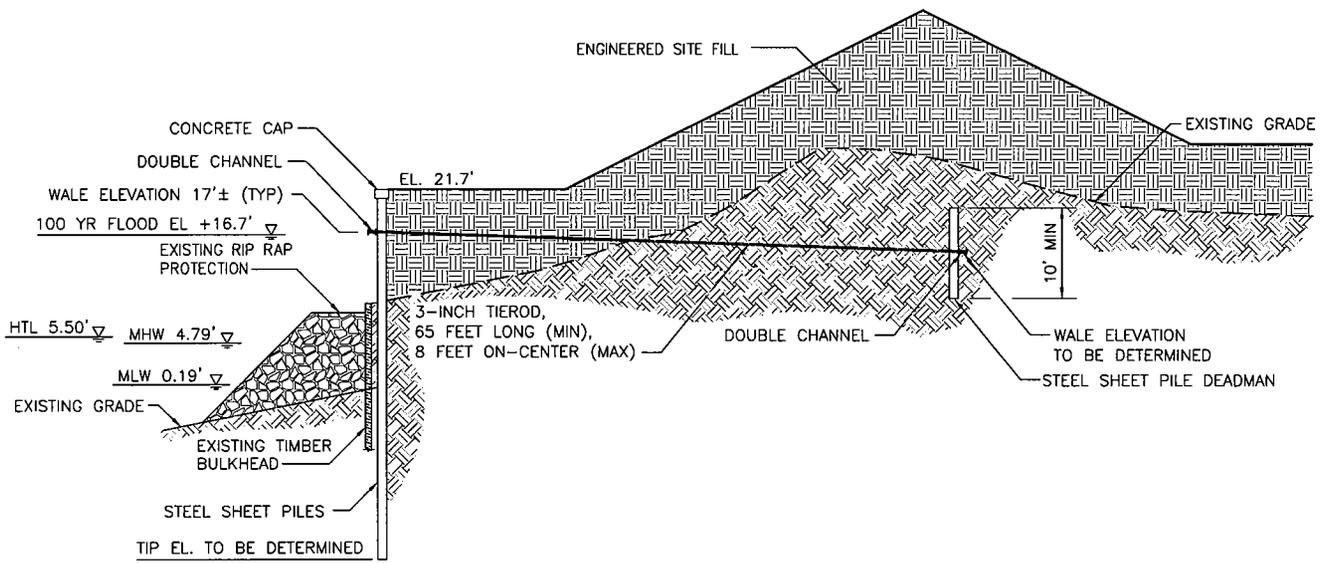
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 10 OF 37 DATE: 9/05

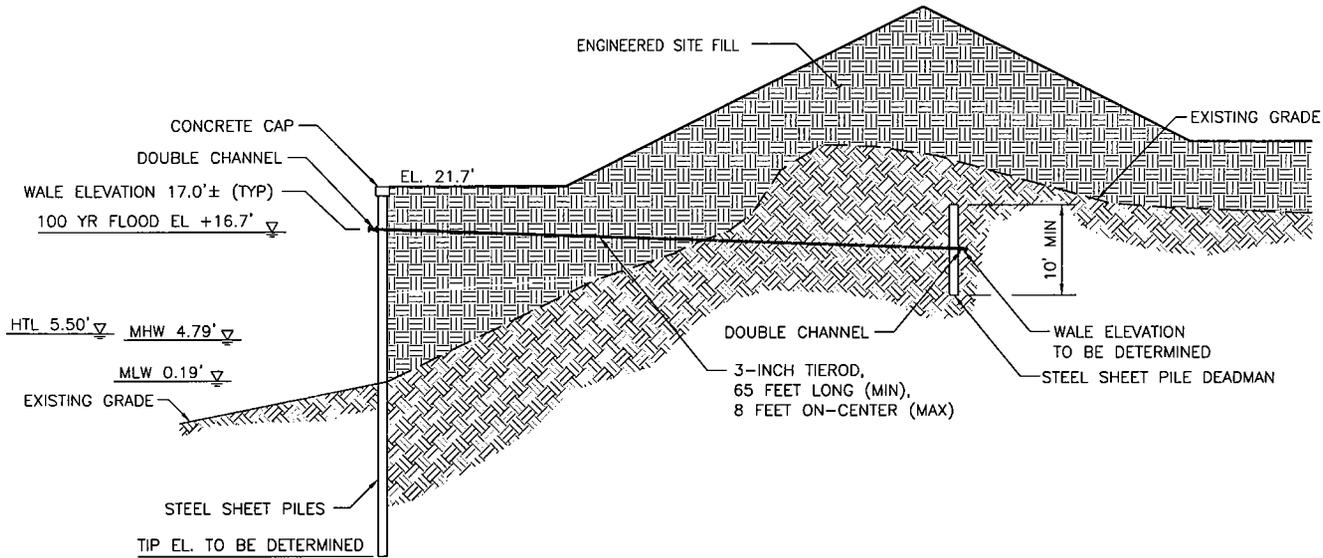
OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



NOTE:  
1. DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR CONSTRUCTION.

### SECTION C-C

SCALE: 1" = 20'



NOTE:  
1. DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR CONSTRUCTION.

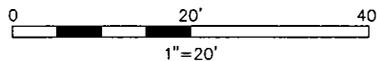
### SECTION D-D

SCALE: 1" = 20'

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

PROPOSED SHORELINE IMPROVEMENTS  
TYPICAL SECTIONS SHEET 2 OF 3



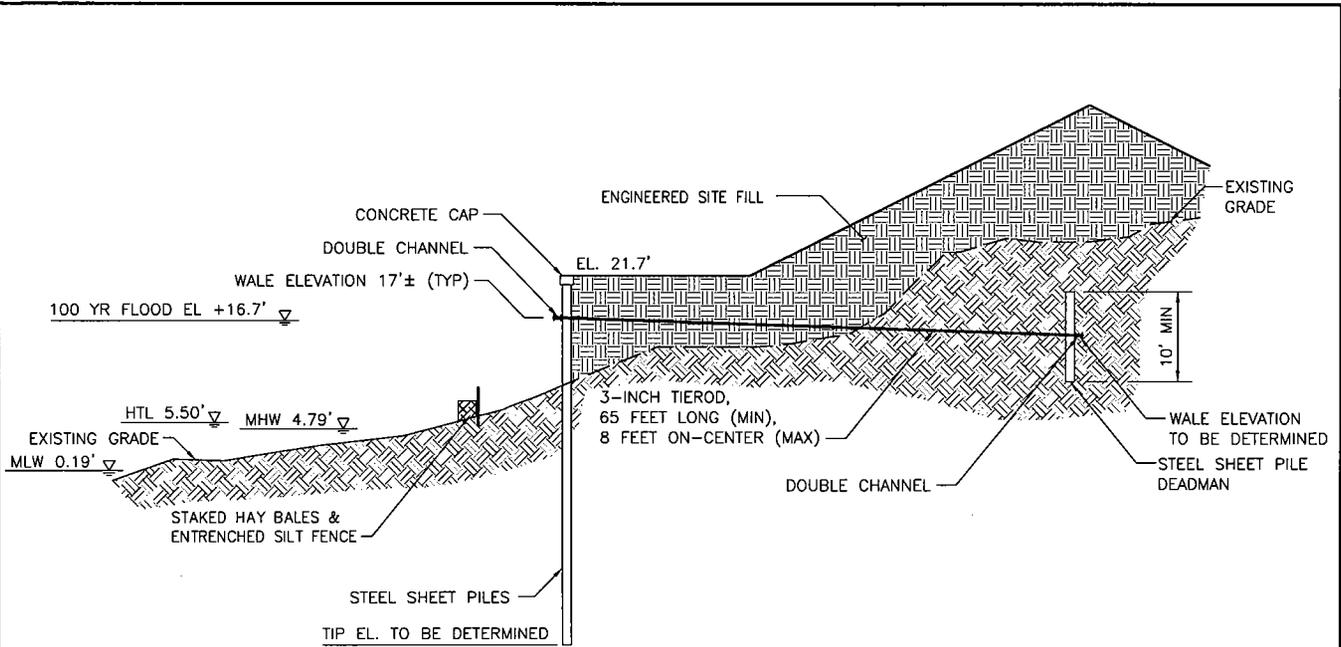
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 11 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



NOTE:  
 1. DRAWINGS ARE FOR PERMITTING PURPOSES ONLY  
 AND NOT FOR CONSTRUCTION.

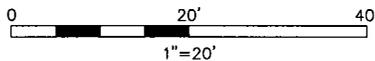
**SECTION E-E**

SCALE: 1" = 20'

PURPOSE: MAINTENANCE & IMPROVEMENT  
 DREDGING OF EXISTING MOUNT HOPE BAY-  
 FALL RIVER HARBOR CHANNEL.  
 CONSTRUCTION OF LNG RECEIVING AND  
 STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

PROPOSED SHORELINE IMPROVEMENTS  
 TYPICAL SECTIONS SHEET 3 OF 3



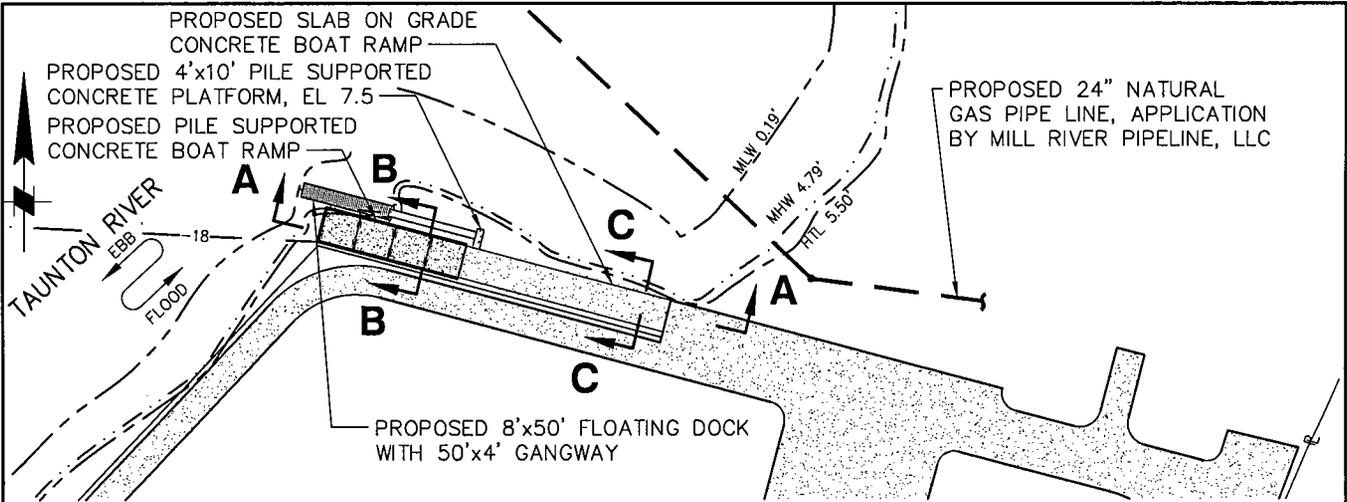
APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

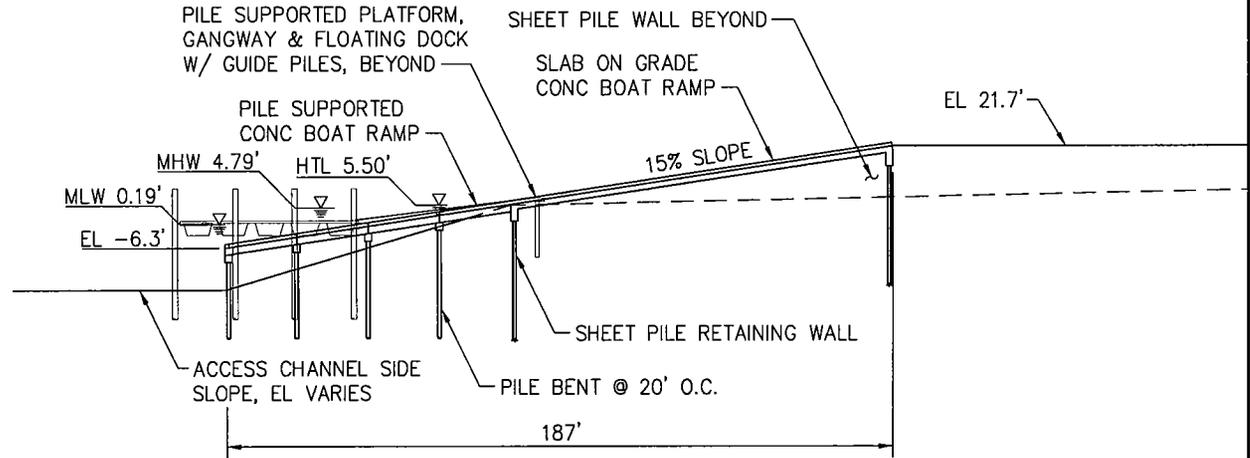
ADJACENT TO: TAUNTON RIVER &  
 MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 12 OF 37 DATE: 9/05

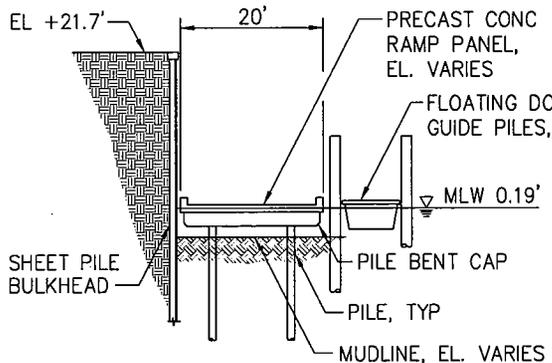
OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



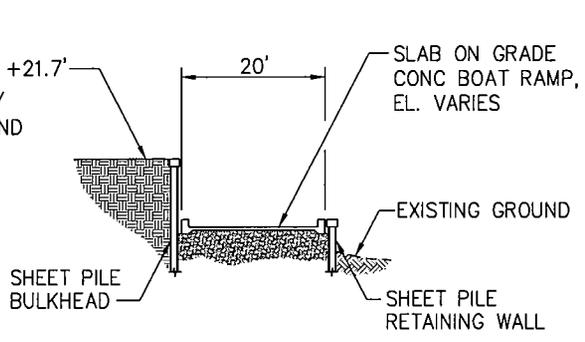
PLAN  
1" = 100'



SECTION A-A  
1" = 50'



SECTION B-B  
1" = 25'



SECTION C-C  
1" = 25'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**PROPOSED BOAT RAMP PLAN & TYPICAL SECTIONS**

0 1" 2"  
AS NOTED

APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

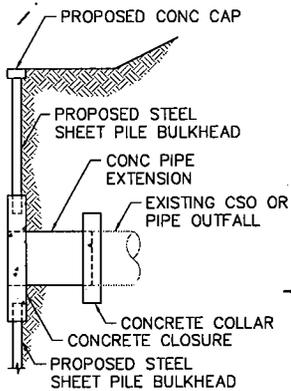
ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 13 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD

- ① EXTEND EXISTING CITY CSO THROUGH NEW BULKHEAD (COMBINED SEWER OVERFLOW, CSO, PERMIT #014)
- ② RUNOFF GOES THROUGH GRASSED SWALE BEFORE ENTERING TREATMENT UNITS, TYP
- ③ STORMWATER DISCHARGE THROUGH NEW BULKHEAD AT EXISTING PERMITTED LOCATION (PERMIT #001)
- ④ STANDARD DEEP SUMP INLETS FOR DRAINAGE ROUTED TO STORMWATER TREATMENT UNITS, TYP
- ⑤ STORMWATER TREATMENT UNITS
- ⑥ STORMWATER TREATMENT UNITS FOR OVERLAND FLOW RUNOFF
- ⑦ RELOCATED STORMWATER DISCHARGE THROUGH NEW BULKHEAD (PERMIT #004)
- ⑧ LIFT STATIONS REQUIRED IN BASIN AREA
- ⑨ EXISTING STORMWATER DISCHARGE POINT TO BE RELOCATED, SEE ⑦
- ⑩ STANDARD DROP INLET
- ⑪ EXISTING TREATED GROUNDWATER DISCHARGE POINT (PERMIT #001A) TO BE MAINTAINED

TAUNTON RIVER  
  
 FLOOD



**BULKHEAD PIPE PENETRATION DETAIL**

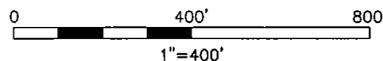
NOTE: ELEVATIONS AND CONTOURS SHOWN REFER TO MLLW DATUM, SEE SHEET 1

**LEGEND**

-  SLOPE DIRECTION
-  LIFT STATION
-  STORMWATER TREATMENT UNIT
-  DEEP SUMP CATCH BASIN
-  STANDARD DROP INLET
-  PIPE/DIRECTION

ROUTE 79

**CONCEPTUAL STORMWATER DISCHARGE PLAN**



APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

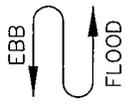
**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 14 OF 37 DATE: 9/05

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018



# TAUNTON RIVER

EXISTING FEDERAL TURNING BASIN LIMITS

QUICK-RELEASE MOORING HOOK (TYP. @ BREASTING DOLPHIN AND PLATFORM)

BERGE BOSTON (LOA = 909')

PROPOSED TURNING BASIN

UNLOADING ARMS (TYP.)

Q OF ARMS ON SHIP & MANIFOLD

GANGWAY

FENDER (TYP.)

GANGWAY

SERVICE PLATFORM

BREASTING DOLPHIN (TYP.)

LNG UNLOADING PLATFORM

TRESTLE

PIER & WALKWAY (TYP.)

MOORING DOLPHIN (TYP.)

MOORING LINE (TYP.)

NEW BULKHEAD SEE SHEETS 8 & 9 WALKWAY (TYP.)

ROAD

170'-0"

267'-0"

123'-0"

148'-0"

274'-6"

137'-6"

143'-0"

212'-0"

142'-3"

155'-9"

222'-9"

16'-0"

16'-0"

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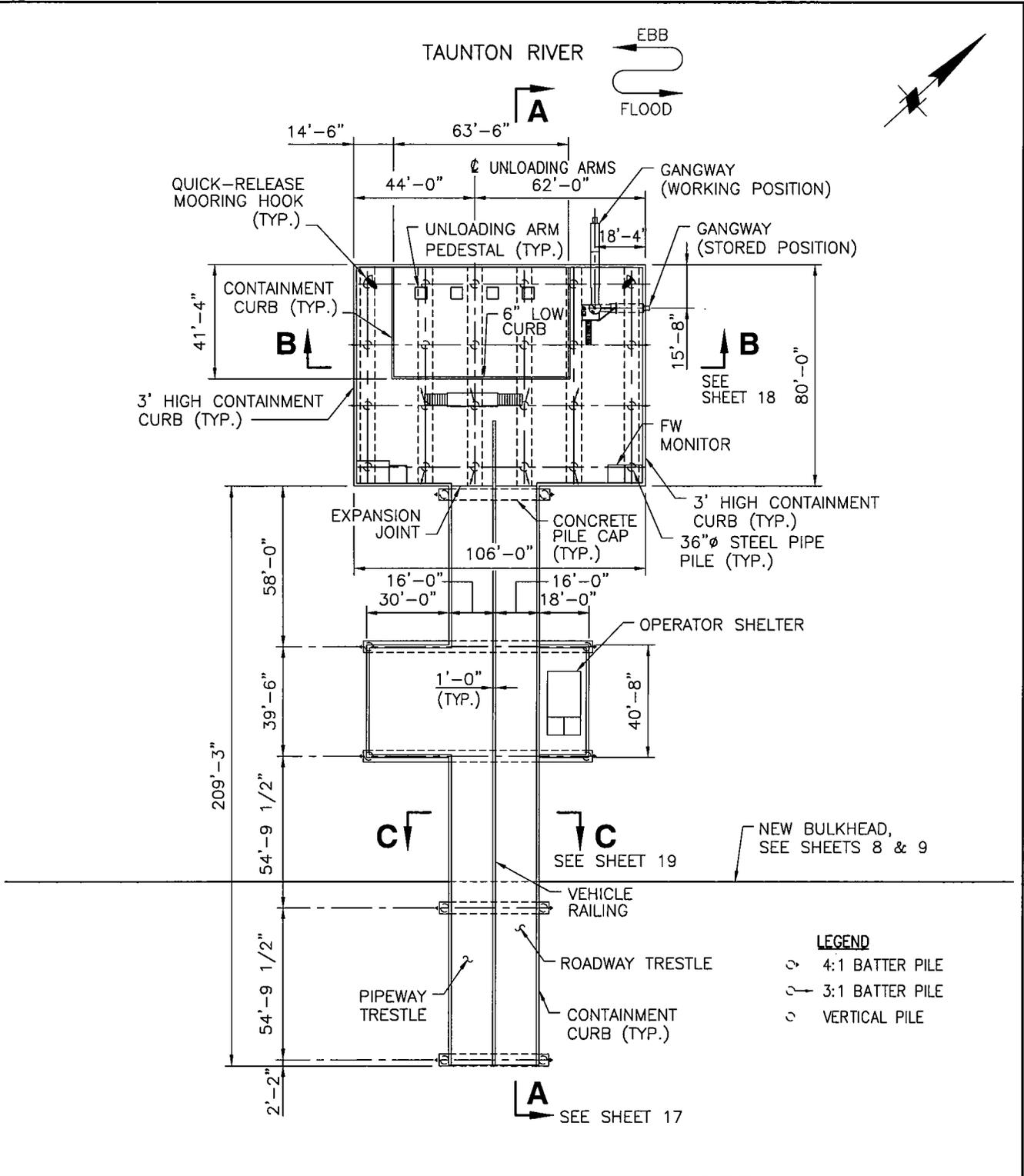
16'-0"

16'-0"

16'-0"

16'-0"

**NOTES:**



PURPOSE: MAINTENANCE & IMPROVEMENT  
 DREDGING OF EXISTING MOUNT HOPE BAY-  
 FALL RIVER HARBOR CHANNEL.  
 CONSTRUCTION OF LNG RECEIVING AND  
 STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
 104 W. 40th ST, 14th FLOOR  
 NEW YORK, NY 10018

**LNG UNLOADING PLATFORM  
 & TRESTLE PLAN**

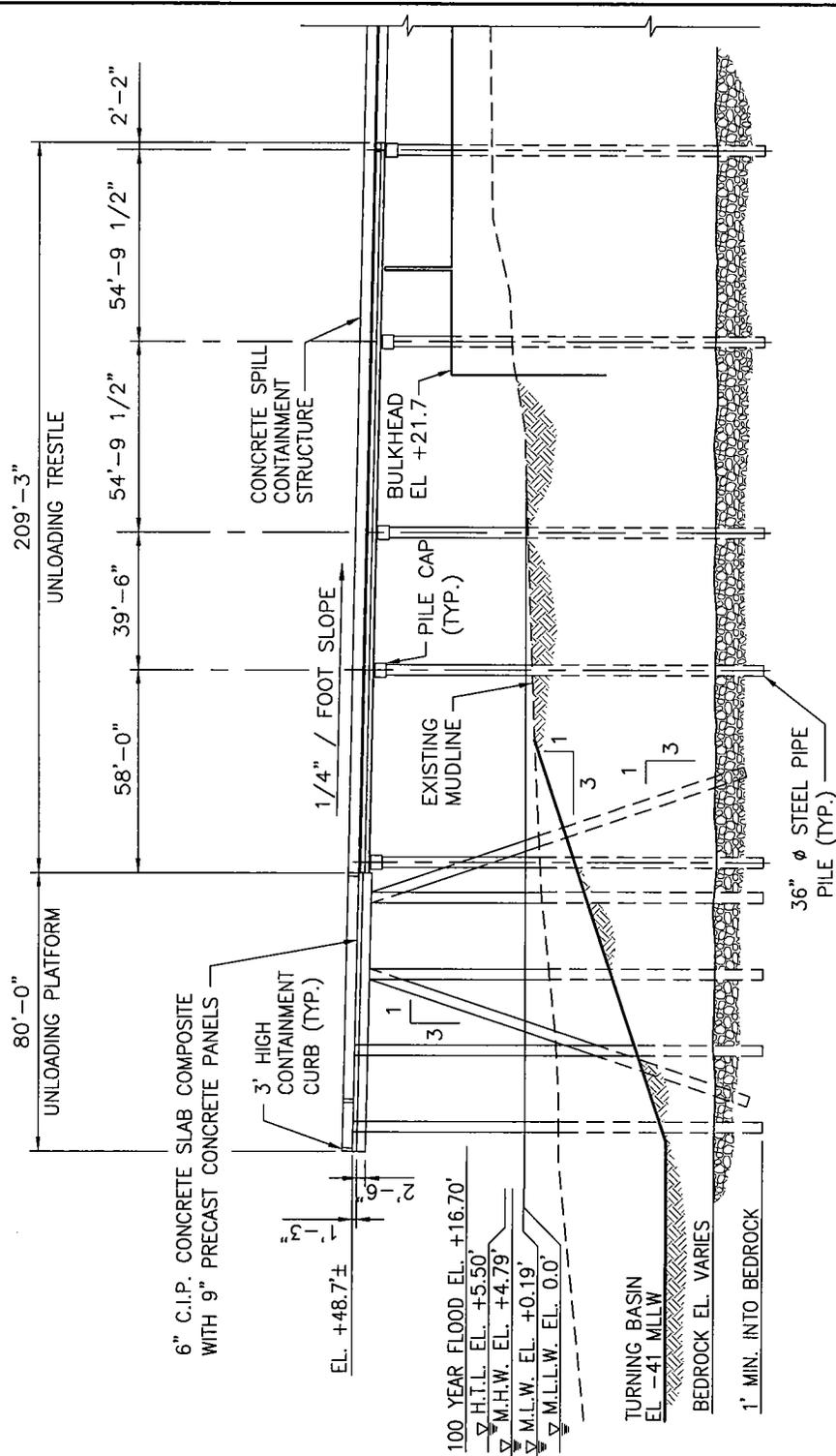
0 50' 100'  
 1"=50'

APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
 MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 16 OF 37 DATE: 9/05



NOTE: PILES ARE COATED AND CATHODICALLY PROTECTED.

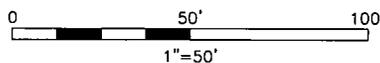
SECTION A-A

SCALE: 1"=50'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

TYPICAL SECTION  
LNG UNLOADING PLATFORM

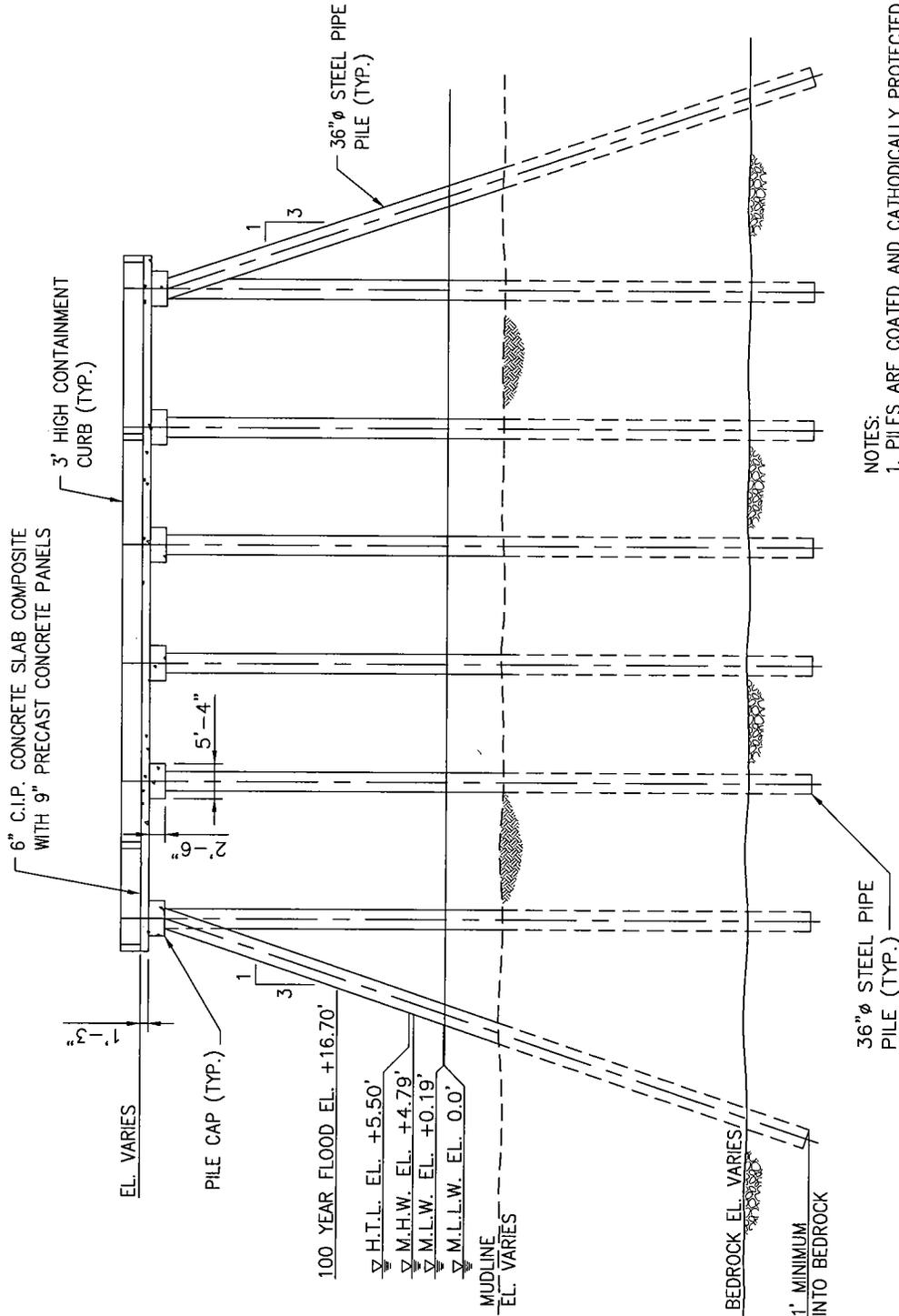


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 17 OF 37 DATE: 9/05



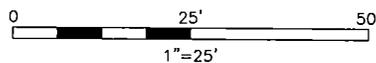
SECTION B-B

SCALE: 1"=25'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

MOFFATT & NICHOL INTERNATIONAL  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

TYPICAL SECTION OF LOADING PLATFORM



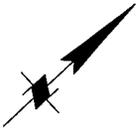
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

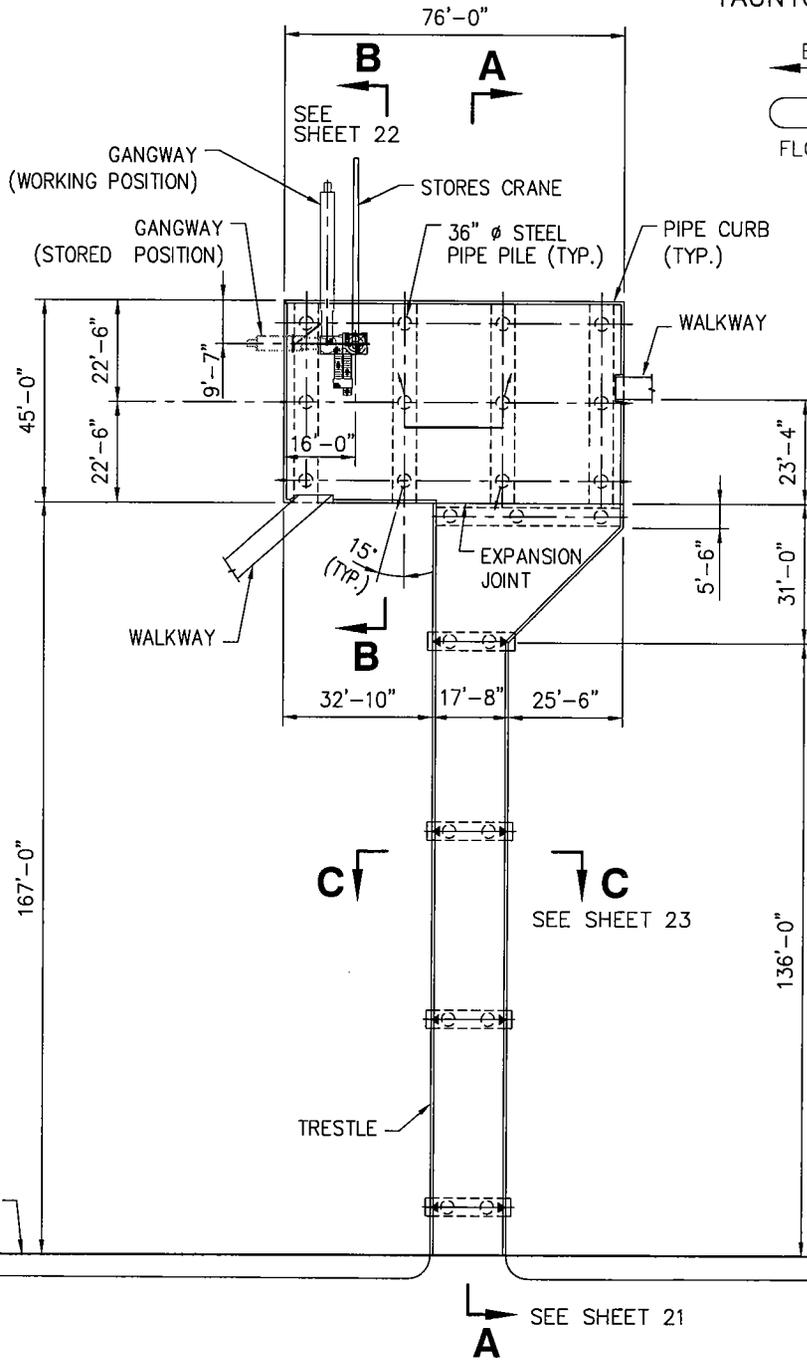
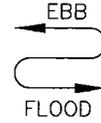
ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND



OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



TAUNTON RIVER



**LEGEND**

- ◉ 4:1 BATTER PILE
- ◉ 3:1 BATTER PILE
- VERTICAL PILE

NEW BULKHEAD,  
SEE SHEETS 8 & 9

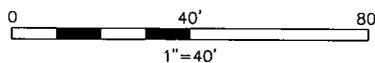
SEE SHEET 21

ROAD

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**SERVICE PLATFORM AND  
TRESTLE PLAN**

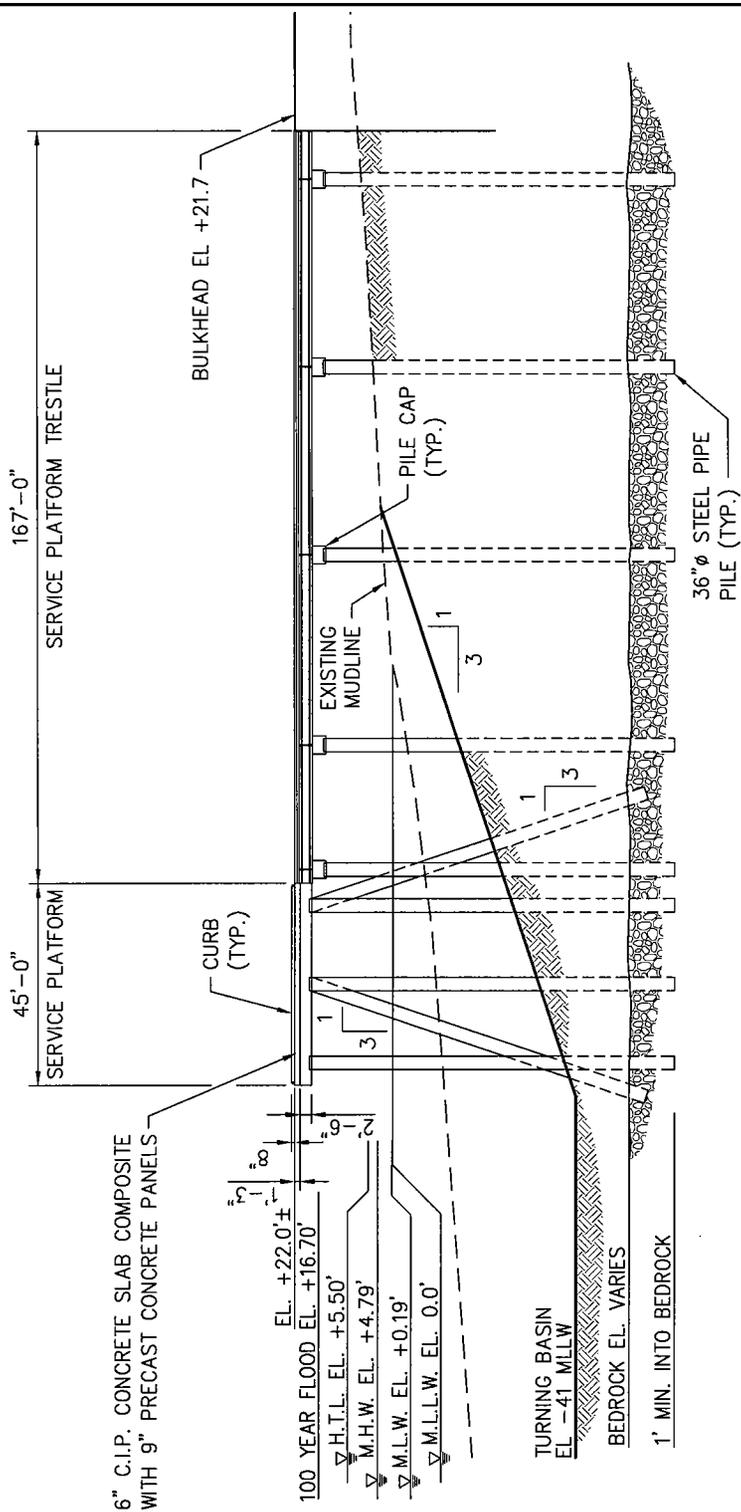


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 20 OF 37 DATE: 9/05



NOTE: PILES ARE COATED AND CATHODICALLY PROTECTED.

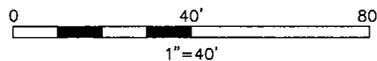
SECTION A-A

SCALE: 1"=40'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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TYPICAL CROSS SECTION OF SERVICE PLATFORM & TRESTLE

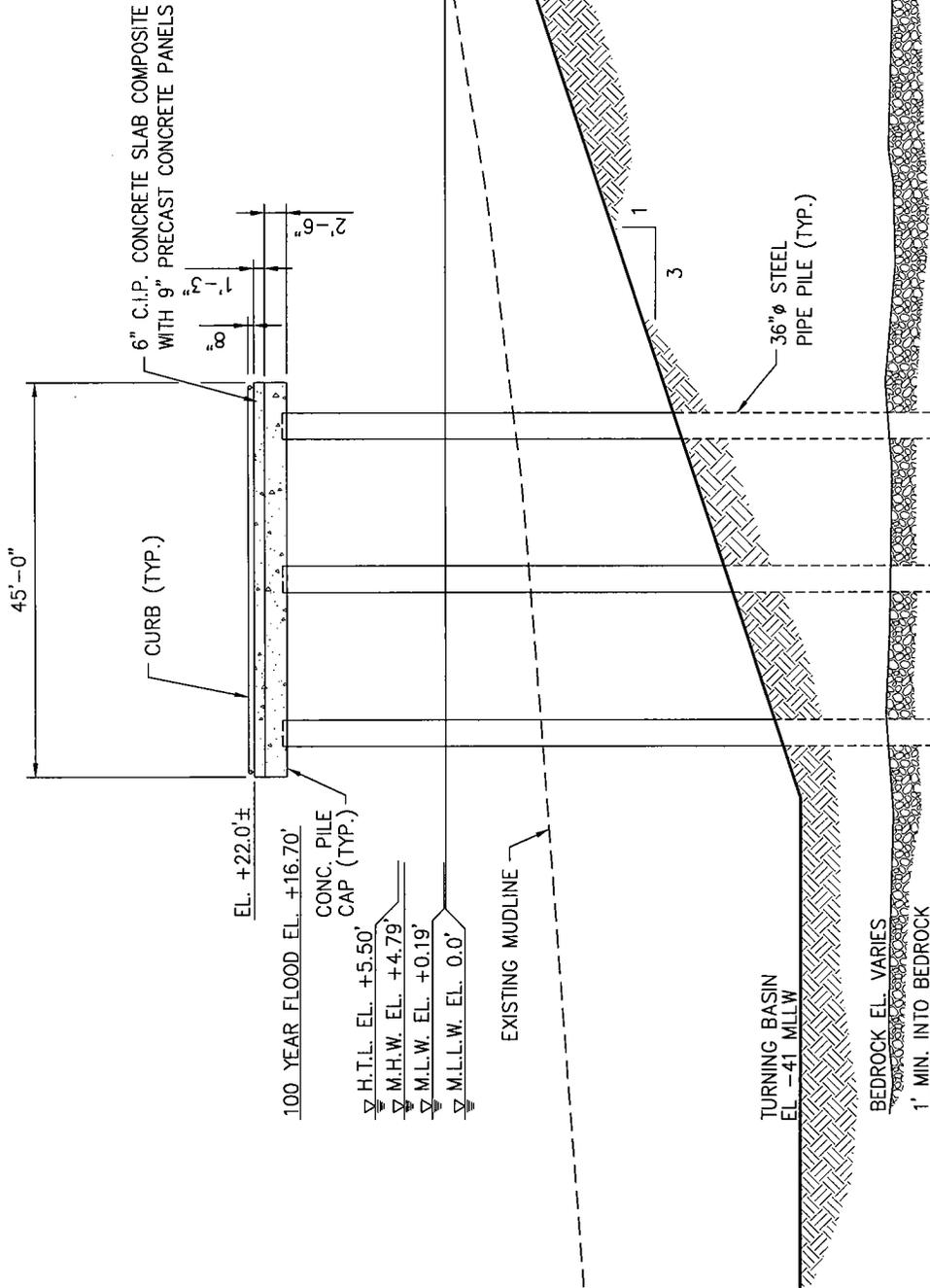


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 21 OF 37 DATE: 9/05



- NOTES:
1. PILES ARE COATED AND CATHODICALLY PROTECTED.
  2. TOPSIDE EQUIPMENT NOT SHOWN FOR CLARITY.

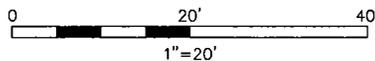
SECTION B-B

SCALE: 1"=20'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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TYPICAL CROSS SECTION OF SERVICE PLATFORM

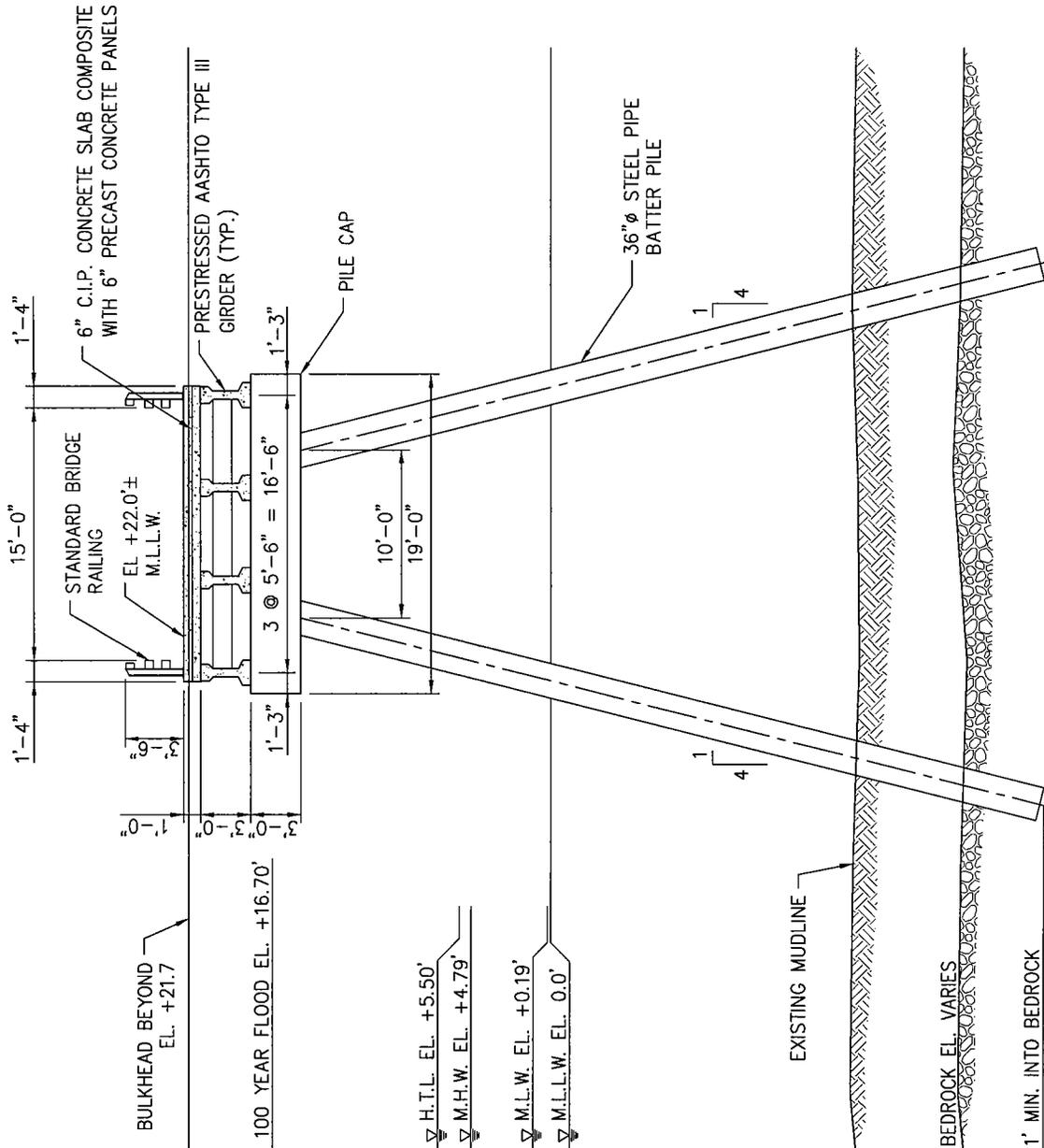


APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 22 OF 37 DATE: 9/05



NOTE: PILES ARE COATED AND CATHODICALLY PROTECTED.

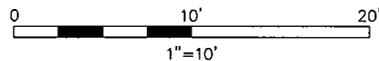
SECTION C-C

SCALE: 1"=10'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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NEW YORK, NY 10018

TYPICAL SECTION OF SERVICE PLATFORM TRESTLE

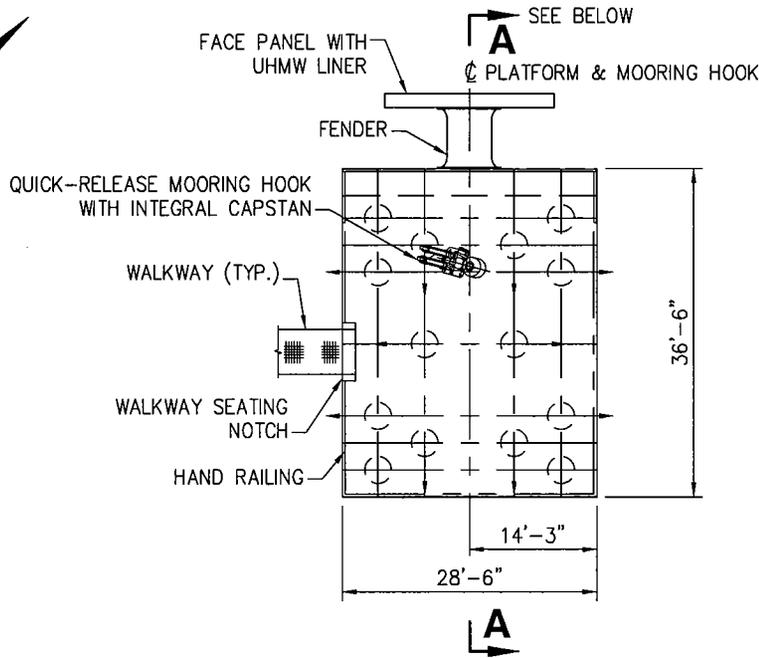
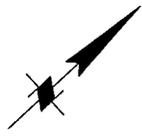


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 23 OF 37 DATE: 9/05

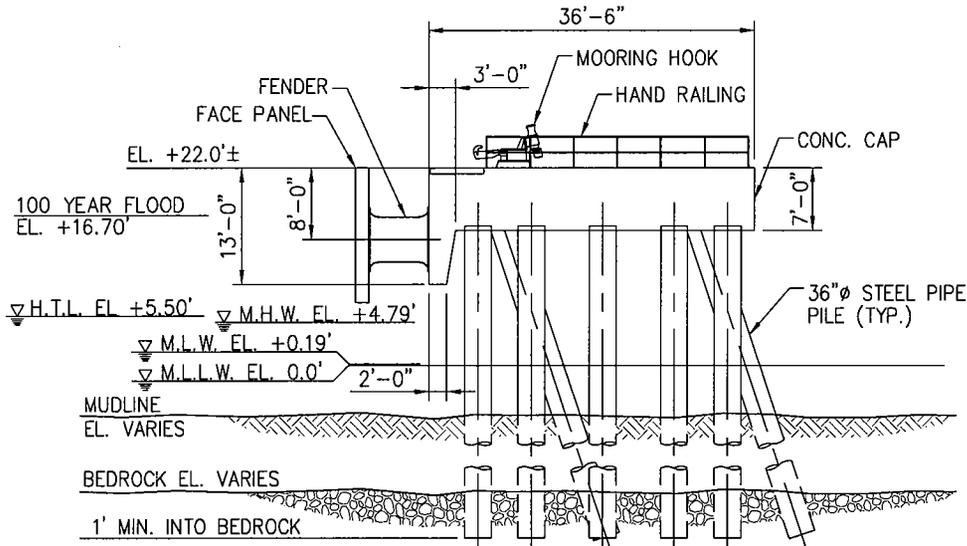


- LEGEND**
- 3:1 BATTER PILE
  - VERTICAL PILE

NOTE:  
AFT DOLPHIN SHOWN, FORE DOLPHIN  
OPPOSITE HAND.

**BREASTING DOLPHING PLAN**

SCALE: 1"=20'



NOTE: PILES ARE COATED AND  
CATHODICALLY PROTECTED.

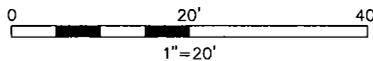
**SECTION A-A**

SCALE: 1"=20'

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

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**BREASTING DOLPHIN PLAN &  
TYPICAL SECTION**

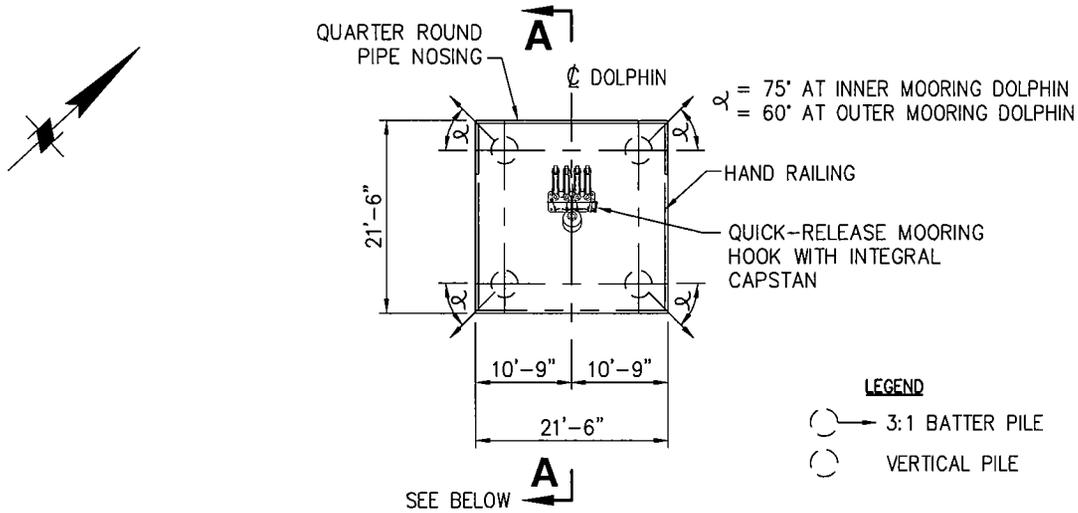


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

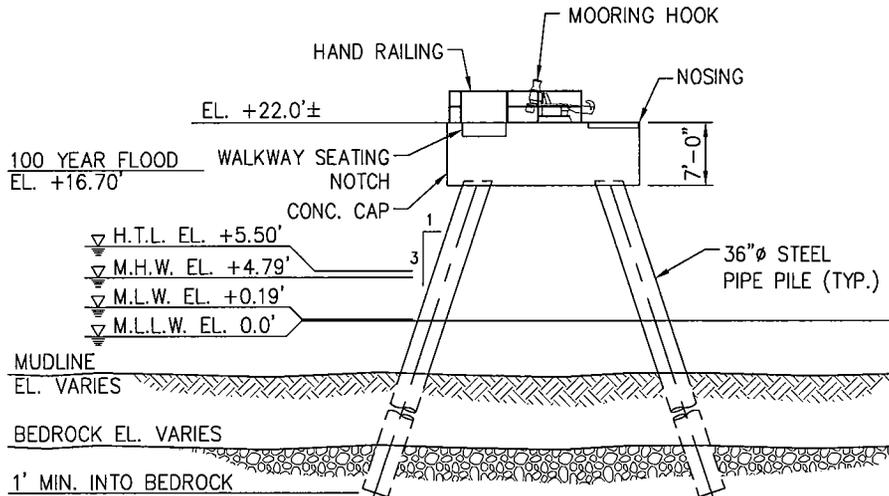
ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 24 OF 37 DATE: 9/05



### MOORING DOLPHIN PLAN

SCALE: 1"=20'



### SECTION A-A

SCALE: 1"=20'

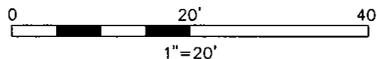
**NOTES:**

1. PILES ARE COATED AND CATHODICALLY PROTECTED.
2. WALKWAY NOT SHOWN

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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NEW YORK, NY 10018

### MOORING DOLPHIN PLAN & TYPICAL SECTION

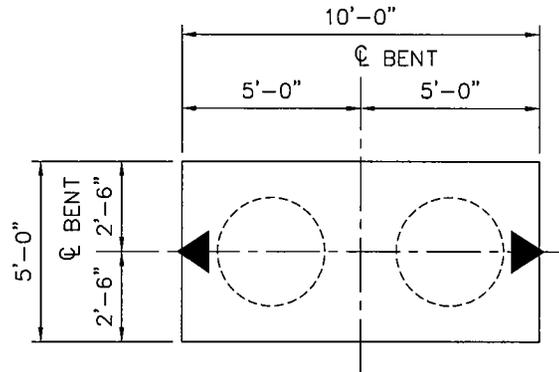


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

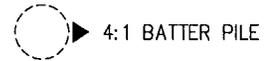
### PROPOSED LNG TERMINAL

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 25 OF 37 DATE: 9/05

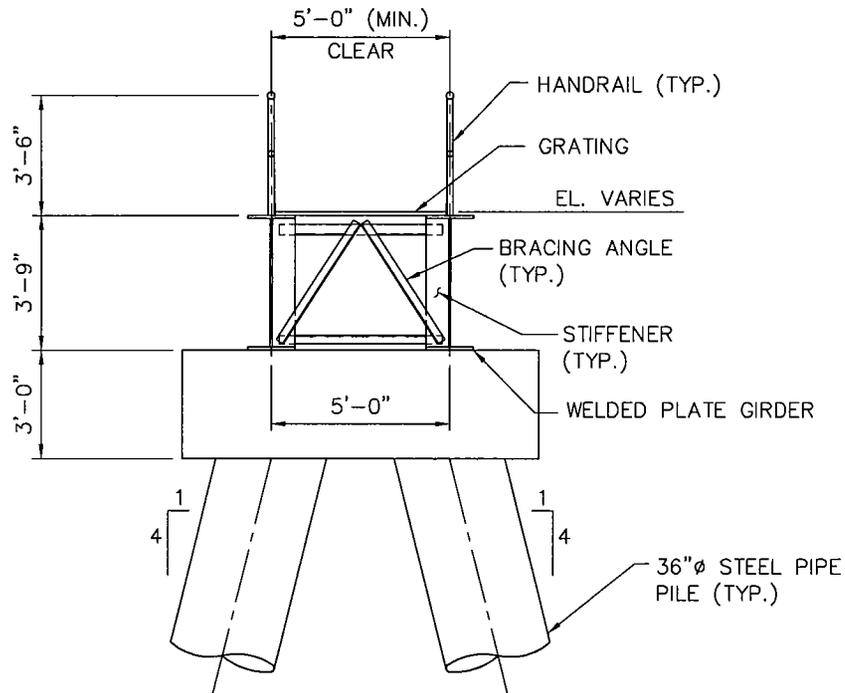


**LEGEND**



**WALKWAY BENT PLAN**

SCALE: 1"=5'



NOTE: PILES ARE COATED AND CATHODICALLY PROTECTED.

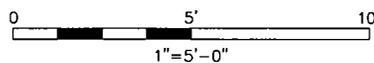
**WALKWAY CROSS SECTION**

SCALE: 1"=5'

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**WALKWAY BENT PLAN & TYPICAL SECTION**



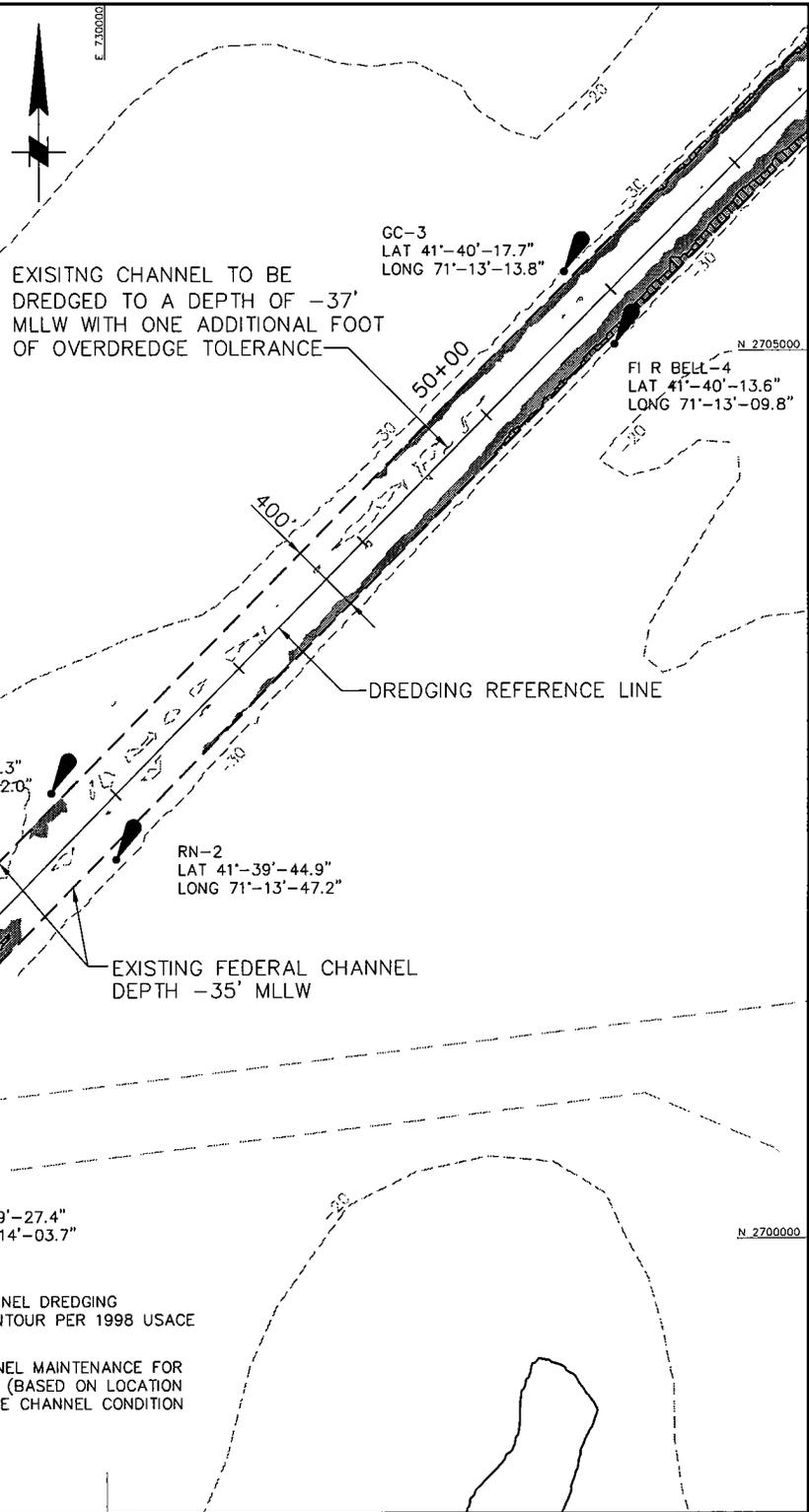
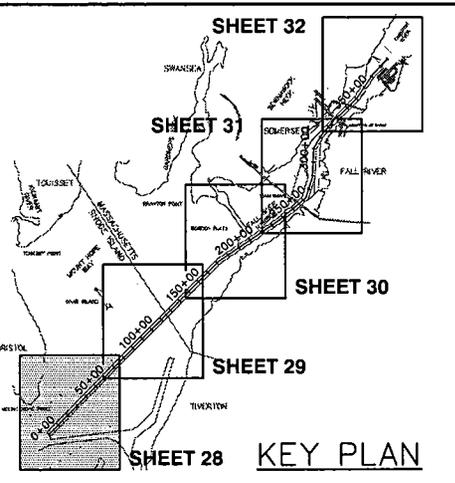
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 26 OF 37 DATE: 9/05





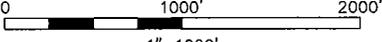
**LEGEND**

-  APPROXIMATE LIMITS OF PROPOSED CHANNEL DREDGING (BASED ON LOCATION OF -37' MLLW CONTOUR PER 1998 USACE CHANNEL CONDITION SURVEY).
-  APPROXIMATE LIMITS OF REQUIRED CHANNEL MAINTENANCE FOR PRESENTLY AUTHORIZED CHANNEL DEPTH (BASED ON LOCATION OF -35' MLLW CONTOUR PER 1998 USACE CHANNEL CONDITION SURVEY).
-  EXISTING NAVIGATION AIDS

PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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 NEW YORK, NY 10018

**DREDGING PLAN**  
 STA 0+00 TO STA 70+00

0                      1000'                      2000'  
  
 1"=1000'

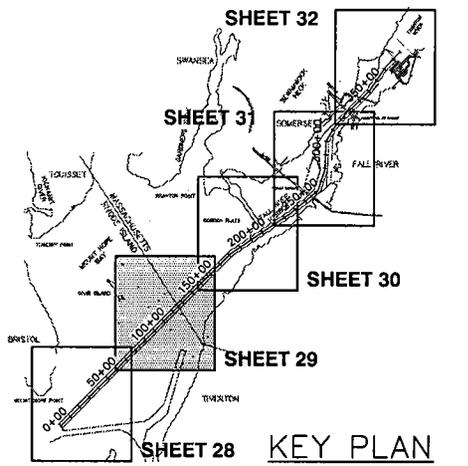
APPLICATION BY:  
 WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
 AT: BRISTOL COUNTY, MASSACHUSETTS  
 BRISTOL COUNTY, RHODE ISLAND

SHEET 28 OF 37      DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



GC-9  
LAT 41°-41'-32.0"  
LONG 71°-11'-33.8"

EXISTING CHANNEL TO BE  
DREDGED TO A DEPTH OF -37'  
MLLW WITH ONE ADDITIONAL FOOT  
OF OVERDREDGE TOLERANCE

MASSACHUSETTS  
RHODE ISLAND

GC-7  
LAT 41°-41'-11.9"  
LONG 71°-12'-02.5"

FI R BELL-8  
LAT 41°-41'-07.4"  
LONG 71°-11'-58.9"

SPAR ISLAND

MOUNT HOPE  
BAY

EXISTING FEDERAL CHANNEL  
DEPTH -35' MLLW

SEE SHEET 33

FI G-5  
LAT 41°-40'-43.8"  
LONG 71°-12'-37.8"

DREDGING REFERENCE LINE

RN-6  
LAT 41°-40'-40.2"  
LONG 71°-12'-35.1"

**LEGEND**

■ APPROXIMATE LIMITS OF PROPOSED CHANNEL DREDGING  
(BASED ON LOCATION OF -37' MLLW CONTOUR PER 1998 USACE  
CHANNEL CONDITION SURVEY).

▨ APPROXIMATE LIMITS OF REQUIRED CHANNEL MAINTENANCE FOR  
PRESENTLY AUTHORIZED CHANNEL DEPTH (BASED ON LOCATION OF  
-35' MLLW CONTOUR PER 1998 USACE CHANNEL CONDITION  
SURVEY).

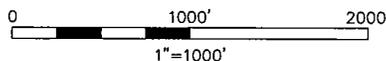
! EXISTING NAVIGATION AIDS

TIVERTON

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

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NEW YORK, NY 10018

**DREDGING PLAN**  
STA 70+00 TO STA 160+00



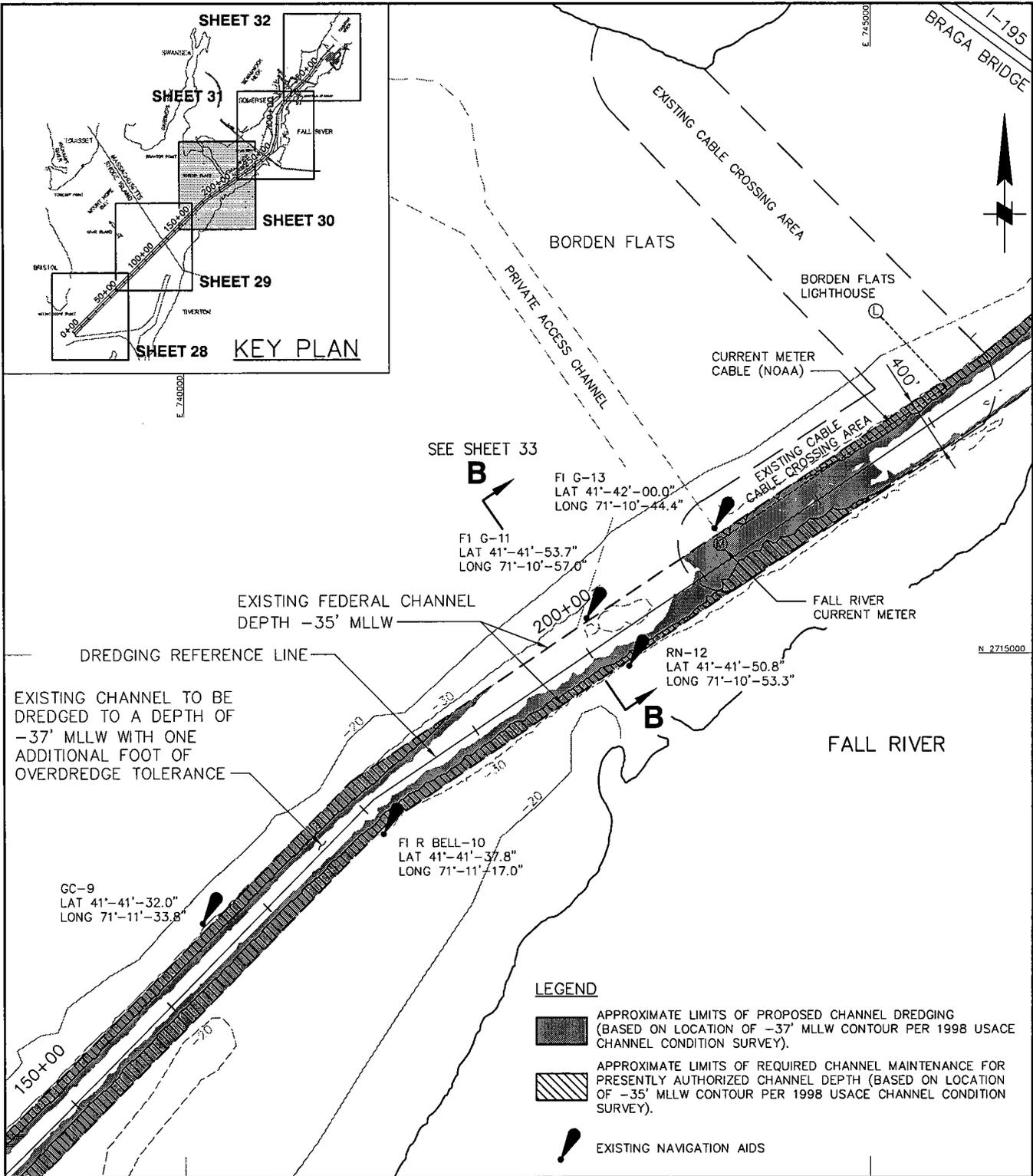
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 29 OF 37    DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

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NEW YORK, NY 10018

**DREDGING PLAN**  
STA 160+00 TO STA 230+00

0 1000' 2000'  
1"=1000'

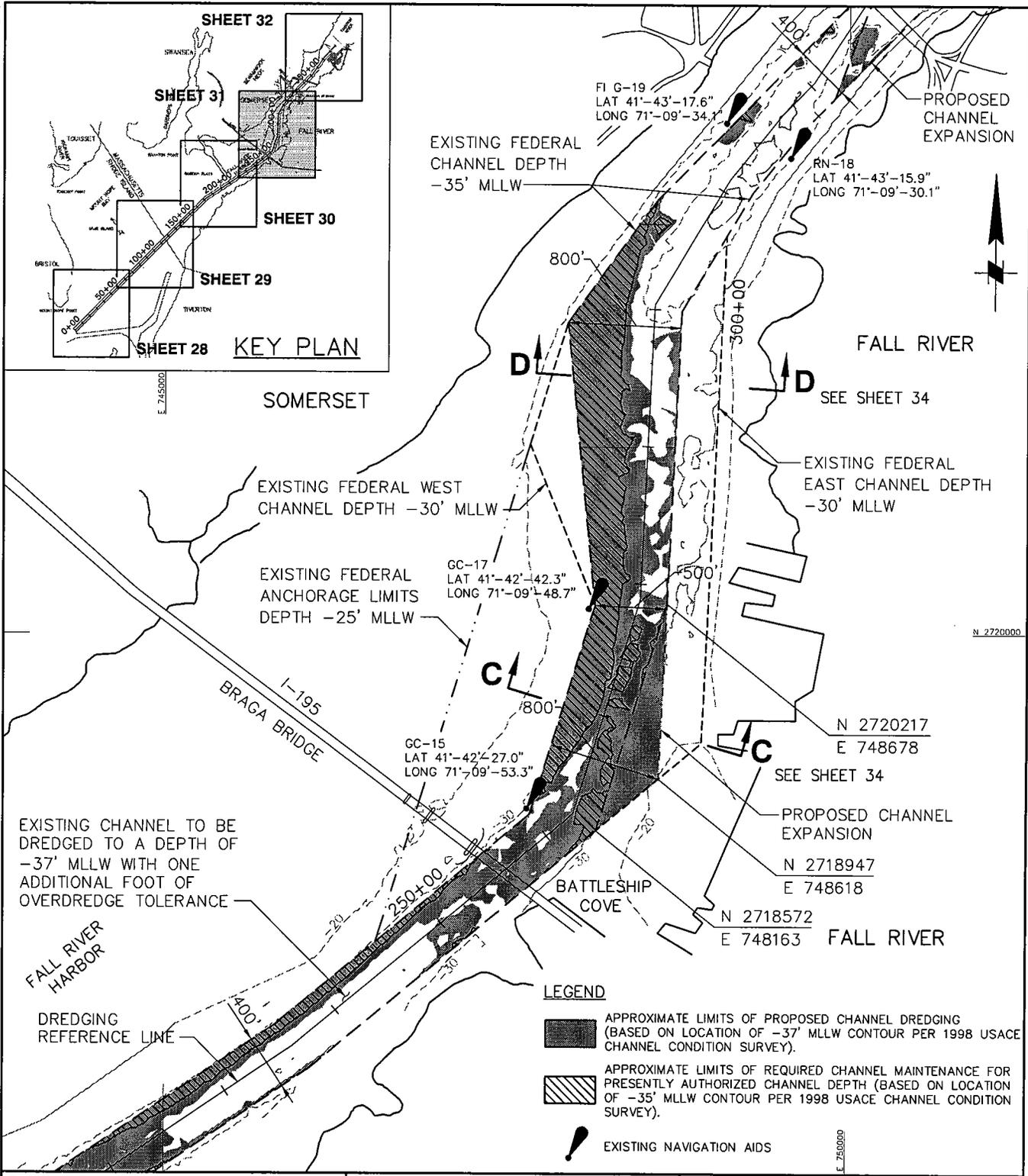
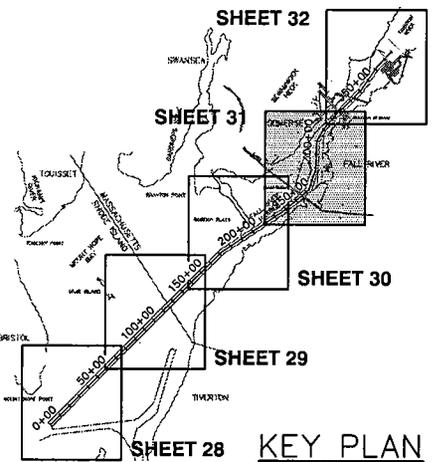
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 30 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.  
**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

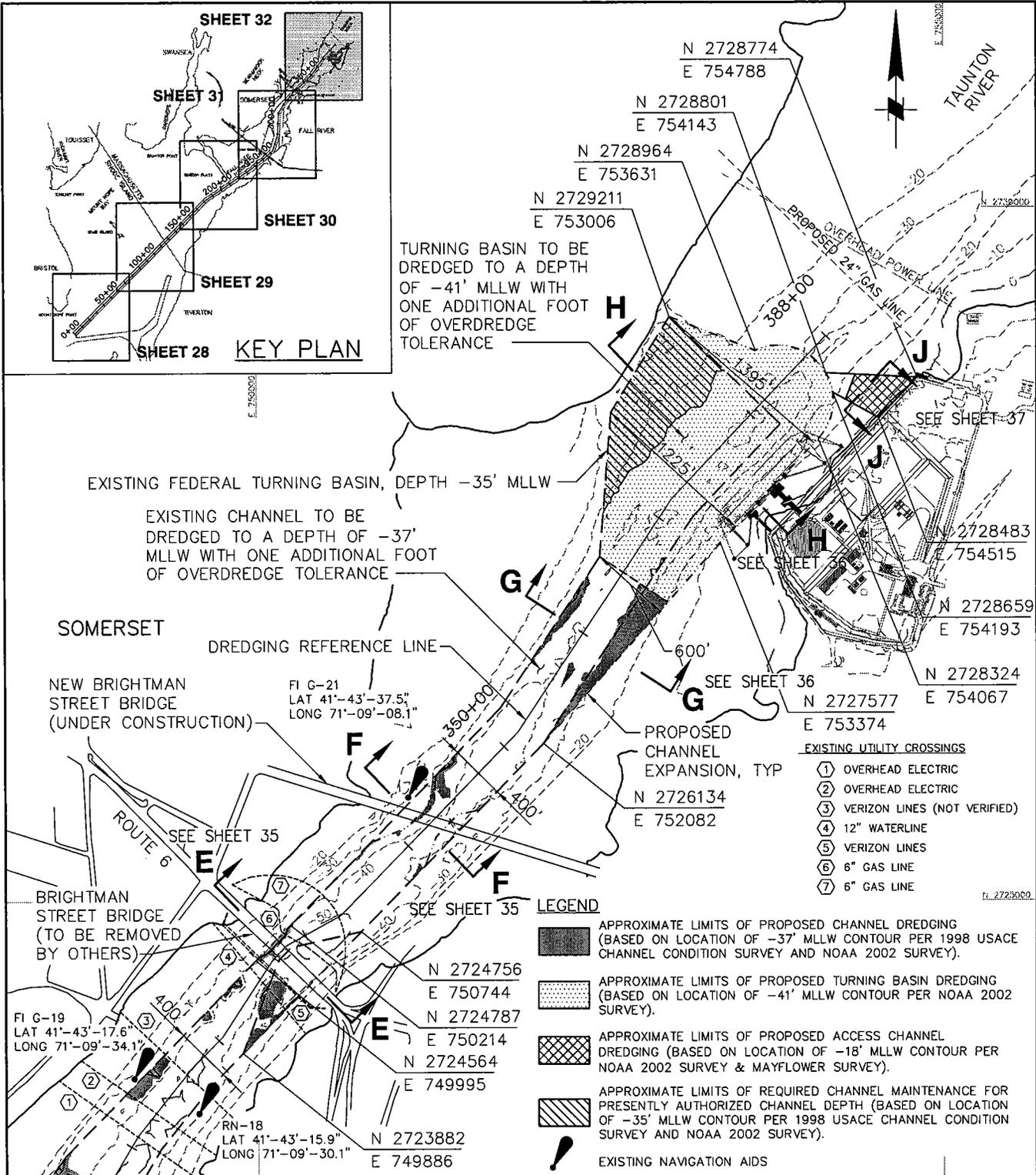
**DREDGING PLAN**  
STA 230+00 TO STA 320+00

1"=1000'

APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

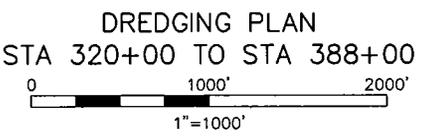
**PROPOSED LNG TERMINAL**  
ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND  
SHEET 31 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

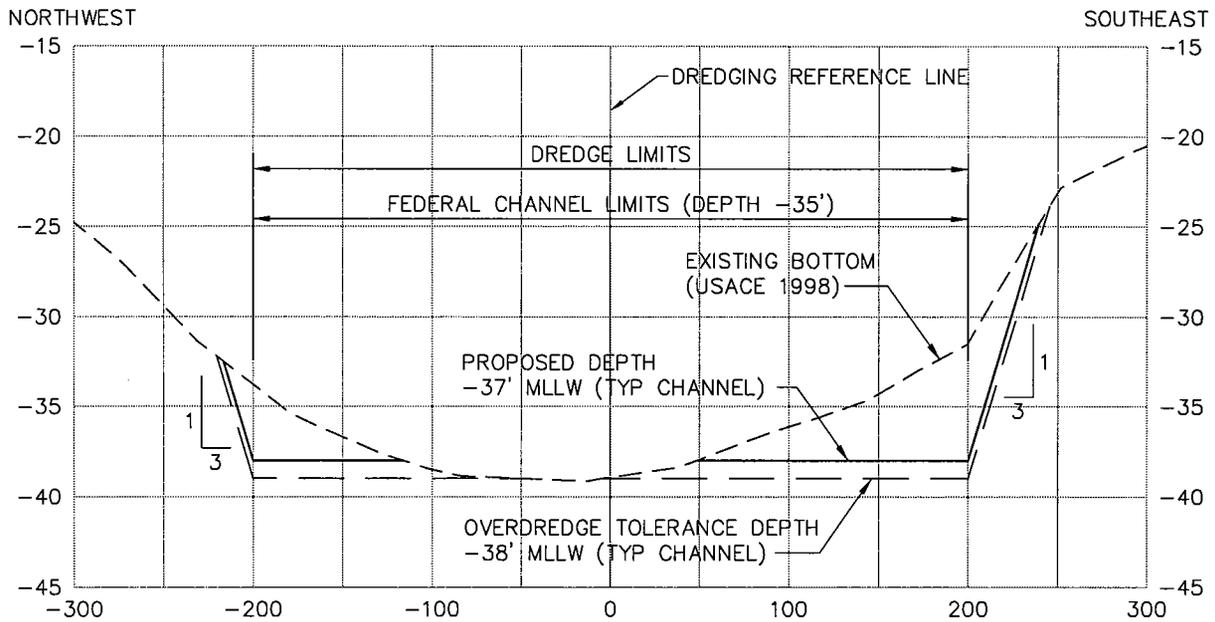


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

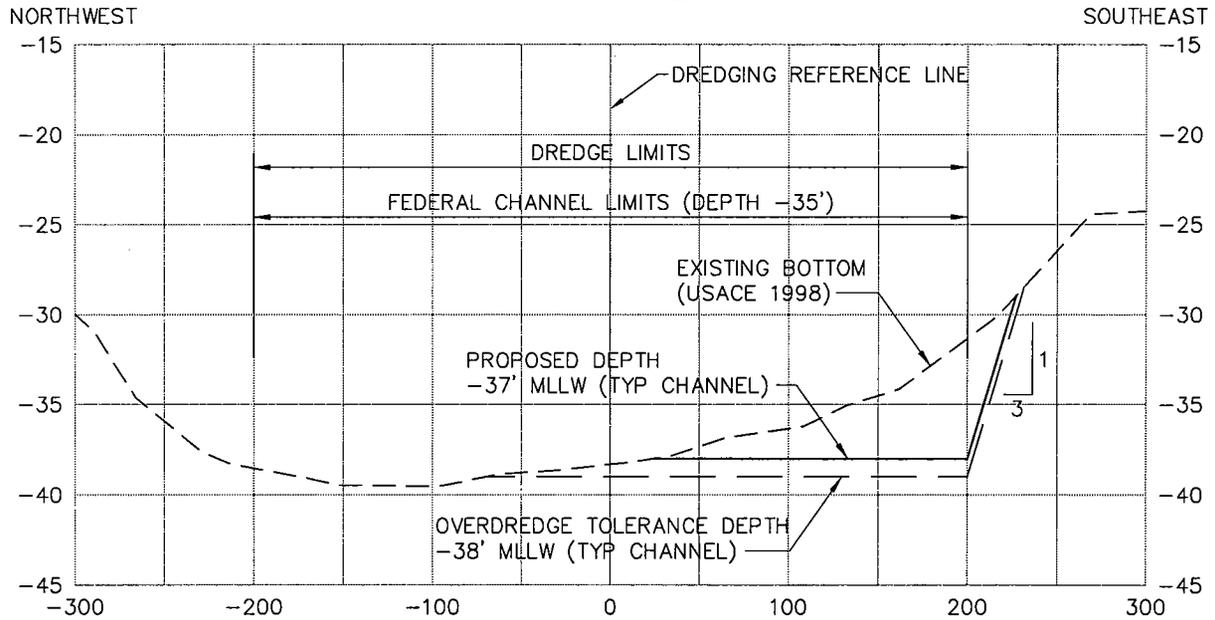
ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 32 OF 37 DATE: 9/05



**SECTION A-A @ STATION 100+00**

SCALE: 1"=100' HORIZ  
1"=10' VERT



**SECTION B-B @ STATION 200+00**

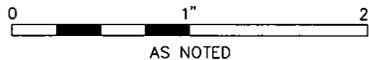
SCALE: 1"=100' HORIZ  
1"=10' VERT

NOTE: CROSS-SECTIONS VIEW NORTH

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

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**DREDGING CROSS-SECTIONS  
SHEET 1 OF 5**



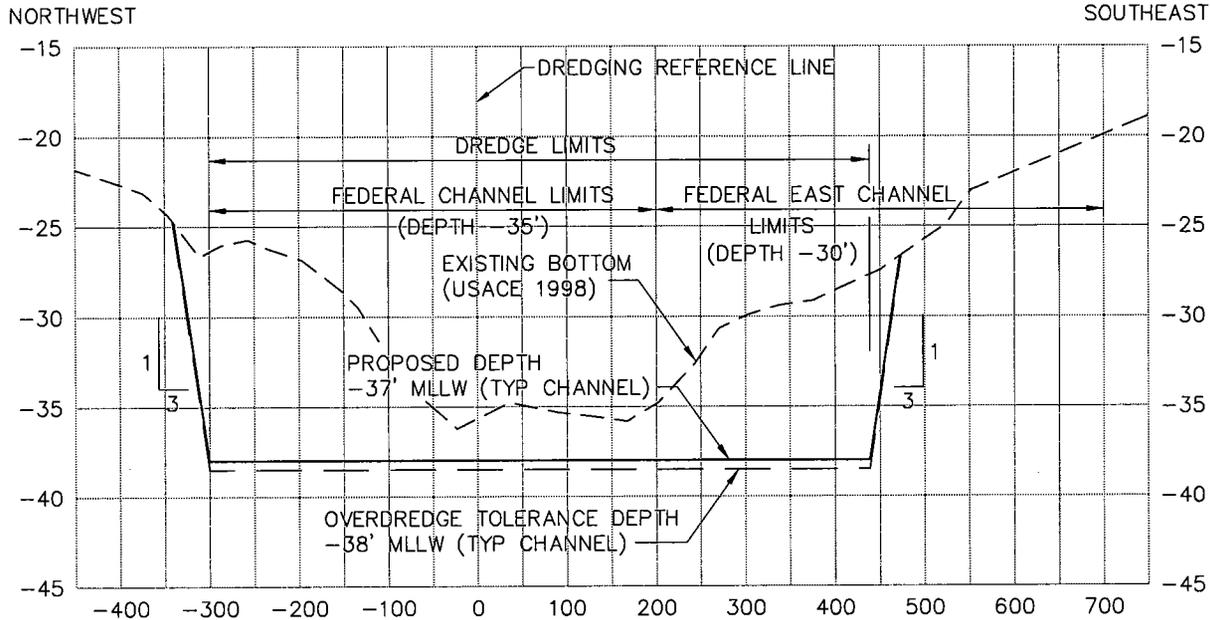
APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

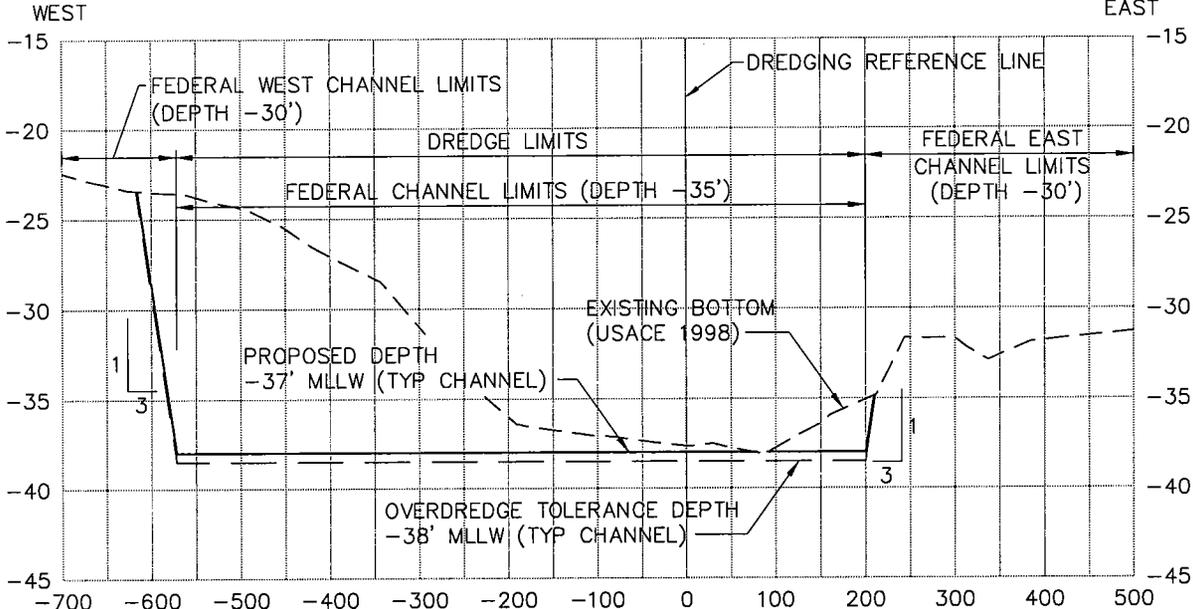
SHEET 33 OF 37 DATE: 9/05

OFFSHORE DISPOSAL - STRAIGHT BULKHEAD



**SECTION C-C @ STATION 270+00**

SCALE: 1"=200' HORIZ  
1"=10' VERT



**SECTION D-D @ STATION 295+00**

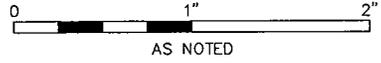
SCALE: 1"=200' HORIZ  
1"=10' VERT

NOTE: CROSS-SECTIONS VIEW NORTH

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**DREDGING CROSS-SECTIONS  
SHEET 2 OF 5**

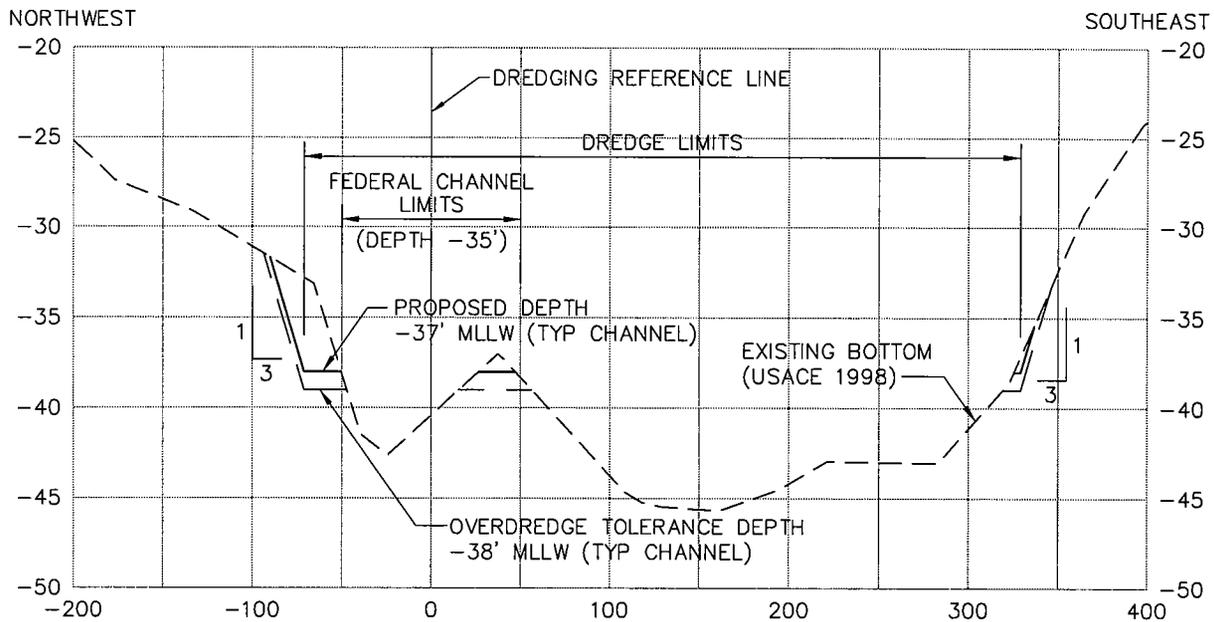


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

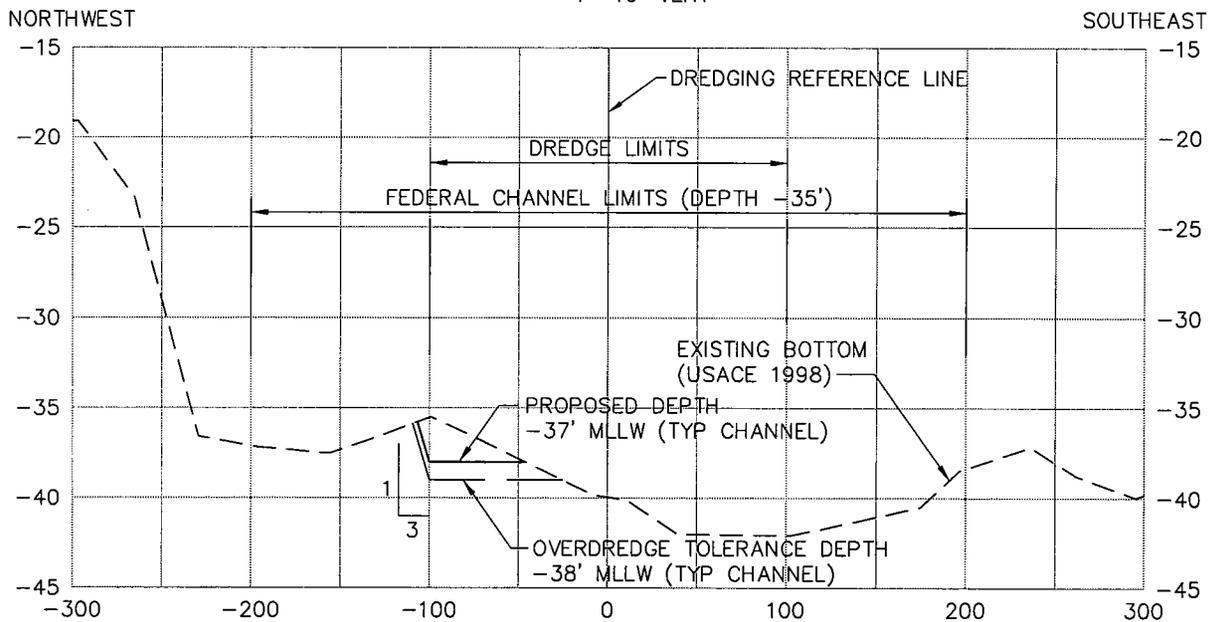
ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 34 OF 37 DATE: 9/05



**SECTION E-E @ STATION 328+00**

SCALE: 1"=100' HORIZ  
1"=10' VERT



**SECTION F-F @ STATION 343+00**

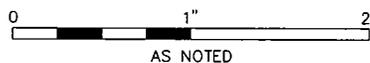
SCALE: 1"=100' HORIZ  
1"=10' VERT

NOTE: CROSS-SECTIONS VIEW NORTH

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**DREDGING CROSS-SECTIONS  
SHEET 3 OF 5**

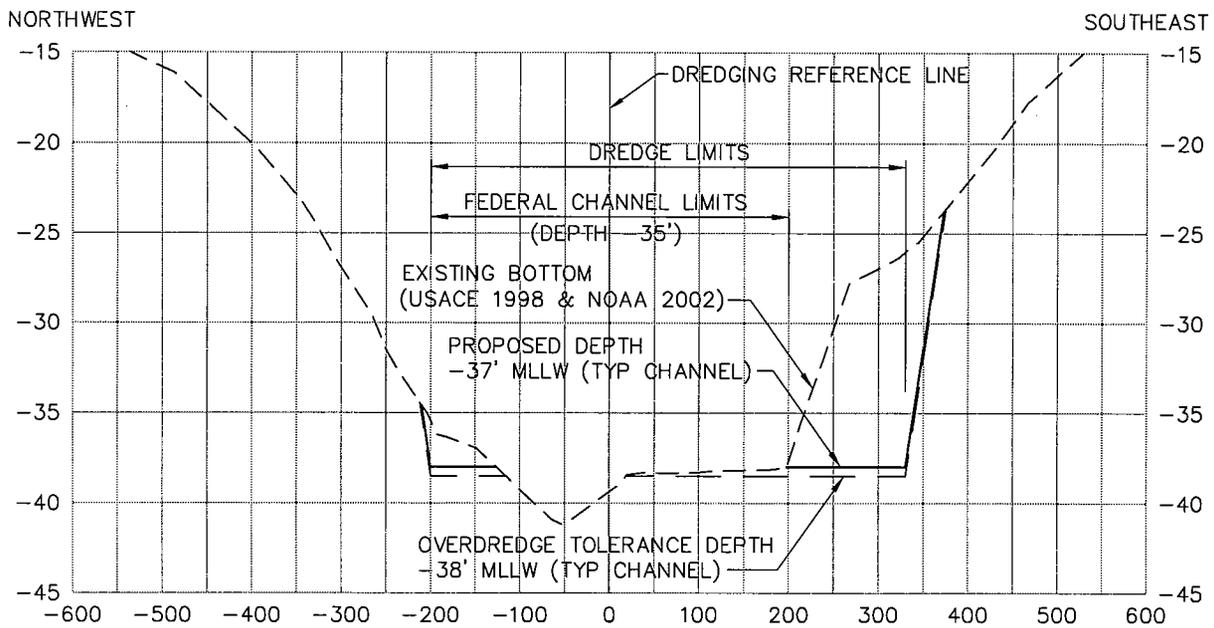


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

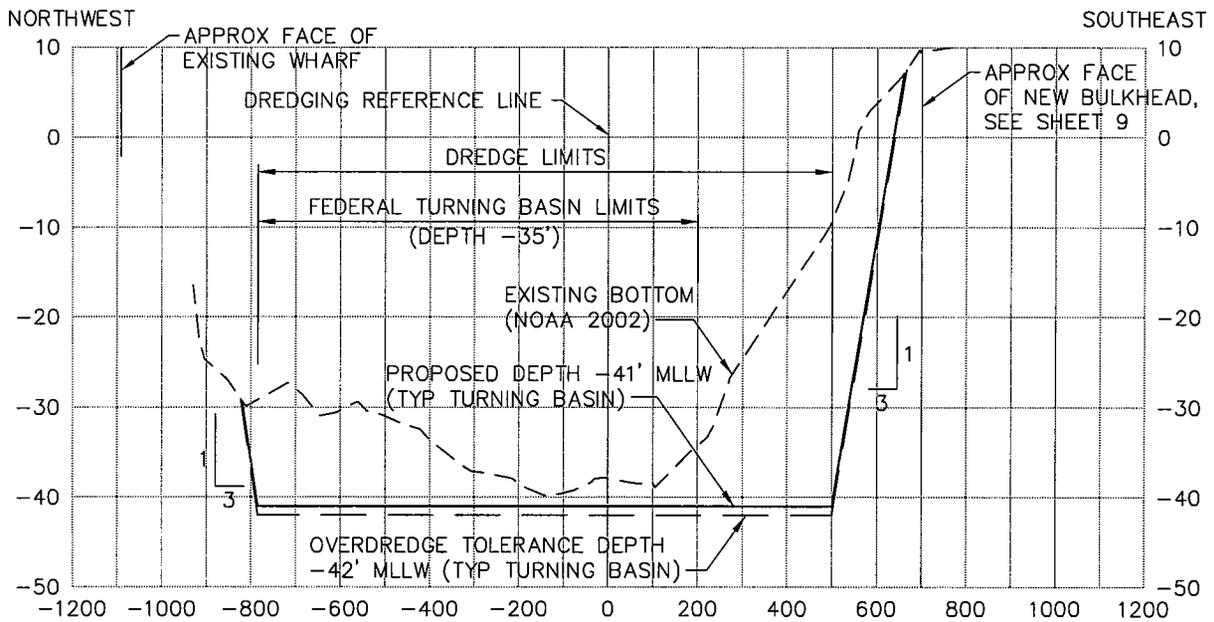
ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 35 OF 37 DATE: 9/05



**SECTION G-G @ STATION 360+00**

SCALE: 1"=200' HORIZ  
1"=10' VERT



**SECTION H-H @ STATION 375+00**

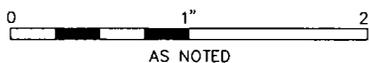
SCALE: 1"=400' HORIZ  
1"=20' VERT

NOTE: CROSS-SECTIONS VIEW NORTH

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**DREDGING CROSS-SECTIONS  
SHEET 4 OF 5**

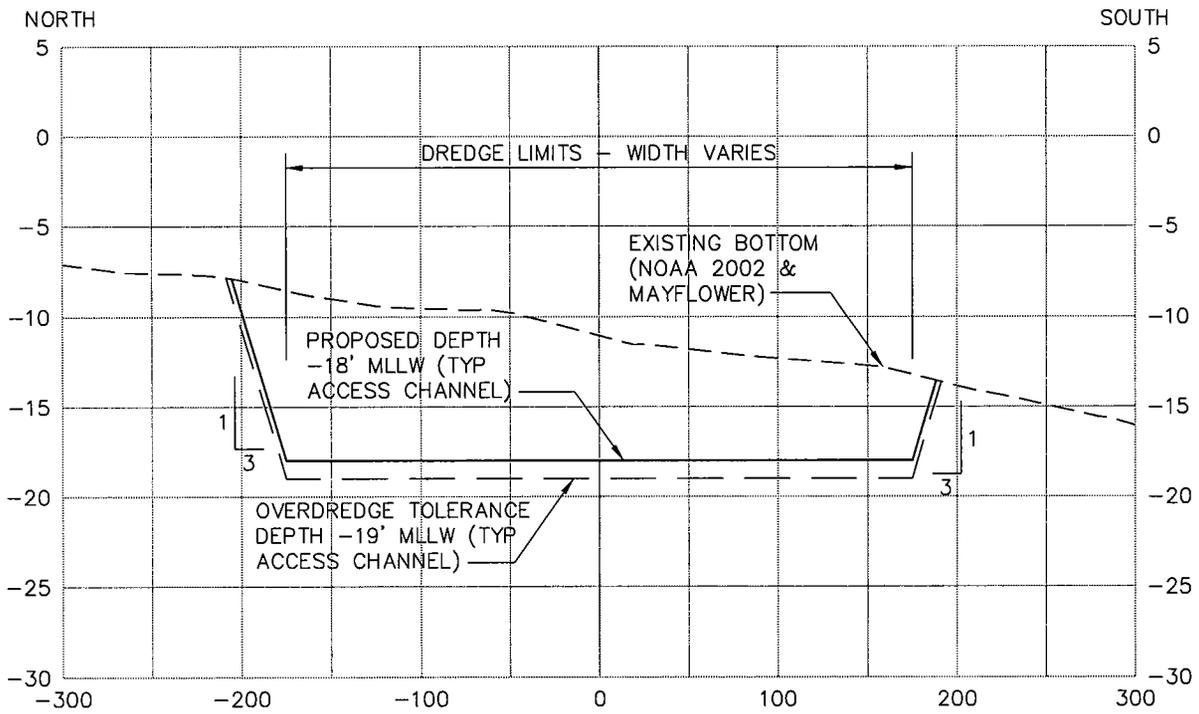


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 36 OF 37 DATE: 9/05



**SECTION J-J @ ACCESS CHANNEL**

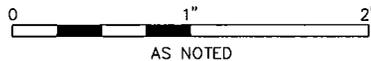
SCALE: 1"=100' HORIZ  
1"=10' VERT

NOTE: CROSS-SECTION VIEW EAST

PURPOSE: MAINTENANCE & IMPROVEMENT  
DREDGING OF EXISTING MOUNT HOPE BAY-  
FALL RIVER HARBOR CHANNEL.  
CONSTRUCTION OF LNG RECEIVING AND  
STORAGE TERMINAL.

**MOFFATT & NICHOL INTERNATIONAL**  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**DREDGING CROSS-SECTIONS  
SHEET 5 OF 5**

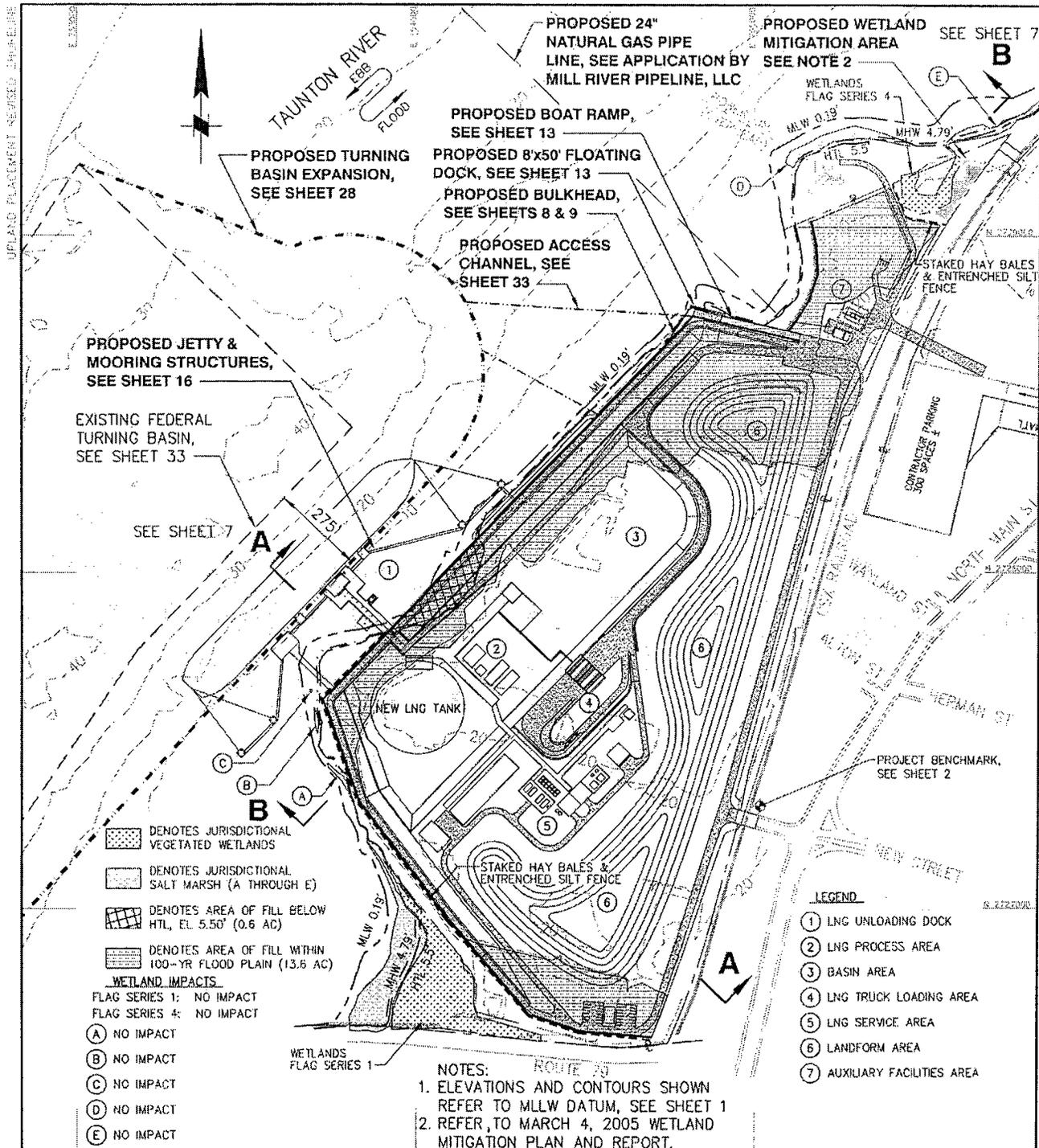


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER &  
MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

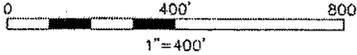
SHEET 37 OF 37 DATE: 9/05



PURPOSE: MAINTENANCE & IMPROVEMENT DREDGING OF EXISTING MOUNT HOPE BAY-FALL RIVER HARBOR CHANNEL. CONSTRUCTION OF LNG RECEIVING AND STORAGE TERMINAL.

MOFFATT & NICHOL INTERNATIONAL  
104 W. 40th ST, 14th FLOOR  
NEW YORK, NY 10018

**PROPOSED CONCEPTUAL SITE PLAN**

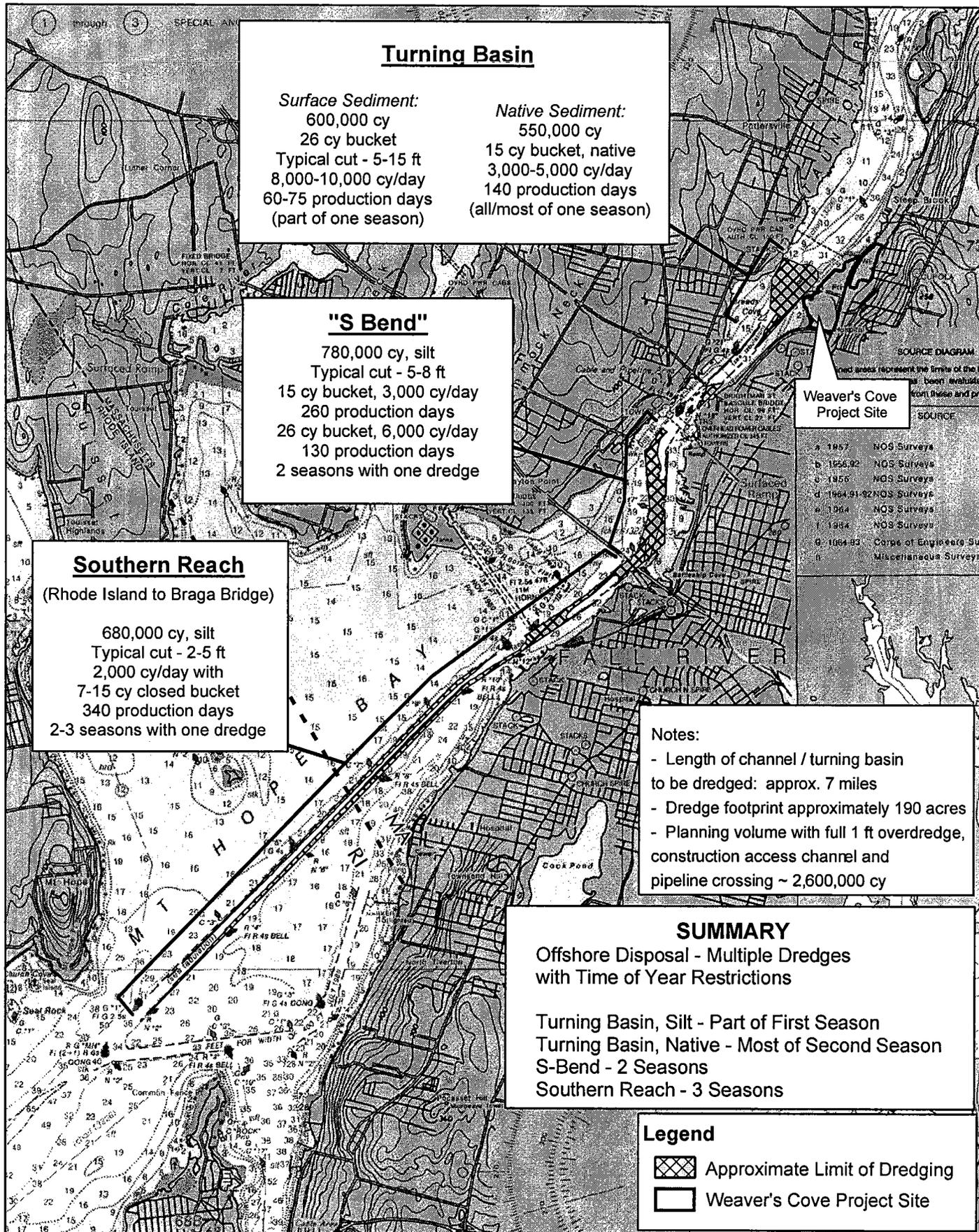


APPLICATION BY:  
WEAVER'S COVE ENERGY, LLC

**PROPOSED LNG TERMINAL**

ADJACENT TO: TAUNTON RIVER & MOUNT HOPE BAY  
AT: BRISTOL COUNTY, MASSACHUSETTS  
BRISTOL COUNTY, RHODE ISLAND

SHEET 6 OF 38 DATE: REV 9/05



**Turning Basin**

<i>Surface Sediment:</i> 600,000 cy 26 cy bucket Typical cut - 5-15 ft 8,000-10,000 cy/day 60-75 production days (part of one season)	<i>Native Sediment:</i> 550,000 cy 15 cy bucket, native 3,000-5,000 cy/day 140 production days (all/most of one season)
---	--

**"S Bend"**

780,000 cy, silt  
Typical cut - 5-8 ft  
15 cy bucket, 3,000 cy/day  
260 production days  
26 cy bucket, 6,000 cy/day  
130 production days  
2 seasons with one dredge

**Southern Reach**  
(Rhode Island to Braga Bridge)

680,000 cy, silt  
Typical cut - 2-5 ft  
2,000 cy/day with  
7-15 cy closed bucket  
340 production days  
2-3 seasons with one dredge

**Weaver's Cove Project Site**

- SOURCE
- a 1957 NOS Surveys
  - b 1958-62 NOS Surveys
  - c 1956 NOS Surveys
  - d 1964-91-92 NOS Surveys
  - e 1964 NOS Surveys
  - f 1964 NOS Surveys
  - g 1964-83 Corps of Engineers Surveys
  - h Miscellaneous Surveys

**Notes:**

- Length of channel / turning basin to be dredged: approx. 7 miles
- Dredge footprint approximately 190 acres
- Planning volume with full 1 ft overdredge, construction access channel and pipeline crossing ~ 2,600,000 cy

**SUMMARY**

Offshore Disposal - Multiple Dredges with Time of Year Restrictions

Turning Basin, Silt - Part of First Season  
Turning Basin, Native - Most of Second Season  
S-Bend - 2 Seasons  
Southern Reach - 3 Seasons

**Legend**

- Approximate Limit of Dredging
- Weaver's Cove Project Site

Scale 1:54,000  
1 inch = 4,500 feet

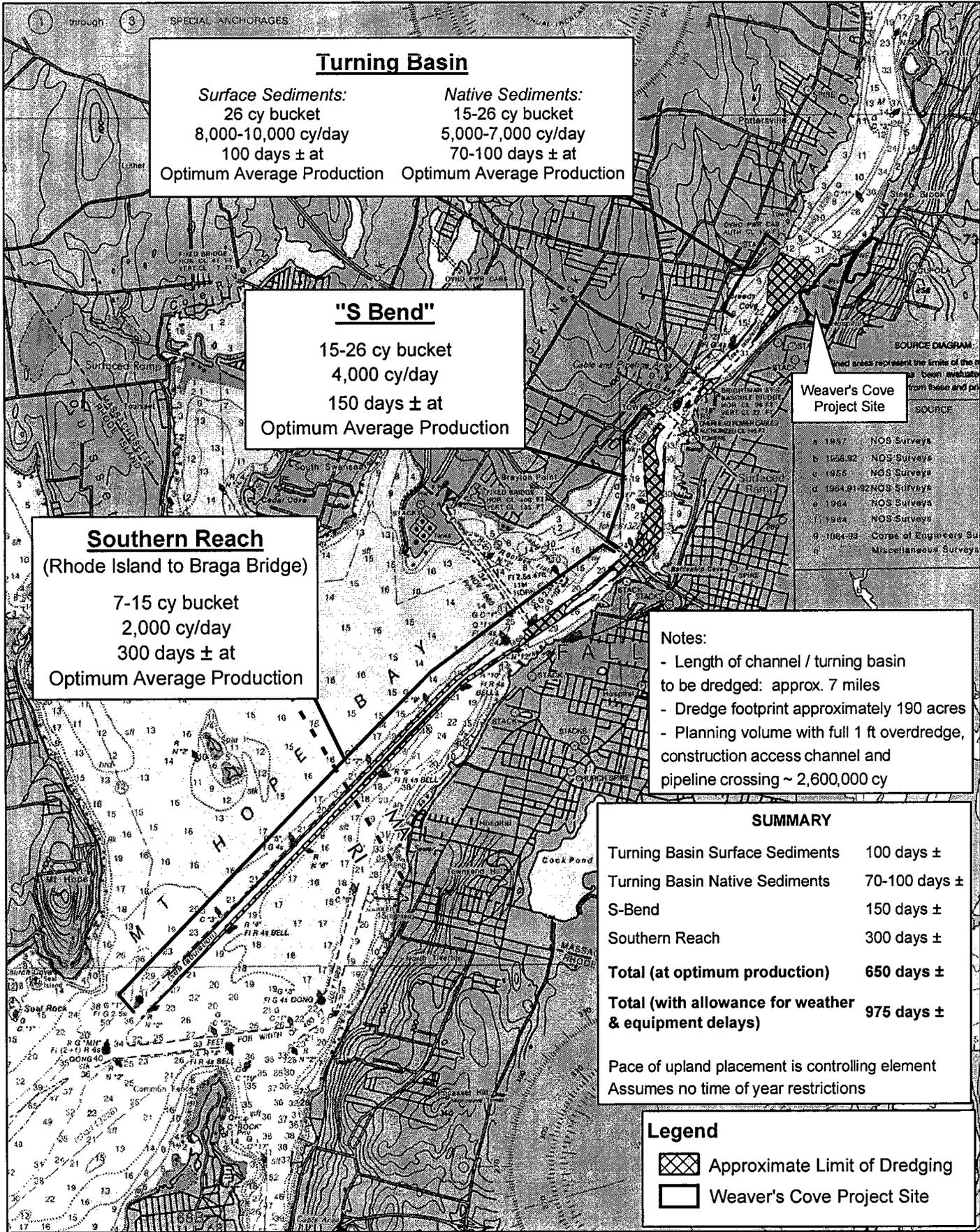
0 2,000 4,000 Feet

**Figure 1**  
Dredging Plan with Offshore Disposal and Time of Year Restrictions

Basemap: NOAA Nautical Charts, MassGIS

Weaver's Cove Energy, LLC  
Mill River Pipeline, LLC





**Turning Basin**

<b>Surface Sediments:</b>	<b>Native Sediments:</b>
26 cy bucket	15-26 cy bucket
8,000-10,000 cy/day	5,000-7,000 cy/day
100 days ± at	70-100 days ± at
Optimum Average Production	Optimum Average Production

**"S Bend"**

15-26 cy bucket  
4,000 cy/day  
150 days ± at  
Optimum Average Production

**Southern Reach**  
(Rhode Island to Braga Bridge)

7-15 cy bucket  
2,000 cy/day  
300 days ± at  
Optimum Average Production

- Weaver's Cove Project Site**
- a 1957 NOS Surveys
  - b 1956-92 NOS Surveys
  - c 1955 NOS Surveys
  - d 1964-91-92 NOS Surveys
  - e 1964 NOS Surveys
  - f 1964 NOS Surveys
  - g 1184-93 Corps of Engineers Surveys
  - h Miscellaneous Surveys

**Notes:**

- Length of channel / turning basin to be dredged: approx. 7 miles
- Dredge footprint approximately 190 acres
- Planning volume with full 1 ft overdredge, construction access channel and pipeline crossing ~ 2,600,000 cy

**SUMMARY**

Turning Basin Surface Sediments	100 days ±
Turning Basin Native Sediments	70-100 days ±
S-Bend	150 days ±
Southern Reach	300 days ±
<b>Total (at optimum production)</b>	<b>650 days ±</b>
<b>Total (with allowance for weather &amp; equipment delays)</b>	<b>975 days ±</b>

Pace of upland placement is controlling element  
Assumes no time of year restrictions

**Legend**

- Approximate Limit of Dredging
- Weaver's Cove Project Site

Scale 1:54,000  
1 inch = 4,500 feet

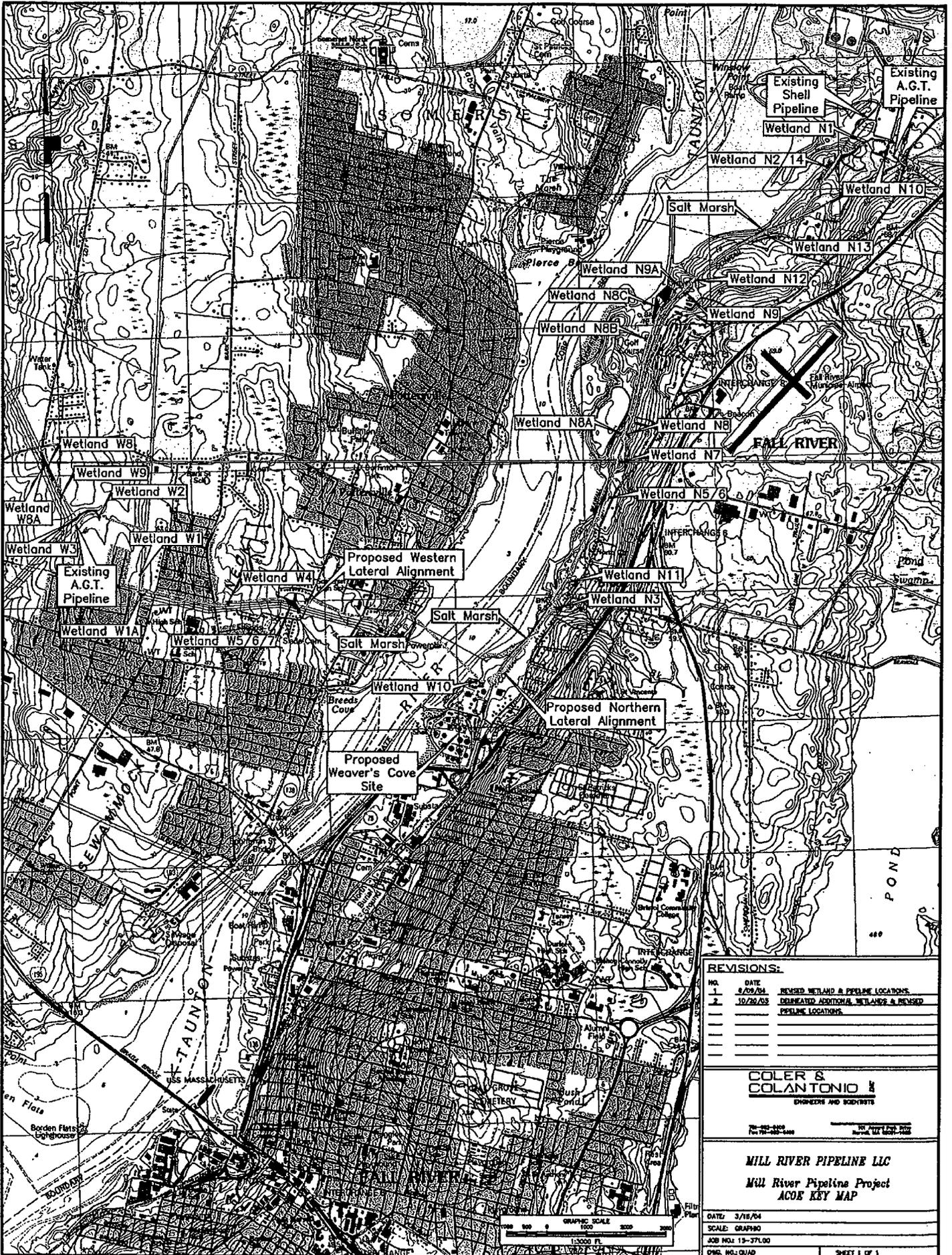
0 2,000 4,000 Feet

Figure 2  
Original Dredging Plan with Upland Placement

Weaver's Cove Energy, LLC  
Mill River Pipeline, LLC

Basemap: NOAA Nautical Charts, MassGIS





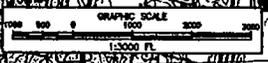
**REVISIONS:**

NO.	DATE	REVISION
1	3/29/04	REVISED WETLAND & PIPELINE LOCATIONS
2	10/20/03	DELETED ADDITIONAL WETLANDS & REVISED PIPELINE LOCATIONS

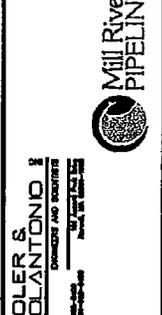
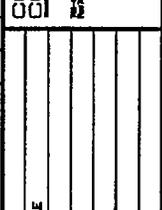
**COLER & COLANTONIO**  
ENGINEERS AND ARCHITECTS

**MILL RIVER PIPELINE LLC**  
Mill River Pipeline Project  
ACOF KEY MAP

DATE: 3/18/04  
SCALE: GRAPHIC  
JOB NO.: 13-271.00  
DWG. NO.: 01AD



REVISION TABLE	
REV. No.	DESCRIPTION
2	DELINEATED ADDITIONAL WETLANDS & REVISED PIPELINE LOCATIONS.
1	REVISED GENERAL NOTES, LEGEND, & ADDED REVISION TABLE.
2	REVISED MILE POST MARKER, TBM DESCRIPTION, NOTES, & IMPACT HATCH.
2	REVISED MILE POST MARKER, PROPERTY LINES, & NOTES.
2	REVISED MILE POST MARKER, TBM DESCRIPTION, & PROPERTY LINES.
1	REVISED ALIGNMENT, WORKSPACE LIMITS, MILE POST MARKER, PROPERTY LINES, & TBM DESCRIPTION.
2	REVISED ALIGNMENT, WORKSPACE LIMITS, & MILE POST MARKER.
1	REVISED MILE POST MARKER & ADDED TRACT NO. MR-37.
1	REVISED MILE POST MARKER, TBM DESCRIPTION, & TRACT NO. MR-38.01.
2	REVISED MILE POST MARKER, TBM DESCRIPTION, ADDED EASEMENT, & PROPOSED ACCESS ROADS.
2	REVISED R.O.W. LINE & ADDED EASEMENT AND TRACT NO. MR-41.
1	REVISED R.O.W. LINE & ADDED EASEMENT.
1	REVISED PROPERTY LINE, R.O.W. LINE, & ADDED EASEMENT.
2	REVISED PIPELINE ALIGNMENTS, WORKSPACE LIMITS, PROPOSED LNG SITE INFORMATION, ADDED WETLAND SERIES 4, & PROPOSED LAUNCHER SITE.
1	REVISED SECTION VIEW.
2	REVISED PIPELINE ALIGNMENTS, WORKSPACE LIMITS, PROPOSED LNG SITE INFORMATION, GENERAL NOTES, TBM DESCRIPTION, & ADDED PROPOSED LAUNCHER SITE.
2	REVISED PROPERTY LINE INFORMATION, WORKSPACE LIMITS, ADDED SALT MARSH STORAGE AREA, LOCATION OF SHEET PILING, & 200' INTERFRONT AREA.
2	REVISED DETAIL.
1	ADDED REFERENCE DRAWING.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, ADDED WETLANDS & PROPOSED ACCESS ROAD.
2	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED PROPOSED ACCESS ROADS.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL EASEMENT.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL EASEMENT.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL EASEMENT.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINE, IMPACT HATCH, EROSION CONTROLS, & ADDED WETLAND.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINES, ADDED WETLAND & PROPOSED ACCESS ROADS.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINES, & ADDED PROPOSED ACCESS ROAD.
2	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS.
2	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & PROPERTY LINES.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, NOTE # 1, & ADDED ADDITIONAL WETLAND FLAGS.
2	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, NOTE # 1, & ADDED ADDITIONAL WETLAND FLAGS.
2	REVISED PROPERTY LINES AND ADDED PROPOSED ACCESS ROAD & TBM TIES.

1	10/20/06	REVISED GENERAL NOTES, LEGEND, & ADDED REVISION TABLE.	JJA	CAC	APP.
NO.	DATE	REVISION	REV.	CHK.	APP.
REFERENCE DRAWINGS					
DRAWING NO.	TITLE				
					
					

**LEGEND**

---	PROPOSED PERMANENT EASEMENT
---	PROPOSED TEMPORARY WORKSPACE (TWS)
---	PROPOSED ADDITIONAL TEMPORARY WORKSPACE (ATWS)
---	PROPOSED PIPELINE
---	PROPERTY LINE
---	EDGE OF R.O.W. LINE/EASEMENT
---	DELINEATED WETLAND BOUNDARY
---	STREAM
---	H.T.L.
---	MEAN LOW LOWER WATER (MLLW)
---	IMPACTED AREA
---	EXISTING SHELL PIPELINE
---	EXISTING CHAINLINK FENCE
---	STONE WALL
---	EDGE OF BRUSH
---	EDGE OF WOODS
---	TOPOGRAPHIC CONTOUR (INTERVAL 2 FT.)
---	EROSION CONTROL BARRIER
---	BOUND
---	EXISTING OIL MARKER POST
---	EXISTING OIL VENT PIPE
---	EXISTING SEWER MANHOLE
---	EXISTING MONITORING WELL
---	WETLAND FLAG AND NUMBER
---	UPLAND FLAG AND NUMBER
---	WETLAND SYMBOL

**GENERAL NOTES:**

- EXISTING CONDITIONS SHOWN HEREON ARE THE RESULT OF AN ON THE GROUND SURVEY PERFORMED BY COLER & COLANTONIO, INC. FROM NOVEMBER OF 2003 TO AUGUST OF 2005 AND ARE BASED UPON THE MASSACHUSETTS MAINLAND STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.
- PROPERTY LINE INFORMATION SHOWN HEREON WAS COMPILED FROM ASSASSORS MAPS AND DOES NOT REPRESENT THE RESULT OF A PROPERTY RETRACEMENT SURVEY.
- THE PROPOSED 24" MILL RIVER PIPELINE IS INTENDED TO BE AN IN-SITU REPLACEMENT OF THE EXISTING 20" SHELL PIPELINE.

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	MRP-ACOE-CVR
ACOE PERMIT DRAWING	REV: 1
BRISTOL COUNTY, MASSACHUSETTS	

DRAWN	CAC	DATE	05/18/04
CHECKED	---	DATE	---
APP. BY	---	DATE	---
SCALE	---	---	---

PIPELINE SHEET: COVER SHIT.

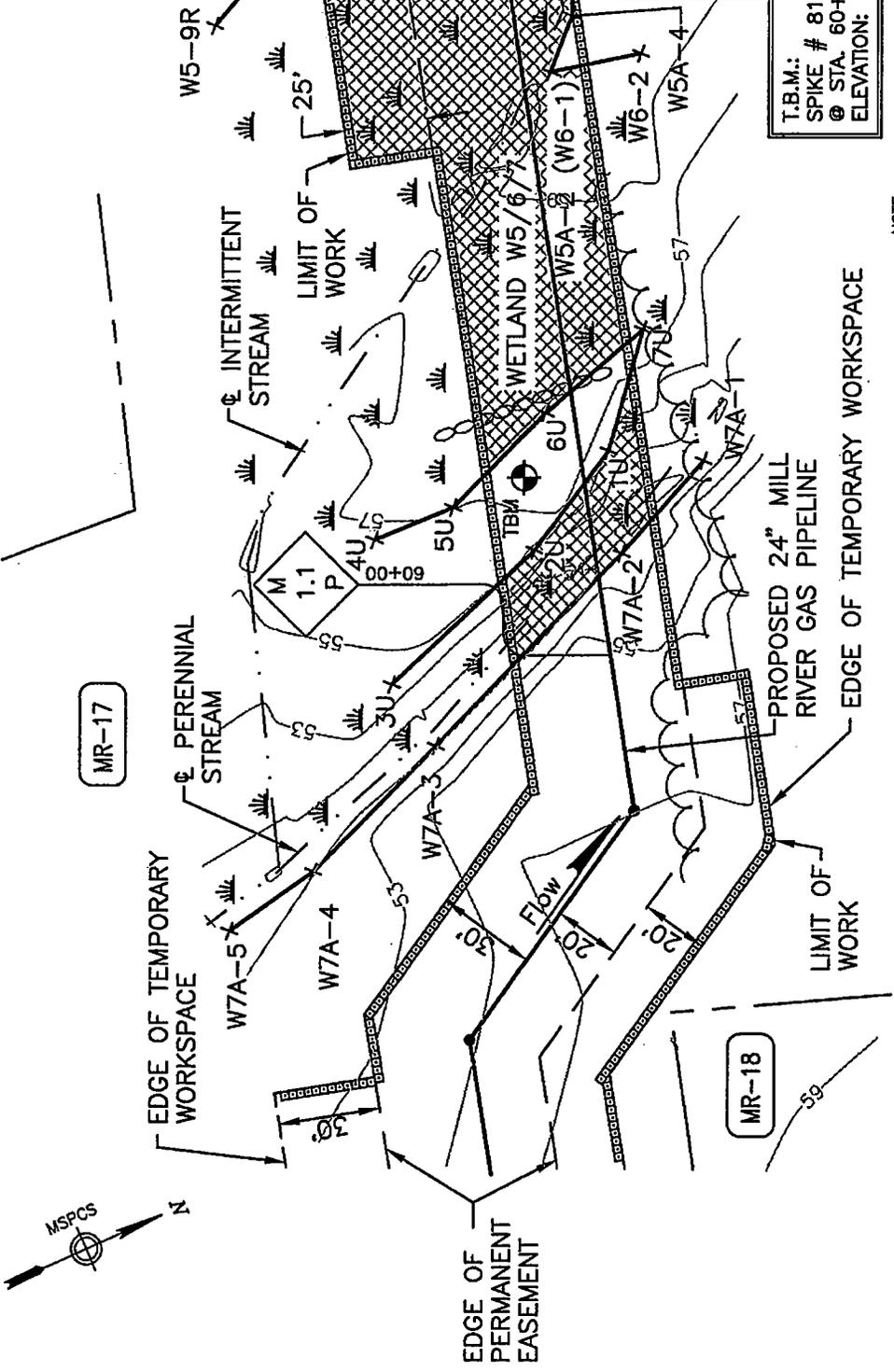
TOWN OF SOMERSET



MR-17

SHT. MRP-WR-ACOE-2P

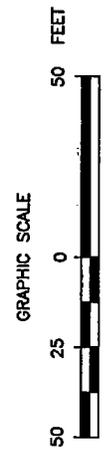
MATCHLINE



T.B.M.:  
SPIKE # 818 18' LEFT OF PROP. PIPE  
@ STA. 60+56  
ELEVATION: 57.3'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH NOVEMBER 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS MAINLAND STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION	REV.	CRD.	APR.
2	10/20/04	REVISED W&E POST MARKER, TBM DESCRIPTION, NOTES, & IMPACT NOTIC.	J.A.	SCS	
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & CONSTRUCTION CORRIDOR.	J.A.	SCS	

REFERENCE DRAWINGS	
DRAWING NO.	TITLE
WCE-AW-A-1001	ALIGNMENT SHEET
WCE-WR-WET-1002	WETLAND SITE SPECIFIC

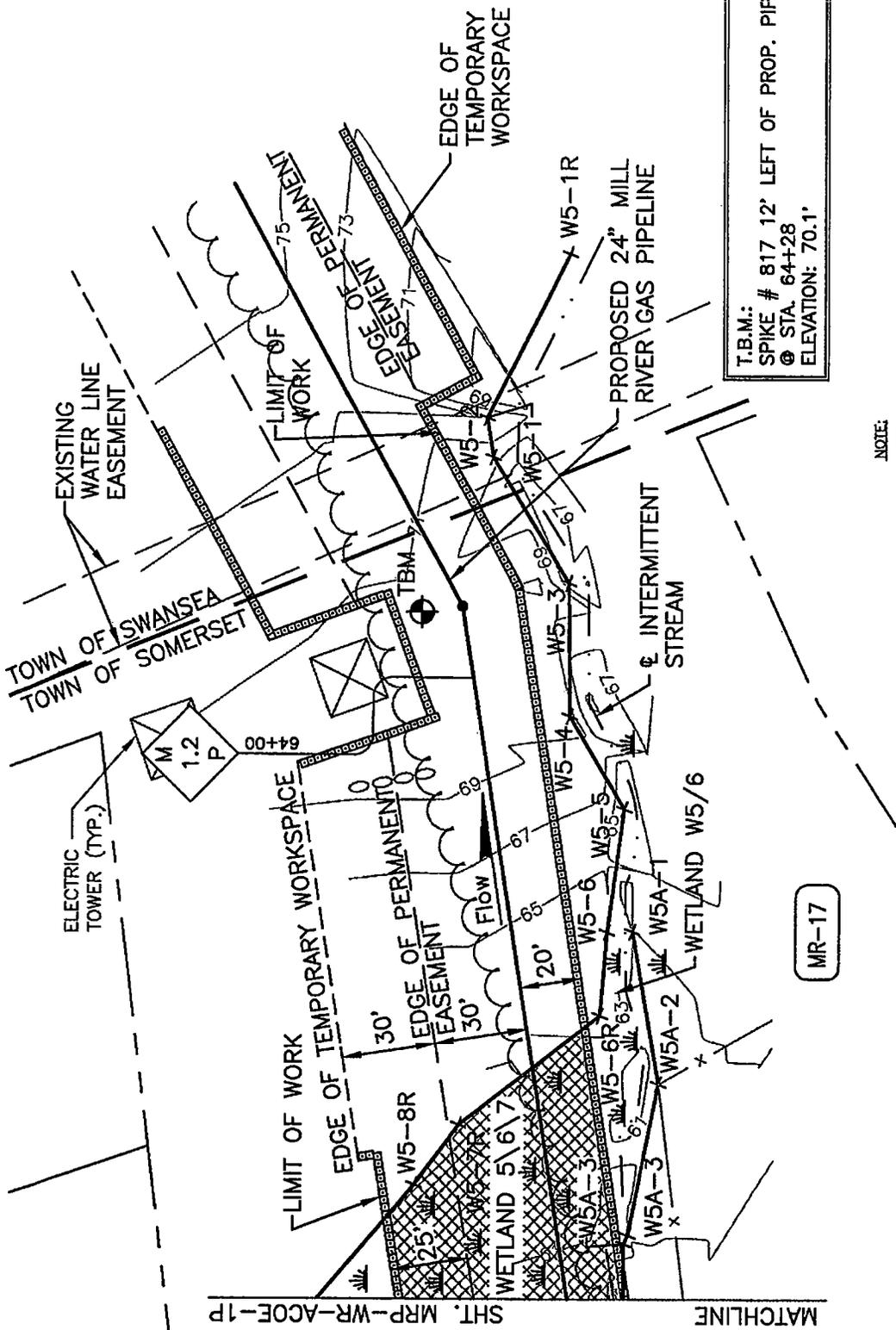
COLLER & COLANTONIO & ASSOCIATES INC. ENGINEERS AND ARCHITECTS

Fig. No.: 4098-1P

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	MRP-WR-ACOE-1P
ACOE PERMIT DRAWING	REV: 2
BRISTOL COUNTY, MASSACHUSETTS	

PIPELINE SHEET: 1 OF 12

TOWN OF SOMERSET & SWANSEA



T.B.M.:  
SPIKE # 817 12' LEFT OF PROP. PIPE  
@ STA. 64+28  
ELEVATION: 70.1'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH NOVEMBER 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION
2	10/20/06	REVISED MILE POST MARKER, PROPERTY LINES, & NOTES.
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROL, & CONSTRUCTION CORRIDOR.

JAA	CAC
JAA	JAA
REV.	CRD./APL.

DATE	DATE	DATE
3/18/04		

DATE	DATE
3/18/04	

REFERENCE DRAWINGS

DRAWING NO.	TITLE
WCE-AW-A-1001	ALIGNMENT SHEET
WCE-WR-WET-1002	WETLAND SITE SPECIFIC
WCE-WR-WET-1003	WETLAND SITE SPECIFIC

COLLER & COLANTONIO  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
BOSTON, MA 02109  
TEL: 617-552-2200

MILL RIVER PIPELINE

APPROVED BY

MILL RIVER PIPELINE PROJECT

PROPOSED 24" NATURAL GAS PIPELINE

ACOE PERMIT DRAWING

BRISTOL COUNTY, MASSACHUSETTS

DATE: 3/18/04

DATE: 3/18/04

DATE: 3/18/04

DATE: 3/18/04

SCALE: 1"=50'

PIPELINE SHEET: 2 OF 12

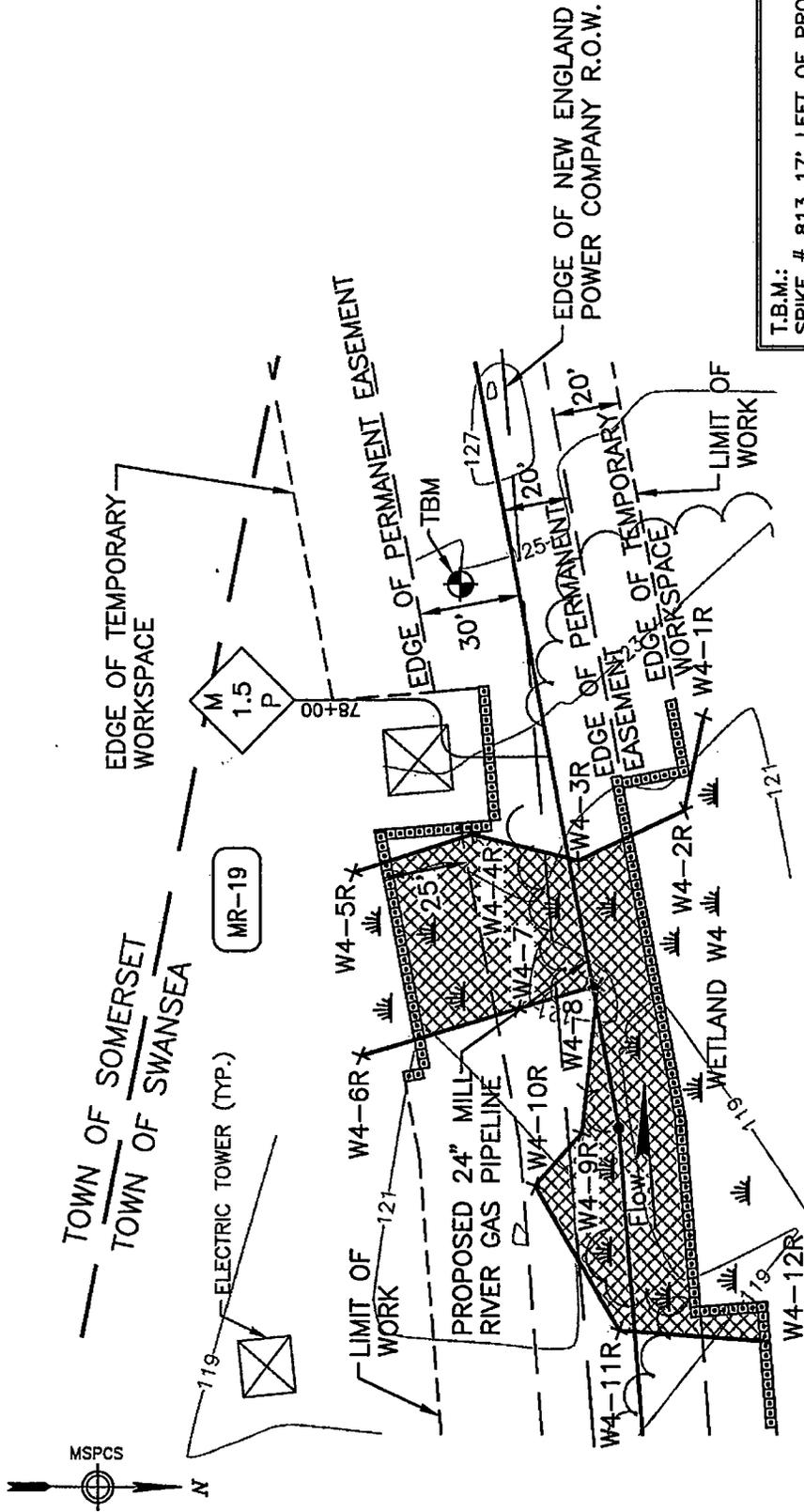
APPROVED BY: MILL RIVER PIPELINE

REV: 2

MR-17

SHT. MRP-WR-ACOE-1P MATCHLINE

TOWN OF SWANSEA



T.B.M.:  
SPIKE # 813 17' LEFT OF PROP. PIPE  
@ STA. 78+55  
ELEVATION: 124.2'

MR-19

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

GRAPHIC SCALE



NO.	DATE	REVISION
2	10/26/06	REVISED MILE POST MARKER, TBM DESCRIPTION, & PROPERTY LINES.
1	7/23/04	REVISED WETLAND LOCATION & EROSION CONTROL.

NO.	DATE	REVISION
REFERENCE DRAWINGS		
WCE-AW-A-1002	ALIGNMENT SHEET	
WCE-WR-WET-1004	WETLAND SITE SPECIFIC	

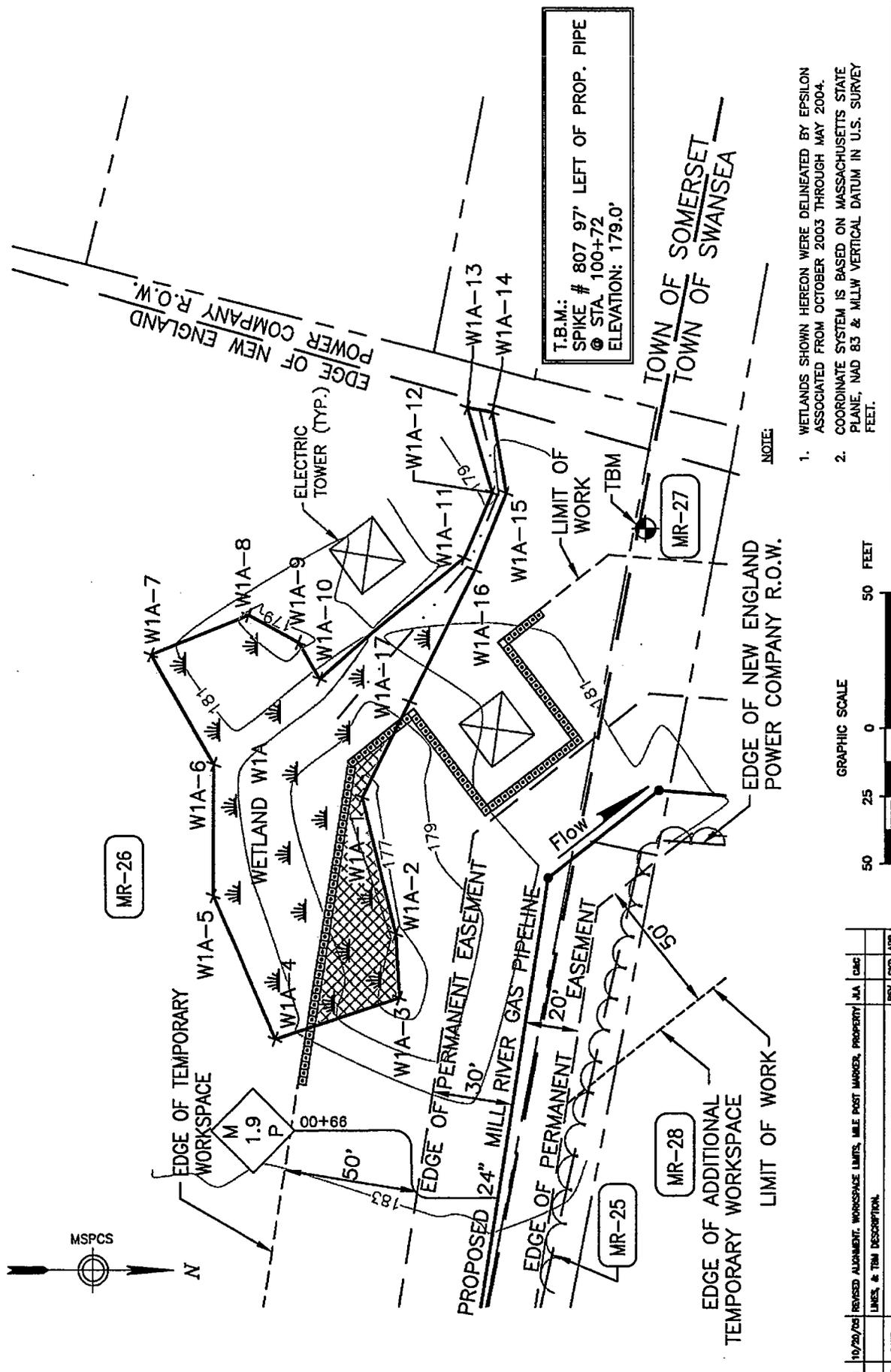
**COLER & COLANTONIO & ASSOCIATES**  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
BOSTON, MA 02109  
TEL: 617-552-1100  
FAX: 617-552-1101  
WWW.CC&A.COM



PIPELINE SHEET: 3 OF 12

File No.: MRP-3P	APPROVED BY
MILL RIVER PIPELINE PROJECT	DATE:
PROPOSED 24" NATURAL GAS PIPELINE	MILL RIVER PIPELINE
ACOE PERMIT DRAWING	MRP-WR-ACOE-3P
BRISTOL COUNTY, MASSACHUSETTS	REV: 2

**TOWN OF SOMERSET**



T.B.M.: SPIKE # 807 97' LEFT OF PROP. PIPE  
 STA 100+72  
 ELEVATION: 179.0'

NOTE:

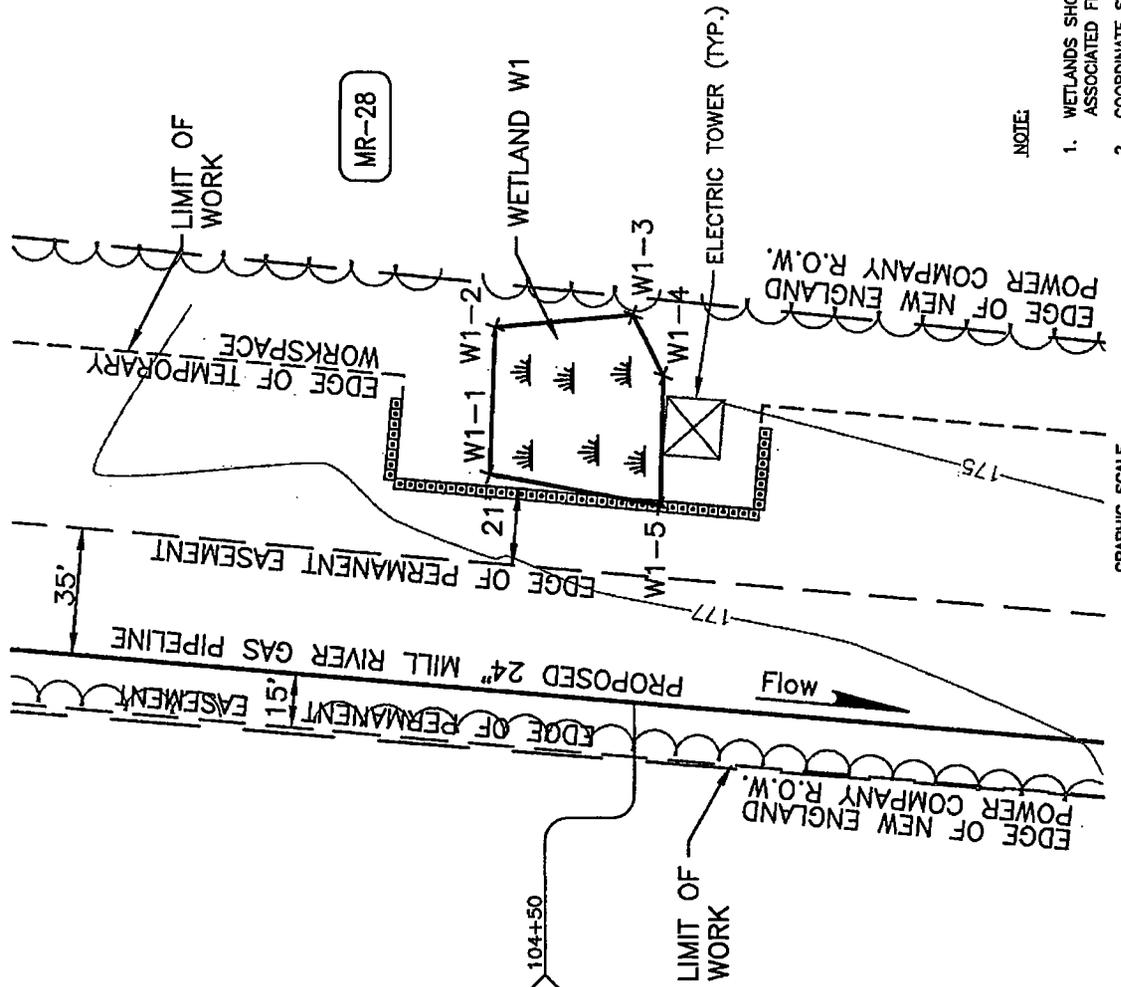
1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.



DRAWING NO. WCE-AW-A-1002 TITLE ALIGNMENT SHEET WCE-WR-WET-1005 WETLAND SITE SPECIFIC		REVISIONS NO. DATE REVISION		REFERENCE DRAWINGS TITLE	
1 10/20/03 REVISED ALIGNMENT, WORKSPACE LIMITS, MILE POST MARKER, PROPERTY J/A LINES, & TBM DESCRIPTION.		1 10/20/03 2 01/20/04 3 03/04/04		COLETT & COLANTONIO ENGINEERS AND ARCHITECTS 200 WEST STREET SUITE 200 SOMERSET, MA 01943	
FILE NO.: 0826-4P		APPROVED BY DATE:		MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS	
PIPELINE SHEET: 4 OF 12		DATE: 8/03/04 CHECKED: [ ] MRP: [ ] APPROVED: [ ] SCALE: 1"=50'		DATE: [ ] DATE: [ ] DATE: [ ] MILL RIVER PIPELINE MRP-WR-ACOE-4P REV: 1	



TOWN OF SWANSEA



MR-28

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILL RIVER VERTICAL DATUM IN U.S. SURVEY FEET.



Fig. No.: 450E-3P

DRAWN	CAC	DATE	3/15/04
CHECKED	JAA	DATE	
INSP	JAA	DATE	
APPROVED	JAA	DATE	
SCALE: 1"=40'			

COLLER & COLANTONIO  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
BOSTON, MA 02109  
TEL: 617-552-1100  
FAX: 617-552-1101

REFERENCE DRAWINGS	
DRAWING NO.	TITLE
WCE-AW-A-1002	ALIGNMENT SHEET
WCE-WR-WET-1008	WETLAND SITE SPECIFIC

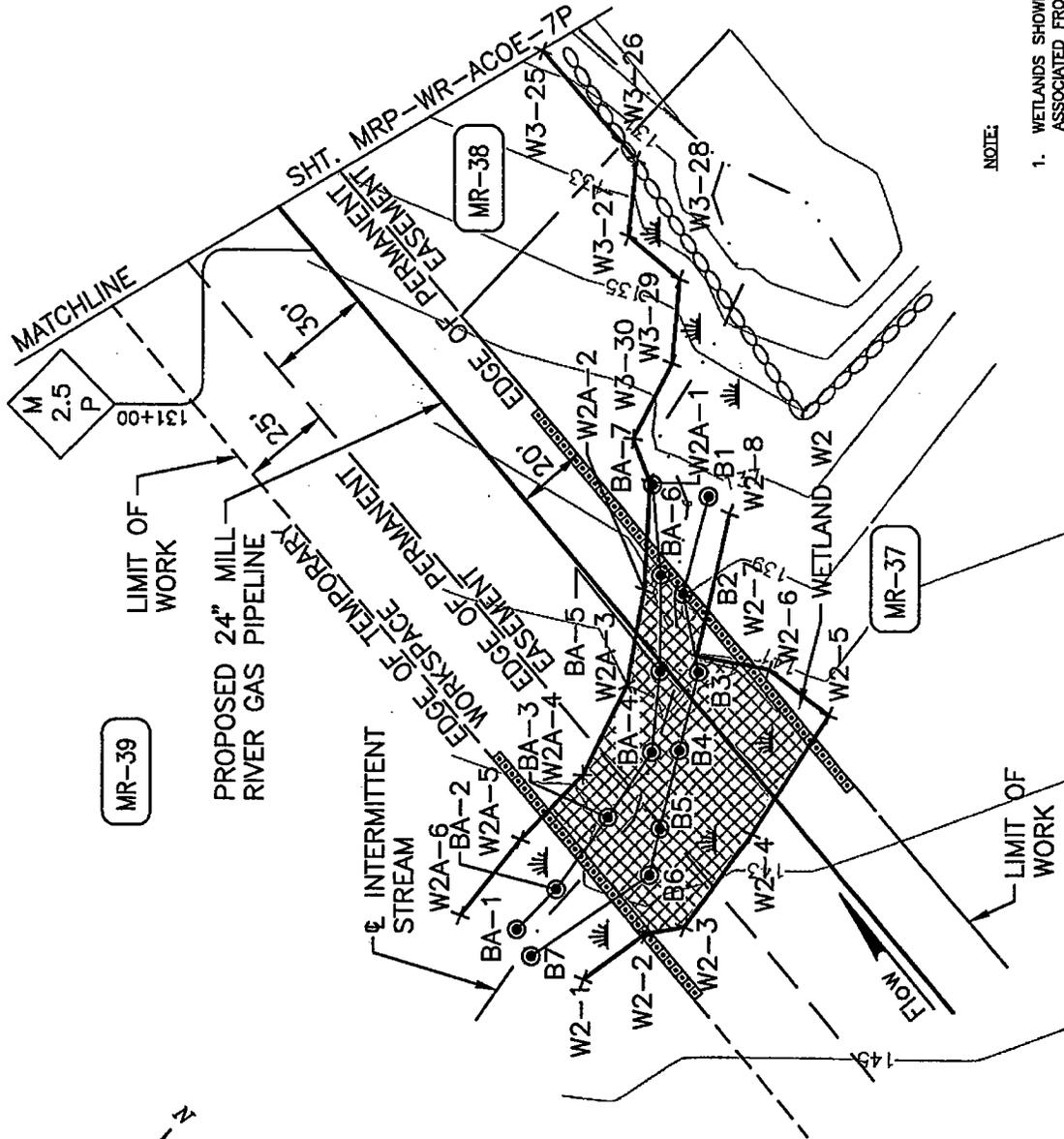
NO.	DATE	REVISION
2	10/20/03	REVISED ALIGNMENT, WORKSPACE LIMITS, & MILE POST MARKER.
1	7/25/04	REVISED EROSION CONTROL.

JAA	CAC
JAA	JAA
REV.	CRD.
APR.	

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	ACOE PERMIT DRAWING
BRISTOL COUNTY, MASSACHUSETTS	MRP-WR-ACOE-5P
REV: 2	

PIPELINE SHEET: 5 OF 12

TOWN OF SWANSEA



NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION	REV.	DATE	BY
1	10/20/06	REVISED MILE POST MARKER & ADDED TRACT NO. MRN-37		JUL	CAC
				REV.	EXP.
				APR	

REFERENCE DRAWINGS	TITLE
WCE-AW-A-1003	ALIGNMENT SHEET
WCE-WR-WET-1007	WETLAND SITE SPECIFIC

COLLER & COLANTONIO  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
SUITE 200  
BOSTON, MA 02109  
TEL: 617-552-1100  
FAX: 617-552-1101

DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
APP		DATE	
APPROVED		DATE	
SCALE	1"=50'		

File No.: 0303-SP

MILL RIVER PIPELINE PROJECT  
PROPOSED 24" NATURAL GAS PIPELINE  
ACOE PERMIT DRAWING  
BRISTOL COUNTY, MASSACHUSETTS

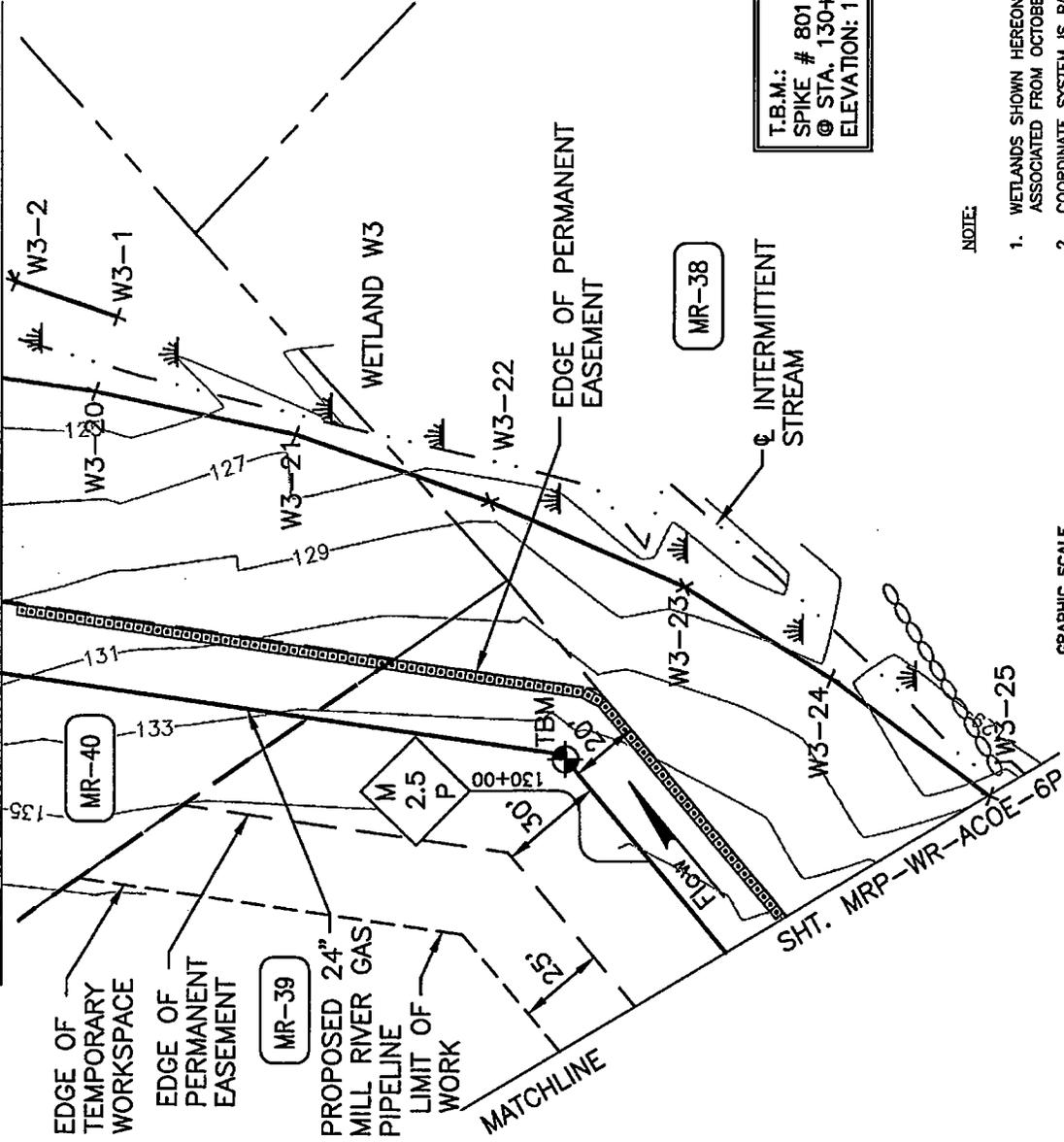
APPROVED BY  
DATE  
MILL RIVER PIPELINE  
MRP-WR-ACOE-6P  
REV. 1

TOWN OF SWANSEA

SHT. MRP-WR-ACOE-8P

MATCHLINE

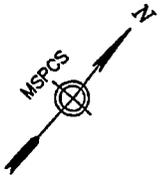
MATCHLINE



T.B.M.:  
SPIKE # 801 0.1' LEFT OF PROP. PIPE  
@ STA. 130+38  
ELEVATION: 133.5'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION	CHKD.	APPV.
1	10/20/04	RENSED MILE POST MARKER, TBM DESCRIPTION, & TRACT NO. MRP-38(1)	JJA	CAC

REFERENCE DRAWINGS	
DRAWING NO.	TITLE
WCE-AW-A-1003	ALIGNMENT SHEET
WCE-WR-WET-1007	WETLAND SITE SPECIFIC

**COLLER & COLANTONIO**  
ENGINEERS AND SURVEYORS  
100 STATE STREET, SUITE 200  
BOSTON, MA 02109  
TEL: 617-552-8800 FAX: 617-552-8801

DRAWN	CHKD.	DATE
CAC	CAC	3/18/04
MRP	MRP	
APPROVED	APPROVED	DATE

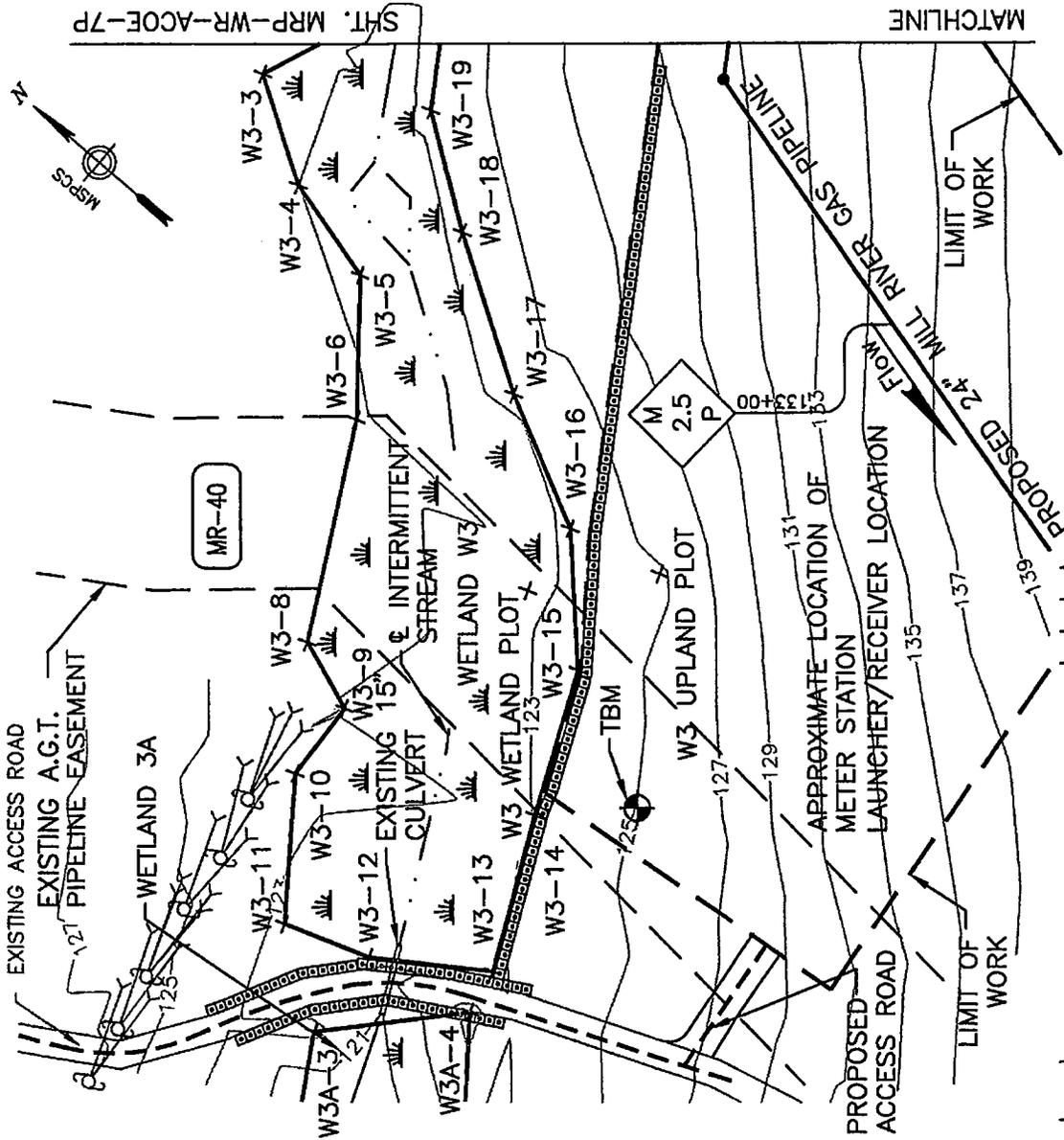
SCALE: 1"=50'

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	
PROPOSED 24" NATURAL GAS PIPELINE	
ACOE PERMIT DRAWING	
BRISTOL COUNTY, MASSACHUSETTS	
MILL RIVER PIPELINE	
MRP-WR-ACOE-7P	
REV: 1	

PIPELINE SHEET: 7 OF 12

File No.: 4895-7P

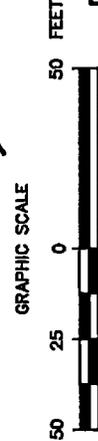
TOWN OF SWANSEA



T.B.M.: SPIKE # 800 141' LEFT OF PROP. PIPE  
 @ STA. 133+72  
 ELEVATION: 124.6'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



DATE	3/18/04
CHECKED	MP
APPROVED	MP
SCALE	1"=50'

COLER & COLANTONIO &  
 ENGINEERS AND ARCHITECTS  
 100 STATE STREET  
 BRISTOL COUNTY, MASSACHUSETTS

MILL RIVER PIPELINE

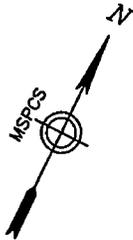
NO.	DATE	REVISION
2	10/20/04	REVISED MILE MARKER POST, TBM DESCRIPTION, & ADDED EASEMENT, & PROPOSED ACCESS ROADS.
1	7/23/04	REVISED EROSION CONTROL.

DATE	3/18/04
CHECKED	MP
APPROVED	MP
SCALE	1"=50'

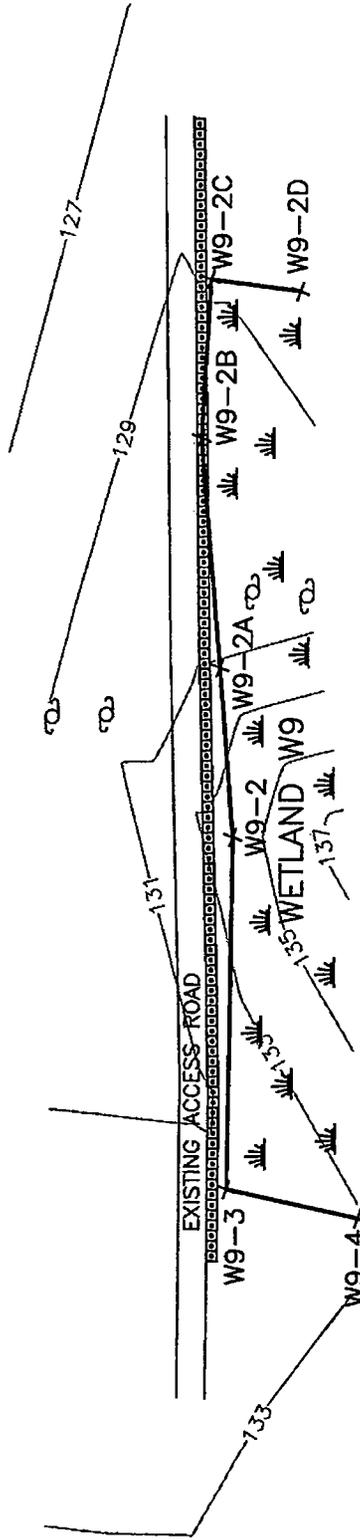
DRAWING NO.	WCE-AW-A-1003
TITLE	ALIGNMENT SHEET
WCE-MR-WET-1007	WETLAND SITE SPECIFIC

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	ACOE PERMIT DRAWING
BRISTOL COUNTY, MASSACHUSETTS	MRP-WR-ACOE-8P
REV: 2	

**TOWN OF SWANSEA**



MR-41



**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISED WETLAND LOCATION & EROSION CONTROL	REVISION	JVA REV.	SCS CHKD.	APR.
1	7/23/04					

DRAWING NO.	TITLE
WCE-AW-A-1003	ALIGNMENT SHEET
WCE-WR-WET-1008	WETLAND SITE SPECIFIC

**COLER & COLANTONIO**  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
BOSTON, MA 02109  
TEL: 617-552-8800  
FAX: 617-552-8801

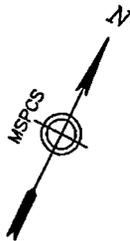


PIPELINE SHEET: 9 OF 12

File No. ACOE-9P

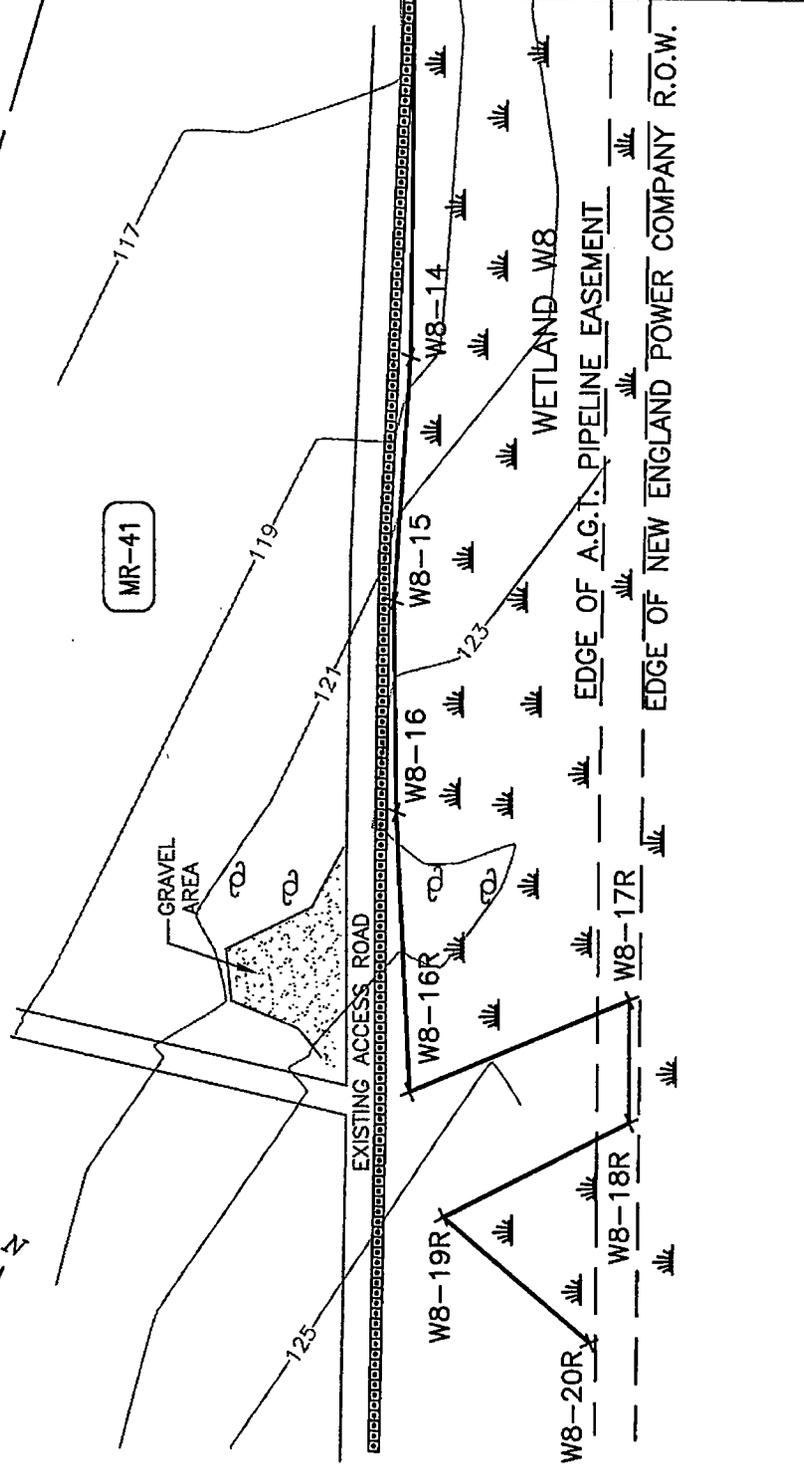
APPROVED BY	DATE
MILL RIVER PIPELINE	
MILL RIVER PIPELINE	
ACOE PERMIT DRAWING	
BRISTOL COUNTY, MASSACHUSETTS	
MRP-WR-ACOE-9P	
REV: 1	

**TOWN OF SWANSEA**



MR-41

SHT. MRP-WR-ACOE-11P MATCHLINE



**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

GRAPHIC SCALE



NO.	DATE	REVISION	REV.	CRD.	APR.	JLA	CAC
2	10/20/08	REVISED R.O.W. LINE & ADDED EASEMENT AND TRACT NO. MR-41.				JLA	CAC
1	7/23/04	REVISED WETLAND LOCATION & EROSION CONTROL				JLA	SJS

NO.	DATE	REVISION
REFERENCE DRAWINGS		
DRAWING NO.	TITLE	
WCE-AW-A-1003	ALIGNMENT SHEET	
WCE-WR-WET-1008	WETLAND SITE SPECIFIC	

**COLLER & COLANTONIO**  
 ENGINEERS AND ARCHITECTS  
 100 STATE STREET, SUITE 200  
 BOSTON, MA 02109  
 TEL: 617-552-1234  
 FAX: 617-552-1235

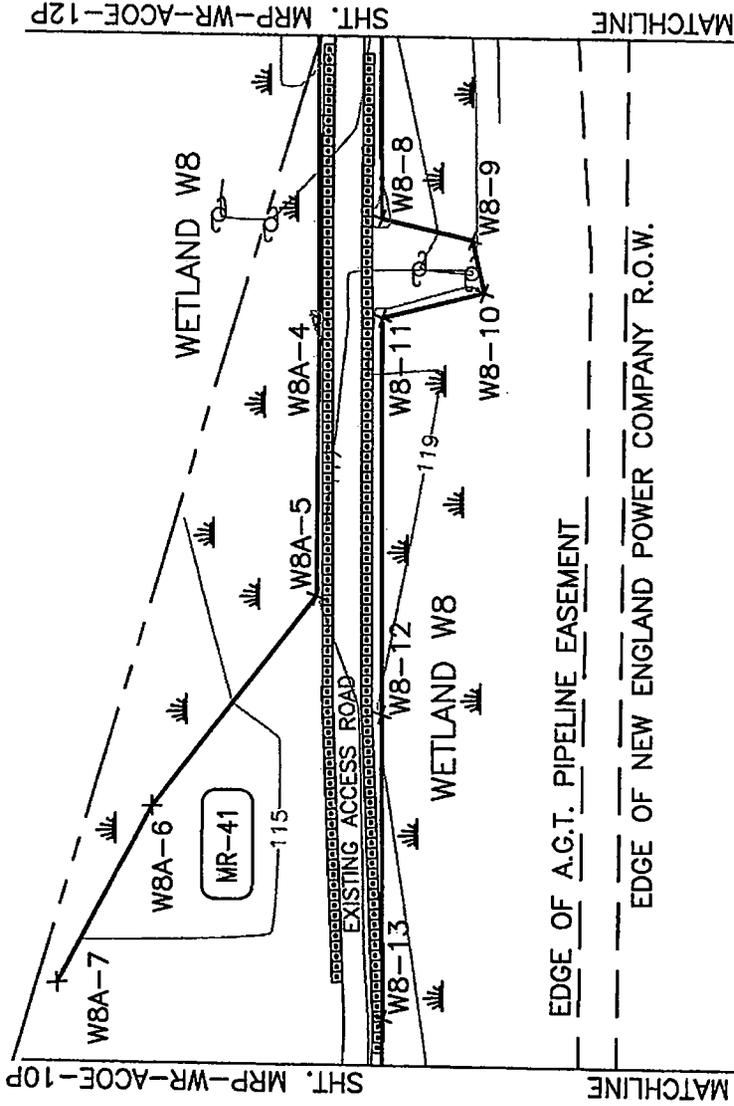
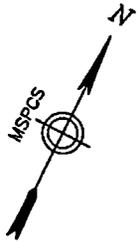
DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
APP		DATE	
APPROVED		DATE	
SCALE: 1"=50'			

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
**MILL RIVER PIPELINE**  
 PROPOSED 24" NATURAL GAS PIPELINE  
 ACOE PERMIT DRAWING  
 BRISTOL COUNTY, MASSACHUSETTS  
 MRP-WR-ACOE-10P  
 REV: 2

PIPELINE SHEET: 10 OF 12

File No.: 088E-10P

TOWN OF SWANSEA



**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION	J.A. REV.	C.B.C. (D.D.)	M.P.T.
1	10/20/06	REVISED PLAIN LINE & ADDED EASEMENT.			

REFERENCE DRAWINGS	TITLE
WCE-AW-A-1003	ALIGNMENT SHEET
WCE-WR-WET-1008	WETLAND SITE SPECIFIC

**COLER & COLANTONIO & ASSOCIATES**  
 ENGINEERS AND ARCHITECTS  
 25 STATE STREET  
 SUITE 200  
 BOSTON, MA 02109  
 TEL: 617-552-1100  
 FAX: 617-552-1101  
 WWW.CC&C.COM



PIPELINE SHEET: 11 OF 12

DRAWN	C.B.C.	DATE	3/10/04
CHECKED		DATE	
MAP		DATE	
APPROVED		DATE	
SCALE: 1"=50'			

File No.: 488E-11P

**MILL RIVER PIPELINE PROJECT**

**PROPOSED 24" NATURAL GAS PIPELINE**

**ACOE PERMIT DRAWING**

**BRISTOL COUNTY, MASSACHUSETTS**

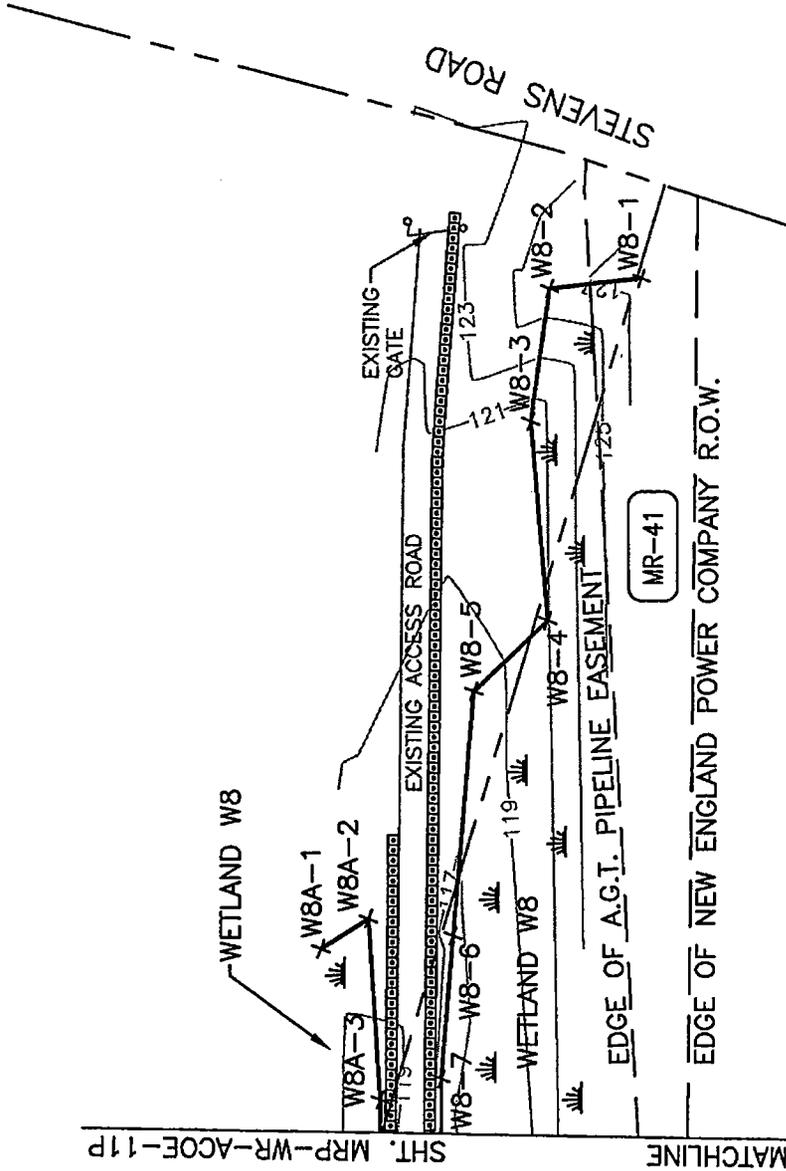
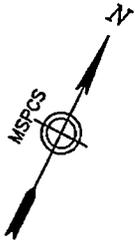
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

MILL RIVER PIPELINE

MRP-WR-ACOE-11P

REV: 1

TOWN OF SWANSEA



NOTE:  
1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATED FROM OCTOBER 2003 THROUGH MAY 2004.



NO.	DATE	REVISED PROPERTY, R.O.W. LINE, & ADDED EASEMENT.	REV.	DATE	APR.
1	10/20/04				

REFERENCE DRAWINGS	TITLE
DRAWING NO. WCE-AW-A-1003	ALIGNMENT SHEET
WCE-WR-WET-1008	WETLAND SITE SPECIFIC

**COLLER & COLANTON**  
ENGINEERS AND ARCHITECTS  
100 WEST STREET  
NEWTON, MASSACHUSETTS 02459  
TEL: 781-552-1100  
FAX: 781-552-1101



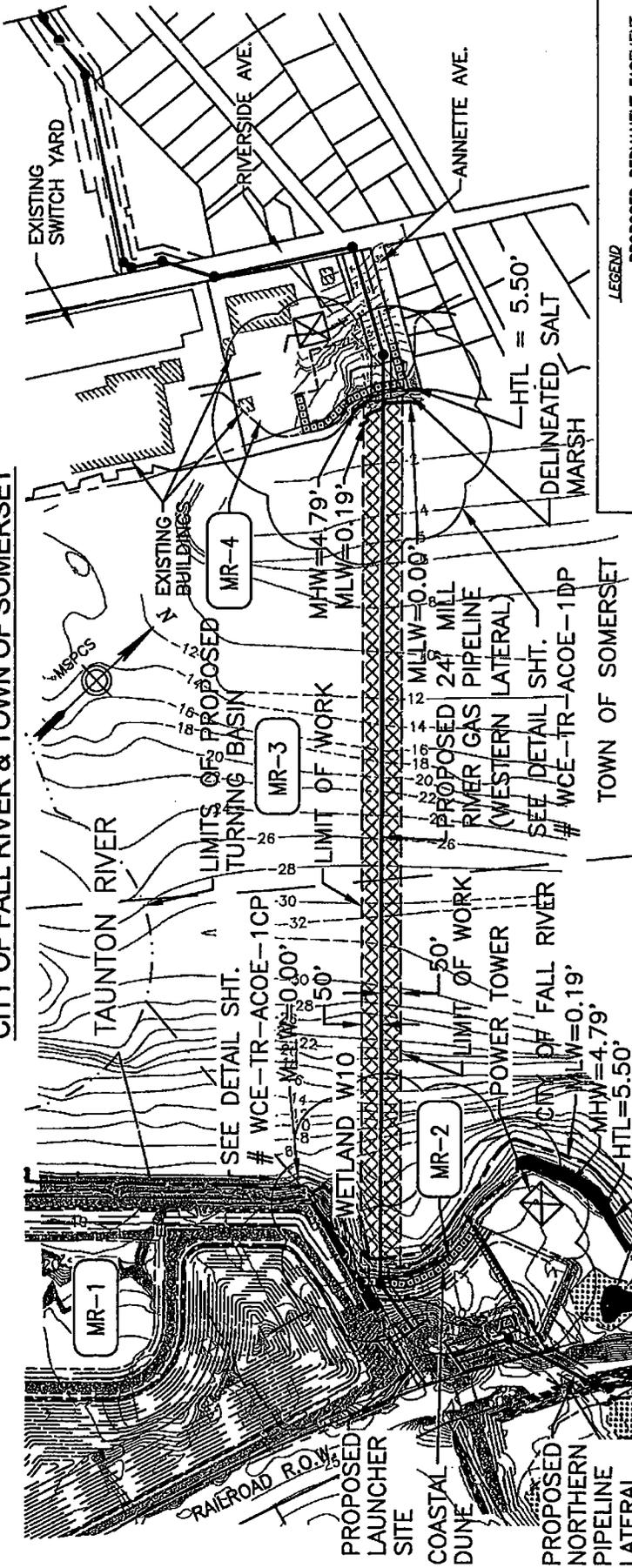
DRAWN	CAC	DATE	3/25/04
CHECKED		DATE	
APPROVED		DATE	
SCALE	1"=50'		

PIPELINE SHEET: 12 OF 12

APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	
PROPOSED 24" NATURAL GAS PIPELINE	
ACOE PERMIT DRAWING	
BRISTOL COUNTY, MASSACHUSETTS	
MILL RIVER PIPELINE	
MRP-WR-ACOE-12P	
REV: 1	

Fig. No.: ACOE-12P

**CITY OF FALL RIVER & TOWN OF SOMERSET**



**LEGEND**

---	PROPOSED PERMANENT EASEMENT
---	PROPOSED TEMPORARY WORKSPACE (TWS)
---	PROPOSED ADDITIONAL TEMPORARY WORKSPACE (ATWS)
---	PROPOSED PIPELINE
---	PROPERTY LINE
---	TOWN BOUNDARY LINE
---	DELIMITED WETLAND EDGE
---	100 YR. FLOOD BOUNDARY
---	25' & 200' RIVERFRONT AREA BOUNDARY
---	APPROXIMATE COASTAL BANK AREA
---	APPROXIMATE DESIGNATED PORT AREA
---	IMPACTED AREA
---	EROSION CONTROL BARRIER
---	TOPOGRAPHIC CONTOUR (INTERVAL 2 FT.)
---	52

**GENERAL NOTES:**

- SALT MARSH SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES IN MARCH 2004.
- ACOE JURISDICTION EXTENDS TO THE HTL (5.50')
- EXISTING AND PROPOSED CONDITIONS SHOWN HEREON ARE THE RESULT OF INFORMATION PROVIDED BY MOFFATT & NICHOL INTERNATIONAL, AND TRI-MONT ENGINEERING CO., AND ARE ALSO THE RESULT OF AN ON THE GROUND SURVEY PERFORMED BY COLER & COLANTONIO, INC. FROM AUGUST 2003 THROUGH MAY 2004, BASED ON THE MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.
- PROPERTY LINE INFORMATION SHOWN HEREON WAS COMPILED FROM ASSESSORS MAPS AND DOES NOT REPRESENT THE RESULT OF A PROPERTY LINE RETRACEMENT SURVEY.
- 100 YR FLOOD BOUNDARY SHOWN HEREON IS BASED UPON THE RESULTS OF AN ON-THE-GROUND SURVEY AND INFORMATION THAT WAS GRAPHICALLY COMPILED FROM FEMA COMMUNITY PANEL NUMBERS 250055 0014 D AND 255220 0001-0002 B.
- COASTAL BANK BOUNDARY INFORMATION WAS PROVIDED BY MOFFATT & NICHOL.
- DESIGNATED PORT AREA INFORMATION WAS PROVIDED BY EPSILON ASSOCIATES, INC.

NO.	DATE	REVISION	REV.	CRD.	APR.
2	10/20/04	REVISED PIPELINE ALIGNMENTS, WORKSPACE LIMITS, PROPOSED LNG SITE INFORMATION, ADDED WETLAND SERIES 4, & PROPOSED LAUNCHER SITE.	JAA		
1	7/23/04	ADDED SURVEY DETAIL INFORMATION TO THE WESTERN SHORELINE	JAA	SCS	
		SYD			

DRAWING NO.	TITLE
WCE-AW-A-1001	ALIGNMENT SHEET
MRP-TR-ACOE-1CP	TAUNTON RIVER DETAIL (EASTERN BANK SIDE)
MRP-TR-ACOE-1DP	TAUNTON RIVER DETAIL (WESTERN BANK SIDE)

DRAWN	CARE	DATE	03/18/04
CHECKED <td> <td>DATE <td></td> </td></td>	<td>DATE <td></td> </td>	DATE <td></td>	
APPROVED <td> <td>DATE <td></td> </td></td>	<td>DATE <td></td> </td>	DATE <td></td>	
SCALE	1"=400'		

**APPROVED BY**

**MILL RIVER PIPELINE PROJECT**

**PROPOSED 24" NATURAL GAS PIPELINE**

**ACOE PERMIT DRAWING**

**BRISTOL COUNTY, MASSACHUSETTS**

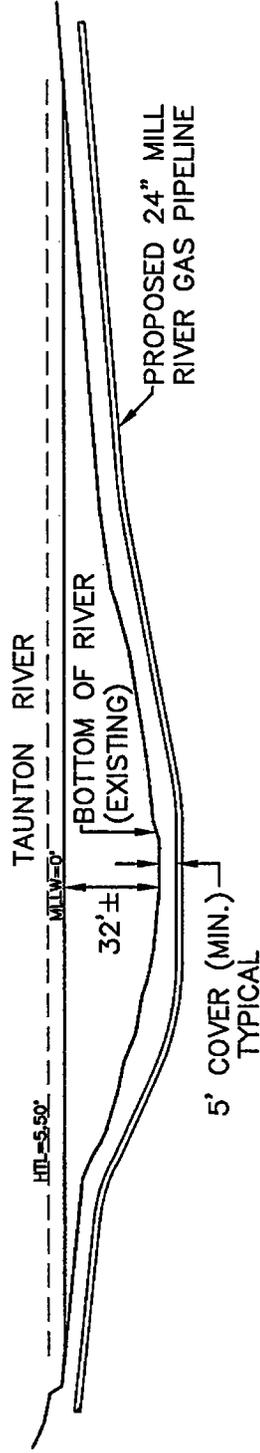
**DATE:** MILL RIVER PIPELINE

**MRP-TR-ACOE-1P**

**REV. 2**



**COLER & COLANTONIO & ASSOCIATES**  
 ENGINEERS AND SURVEYORS  
 100 STATE STREET  
 FALL RIVER, MA 01931



PROFILE  
 HORIZONTAL - 1" = 300'  
 VERTICAL - 1" = 60'

NO.	DATE	REVISION	REV.	CRD.	APP.
		REFERENCE DRAWINGS			
		DRAWING NO.			
		MRP-TR-ACOE-1P			
		TITLE			
		TAUNTON RIVER			

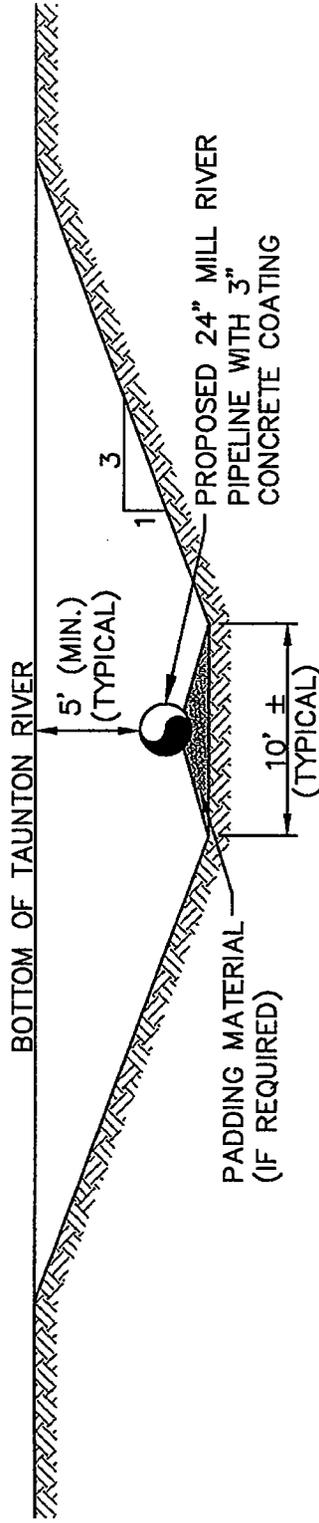
COLLER &  
 COLANTONIO &  
 ENGINEERS AND ARCHITECTS  
 100 STATE STREET  
 BRISTOL, MASSACHUSETTS 01521



DRAWN	CACG	DATE	03/18/04
CHECKED		DATE	
MRP		DATE	
APPROVED		DATE	
SCALE: T-3007			

APPROVED BY	DATE
MILL RIVER PIPELINE	MRP-TR-ACOE-1AP
REV: 0	

File No.: ACOE-TR-1P  
 MILL RIVER PIPELINE PROJECT  
 PROPOSED 24" NATURAL GAS PIPELINE  
 ACOE PERMIT DRAWING  
 BRISTOL COUNTY, MASSACHUSETTS



TYPICAL SECTION VIEW  
NOT TO SCALE

NOTE:

1. 18 INCHES OF PADDING MATERIAL WILL BE REQUIRED, IF ROCK IS PRESENT

1	10/28/06	REVISED SECTION VIEW	J.A. SCS
NO.	DATE	REVISION	REV. (NO. / DATE)
REFERENCE DRAWINGS			
DRAWING NO.	TITLE		
MRP-TR-ACPE-1P	TAUNTON RIVER		

**COLER & COLANTONIO**  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
BOSTON, MA 02109  
TEL: 617.552.3333



Mill River Pipeline

DRAWN	CAC	DATE 03/16/04
CHECKED		DATE
MRP		DATE
APPROVED		DATE
SCALE: N.T.S.		

File No.: ACPE-TR-1BP

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

MILL RIVER PIPELINE PROJECT  
PROPOSED 24" NATURAL GAS PIPELINE

ACOE PERMIT DRAWING  
BRISTOL COUNTY, MASSACHUSETTS

MRP-TR-ACOE-1BP  
REV: 1

PIPELINE SHEETS: 3 OF 7

**CITY OF FALL RIVER**

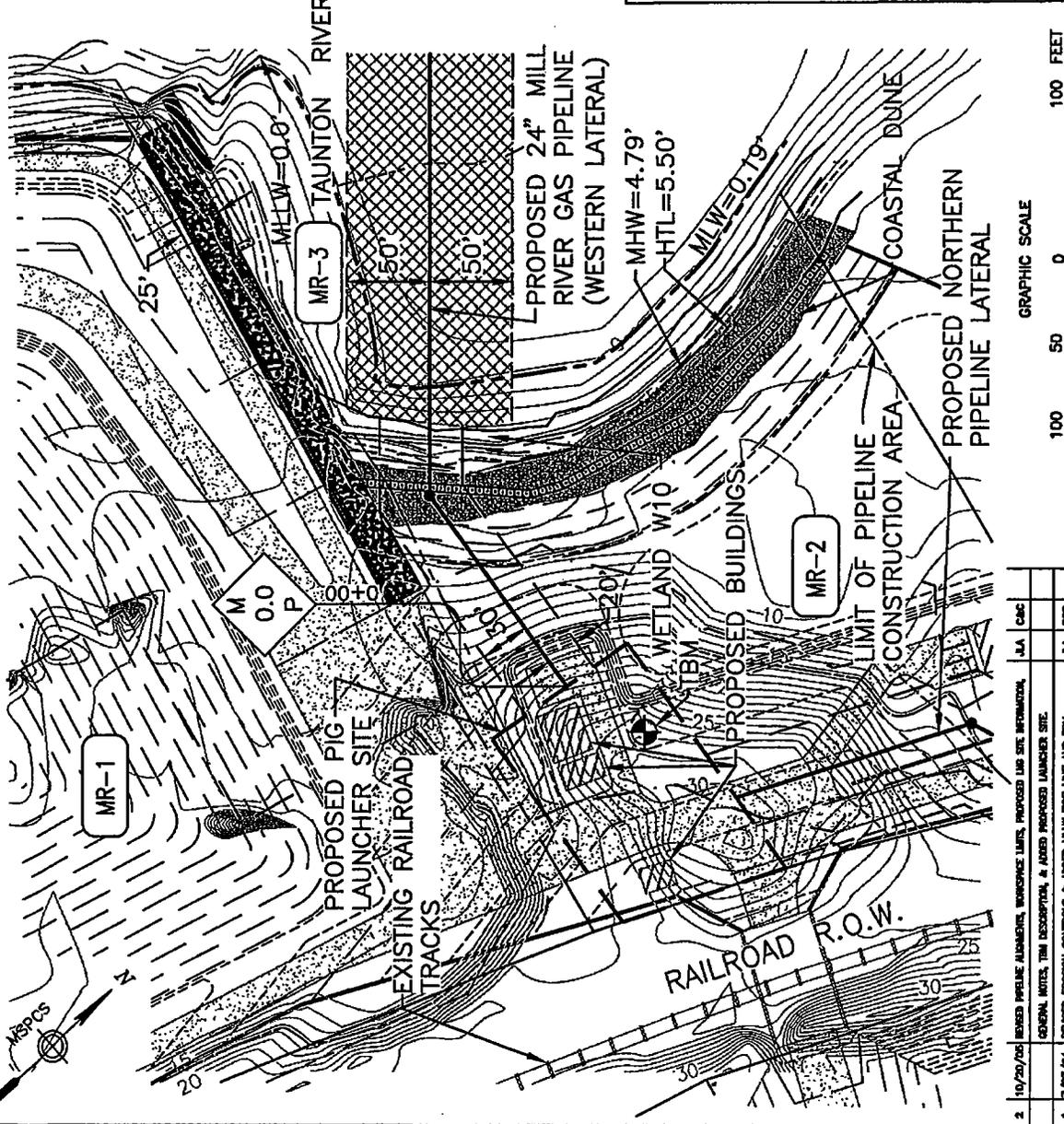
T.B.M.: SPIKE # 502 36' RIGHT OF PROP. PIPE  
 STA. 0-57 (WESTERN LATERAL)  
 ELEVATION: 27.8'

**GENERAL NOTES:**

1. ACOE JURISDICTION EXTENDS TO THE HTL (5.50'). THERE ARE NO VEGETATED WETLANDS IN THIS LOCATION.
2. EXISTING CONDITIONS SHOWN HEREON ARE THE RESULT OF INFORMATION PROVIDED BY MOFFATT & NICHOL AND TRI-MONT ENGINEERING CO.,
3. PROPERTY LINE INFORMATION SHOWN HEREON WAS COMPILED FROM ASSESSORS MAPS AND DOES NOT REPRESENT THE RESULT OF A PROPERTY LINE RETRACEMENT SURVEY.
4. 100 YR FLOOD BOUNDARY SHOWN HEREON IS BASED UPON THE RESULTS OF AN ON-THE-GROUND SURVEY AND INFORMATION THAT WAS COMPILED FROM FEMA COMMUNITY PANEL NUMBER 250055 0014 D.
5. COASTAL BANK BOUNDARY INFORMATION WAS PROVIDED BY MOFFATT & NICHOL.
6. DESIGNATED PORT AREA INFORMATION WAS PROVIDED BY EPSILON ASSOCIATES, INC.

**LEGEND**

---	PROPOSED PERMANENT EASEMENT
- - -	PROPOSED TEMPORARY WORKSPACE (TWS)
- · - · -	PROPOSED ADDITIONAL TEMPORARY WORKSPACE (ATWS)
—●—	PROPOSED PIPELINE
---	PROPERTY LINE
---	100 YR FLOOD BOUNDARY
---	25' RIVERFRONT AREA
---	APPROXIMATE COASTAL BANK BOUNDARY
---	APPROXIMATE DESIGNATED PORT AREA
---	IMPACTED AREA
▨	EROSION CONTROL BARRIER
-----	TOPOGRAPHIC CONTOUR (INTERVAL 1 FT.)
52	



APPROVED BY: \_\_\_\_\_

MILL RIVER PIPELINE PROJECT

PROPOSED 24" NATURAL GAS PIPELINE

ACOE PERMIT DRAWING

BRISTOL COUNTY, MASSACHUSETTS

DATE: \_\_\_\_\_

MILL RIVER PIPELINE

MRP-TR-ACOE-1CP

REV: 2

File No. ACOE-TR-1CP

DRAWN	CAC	DATE	03/18/04
CHECKED		DATE	
APP'D		DATE	
SCALE	1"=100'		

PIPELINE SHEET: 4 OF 7

**COLER & COLANTONIO & ASSOCIATES**

ENGINEERS AND ARCHITECTS

100 STATE STREET, SUITE 200, FALL RIVER, MA 01931

PHONE: 508-671-1111 FAX: 508-671-1112

PROJECT: MILL RIVER PIPELINE

DRAWING NO. \_\_\_\_\_ TITLE \_\_\_\_\_

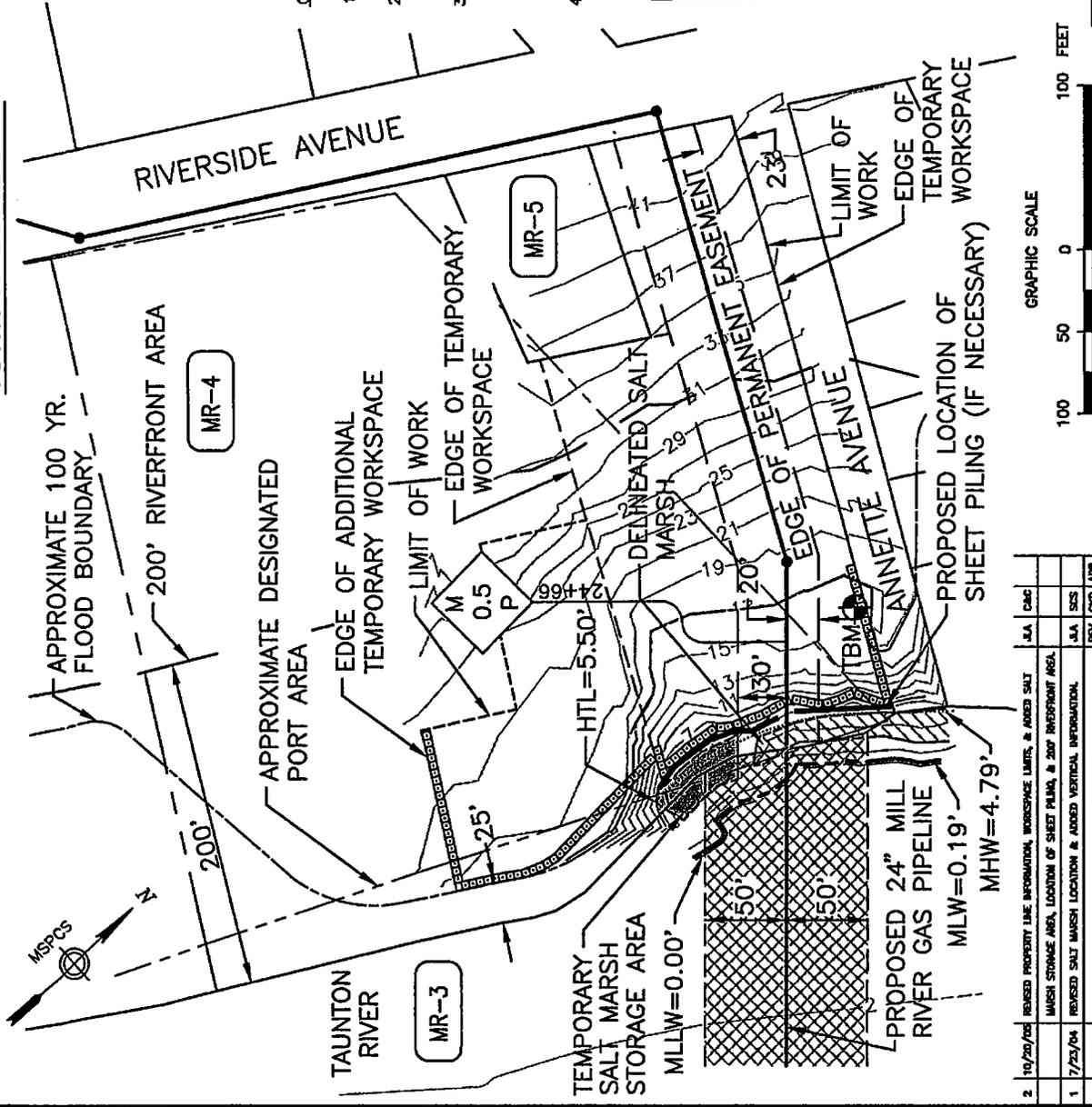
WCE-AW-A-1001 ALIGNMENT SHEET

WCE-TR-ACOE-1P TAUNTON RIVER

NO.	DATE	REVISION
2	10/20/03	BASED PIPELINE ALIGNMENT, BENCHMARK LIMITS, PROPOSED LAB SITE INFORMATION, GENERAL NOTES, TBM DESCRIPTION, & ADDED PROPOSED LAUNCHER SITE.
1	7/22/04	REVISED EROSION CONTROLS & ADDED MLLW TIE LINE AND TBM.

REFERENCE DRAWINGS

TOWN OF SOMERSET



T.B.M.:  
SPIKE # 826 42' RIGHT OF PROP. PIPE  
@ STA. 25+87  
ELEVATION: 15.9'

GENERAL NOTE:

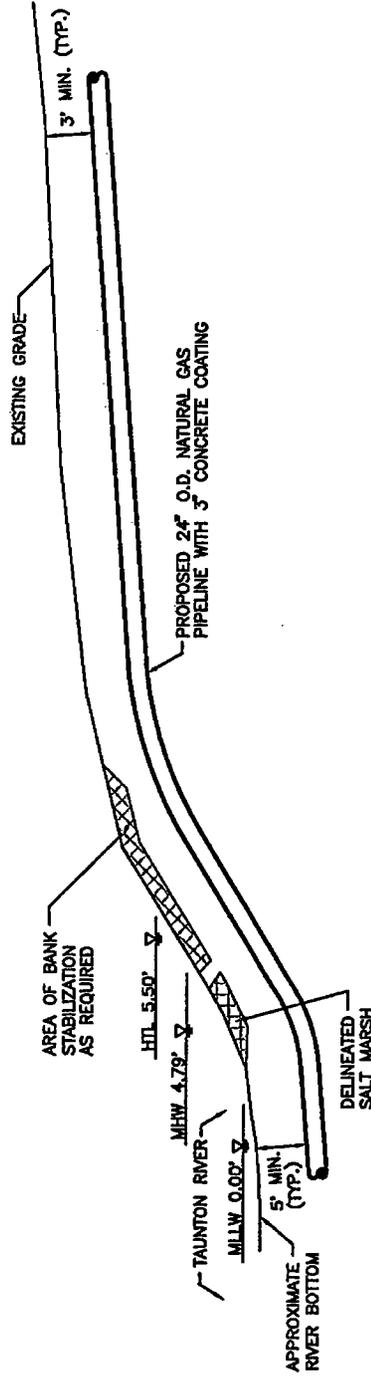
1. SALT MARSH SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES IN MARCH 2004.
2. PROPERTY LINE INFORMATION SHOWN HEREON WAS COMPILED FROM ASSESSORS MAPS AND DOES NOT REPRESENT THE RESULT OF A PROPERTY LINE RETRACEMENT SURVEY.
3. EXISTING CONDITIONS SHOWN HEREON ARE THE RESULT OF AN INFORMATION DERIVED FROM NOAA CHARTS AND THE RESULTS OF AN ON-THE-GROUND SURVEY PERFORMED BY COLER & COLANTONIO, INC., AUGUST 2003 THROUGH APRIL 2004, AND REFERENCED TO MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83 AND MILLW VERTICAL DATUM, IN U.S. SURVEY FEET.
4. COASTAL BANK BOUNDARY AND DESIGNATED PORT AREA INFORMATION WAS PROVIDED BY EPSILON ASSOCIATES, INC.

LEGEND

- PROPOSED PERMANENT EASEMENT
- PROPOSED TEMPORARY WORKSPACE (TWS)
- PROPOSED ADDITIONAL TEMPORARY WORKSPACE (ATWS)
- PROPOSED PIPELINE
- PROPERTY LINE
- 100 YR FLOOD BOUNDARY
- 200' RIVERFRONT AREA
- APPROXIMATE COASTAL BANK BOUNDARY
- APPROXIMATE DESIGNATED PORT AREA
- IMPACTED AREA
- EROSION CONTROL BARRIER
- TOPOGRAPHIC CONTOURS (INTERVAL 2FT.)

DRAWN: COLER & COLANTONIO CHECKED: COLER & COLANTONIO INSP: COLER & COLANTONIO APPROVED: COLER & COLANTONIO DATE: 03/18/04 DATE: 03/18/04 DATE: 03/18/04 DATE: 03/18/04 SCALE: 1"=100' FILE NO.: ACOE-TR-12P		APPROVED BY: COLER & COLANTONIO DATE: 03/18/04	
MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS DATE: 03/18/04 MILL RIVER PIPELINE MRP-TR-ACOE-1DP REV: 2			
REFERENCE DRAWINGS WICE-AW-A-1001 ALIGNMENT SHEET WICE-TR-ACOE-1P TAUNTON RIVER WICE-TR-ACOE-1EP WESTERN BANK UPLAND INTERFACE DETAIL		TITLE: TAUNTON RIVER WESTERN BANK UPLAND INTERFACE DETAIL	
NO. DATE REVISION 1 7/23/04 REVISION: MARSH STORAGE AREA, LOCATION OF SHEET PILING, & 200' RIVERFRONT AREA. 2 10/20/04 REVISION: PROPERTY LINE INFORMATION, WORKSPACE LIMITS, & ADDED SALT MARSH STORAGE AREA.		J.A. CAC J.A. SES REV. CHD./APL.	
PIPELINE SHEET: 5 OF 7			

TOWN OF SOMERSET



UPLAND INTERFACE  
WESTERN BANK  
 NOT TO SCALE

NOTE:  
 1. PROPOSED PIPELINE WILL HAVE A MINIMUM COVER OF 5 FEET UNDER THE RIVER BED AND WILL TRANSITION TO A MINIMUM COVER OF 3 FEET IN ADJACENT UPLAND AREAS.

NO.	DATE	REVISION	J.A.	CAC	S.S.	REV.	COO.	APP.
2	10/20/08	REVISED DETAIL						
1	7/25/04	REVISED BANK STABILIZATION & ADDED SALT MARSH						

DRAWING NO.	TITLE
MRP-TR-ACOE-1P	TAUNTON RIVER
MRP-TR-ACOE-1DP	TAUNTON RIVER DETAIL (WESTERN BANK SIDE)

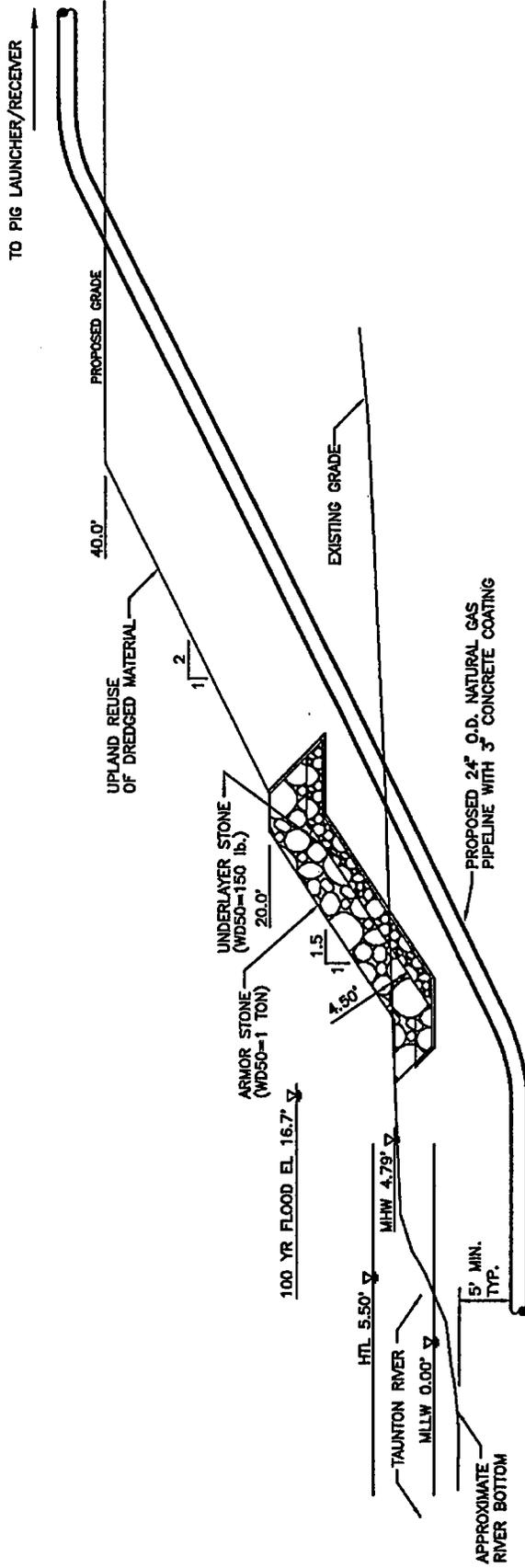
COLER & COLANTONIO  
 ENGINEERS AND ARCHITECTS  
 100 STATE STREET  
 SOMERSET, MASSACHUSETTS 01906  
 TEL: 508-663-1111  
 FAX: 508-663-1112



DRAWN	CAC	DATE	03/18/04
CHECKED		DATE	
MRP		DATE	
APPROVED		DATE	
SCALE	N.T.S.		

FILE No.: ACOE-TR-1P	APPROVED BY
MILL RIVER PIPELINE PROJECT	DATE:
PROPOSED 24" NATURAL GAS PIPELINE	MILL RIVER PIPELINE
ACOE PERMIT DRAWING	MRP-TR-ACOE-1EP
BRISTOL COUNTY, MASSACHUSETTS	REV: 2

CITY OF FALL RIVER



UPLAND INTERFACE  
EASTERN BANK  
NOT TO SCALE

NOTE:  
1. PROPOSED PIPELINE WILL HAVE A MINIMUM COVER OF 5 FEET UNDER THE RIVER BED AND WILL TRANSITION TO A MINIMUM COVER OF 3 FEET IN ADJACENT UPLAND AREAS.

NO.	DATE	ADDED	REFERENCE DRAWING	REVISION	J.A. REV.	CAC. CVD.	APR.
1	10/20/06						

DRAWING NO.	TITLE
MRP-TR-ACOE-1CP	TAJUNTON RIVER DETAIL (EASTERN BANK SIDE)

COLLER & COLANTONIO &  
ENGINEERS AND ARCHITECTS  
100 STATE ST. SUITE 200  
FALL RIVER, MA 01923  
TEL: 508-671-2222 FAX: 508-671-2223



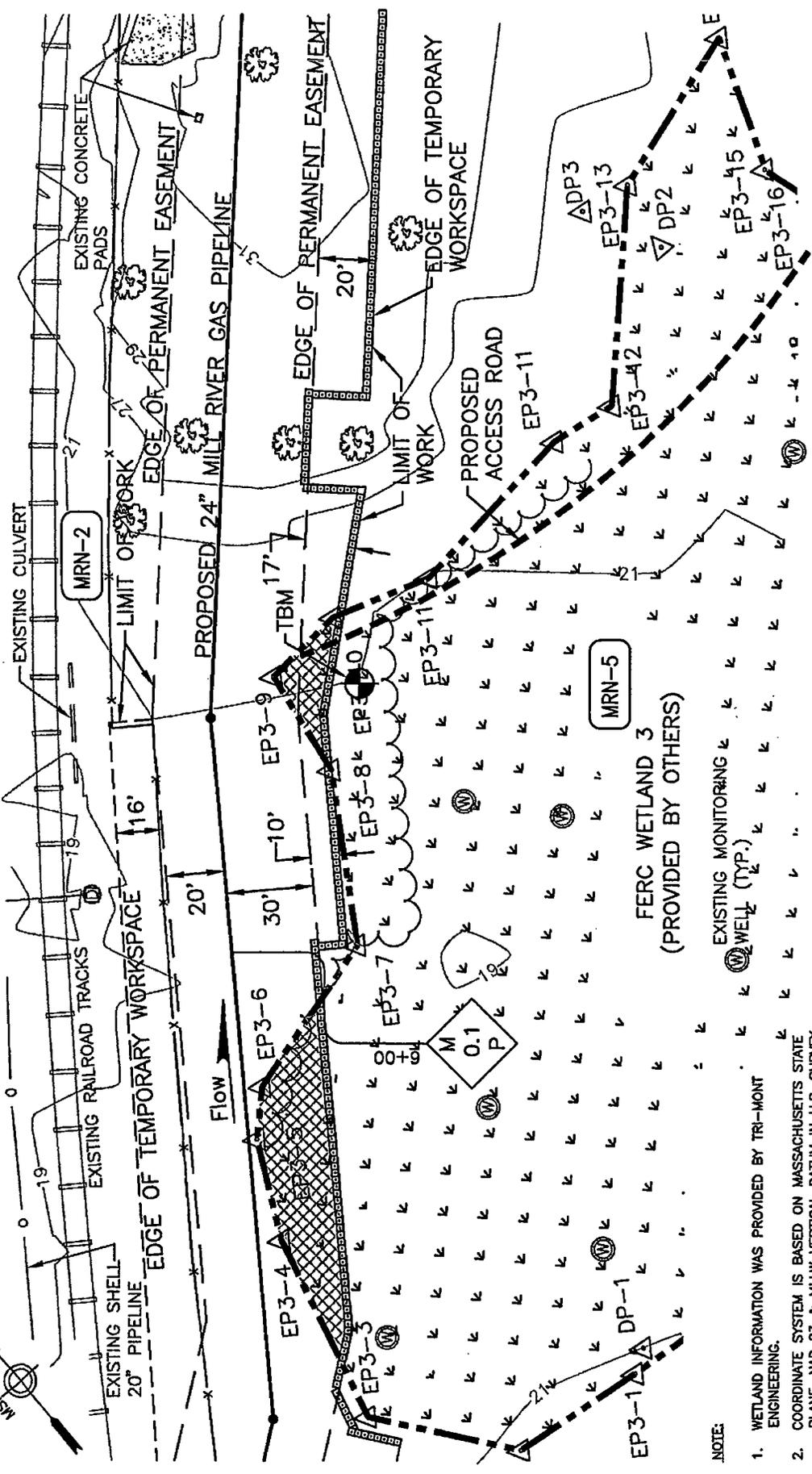
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CHECKED		DATE	
APPROVED		DATE	
SCALE: N.T.S.			

File No.: ACOE-TR-1CP

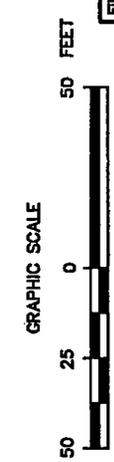
APPROVED BY	DATE
MILL RIVER PIPELINE	
MRP-TR-ACOE-1CP	
REV: 1	

MILL RIVER PIPELINE PROJECT  
PROPOSED 24" NATURAL GAS PIPELINE  
ACOE PERMIT DRAWING  
BRISTOL COUNTY, MASSACHUSETTS

CITY OF FALL RIVER



T.B.M.: SPIKE # 48 51' RIGHT OF PROP. PIPE  
 @ STA. 6+95  
 ELEVATION: 20.3'



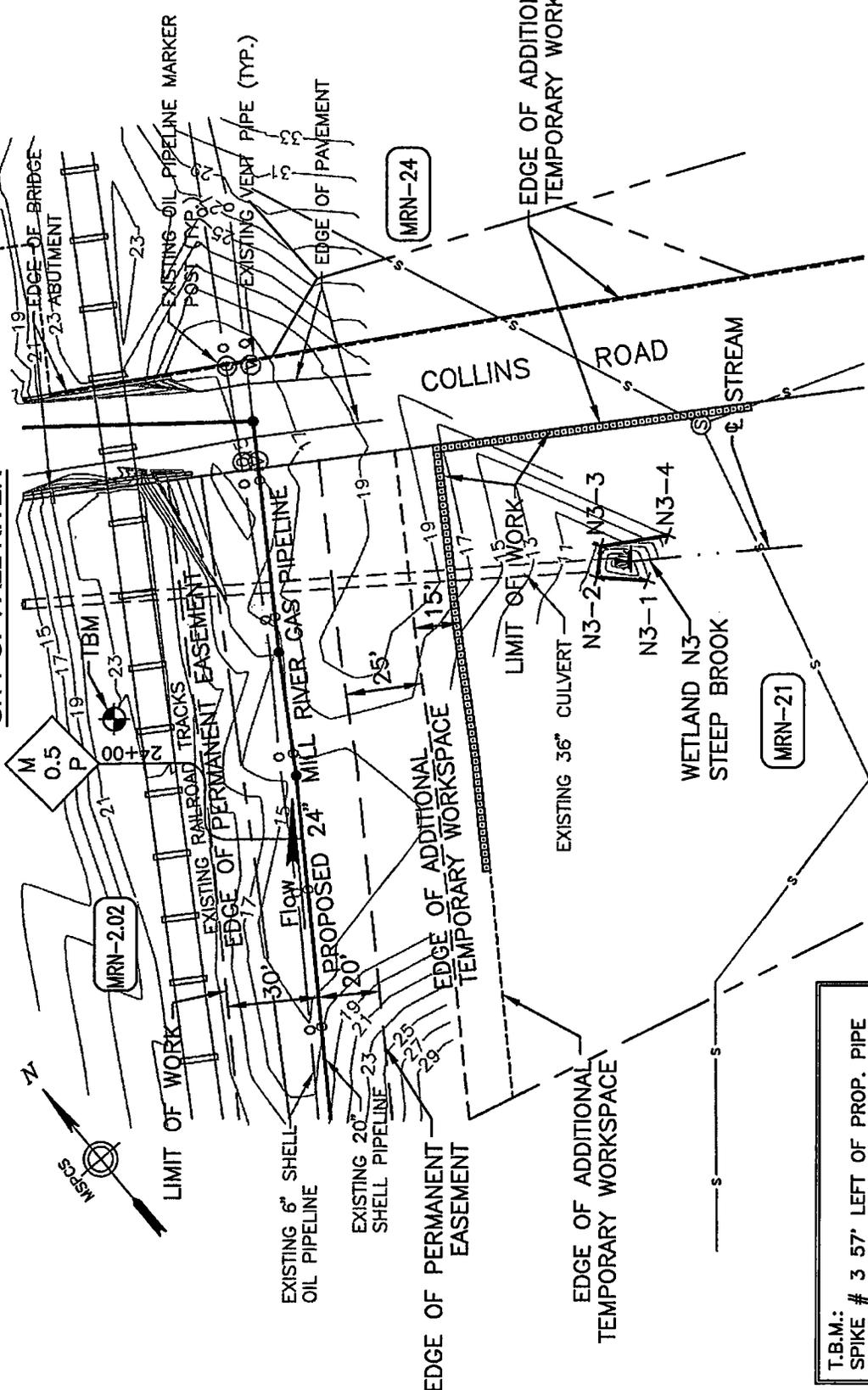
- NOTE:
1. WETLAND INFORMATION WAS PROVIDED BY TRI-MONT ENGINEERING.
  2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	REV. (C/D, A/P)
2	10/20/06	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, ADJACENT WETLANDS & J/A	CAC
		PROPOSED ACCESS ROAD	J/A
1	7/23/04	ADDED SURVEY DETAIL INFORMATION	S/S

DRAWING NO. WCE-AN-A-1001		TITLE ALIGNMENT SHEET	
REFERENCE DRAWINGS			
DRAWN BY COLER & COLANTONIO		DATE 3/18/04	
CHECKED BY	DATE	CAC	DATE
APPROVED BY	DATE	MRP	DATE
SCALE 1" = 50'		APPROVED BY	
PIPELINE SHEET: 1 OF 16		APPROVED BY	
FILE NO.: A00E-1P		DATE	
MILL RIVER PIPELINE PROJECT		MILL RIVER PIPELINE	
PROPOSED 24" NATURAL GAS PIPELINE		MRP-NR-ACOE-1P	
ACOE PERMIT DRAWING		REV: 2	
BRISTOL COUNTY, MASSACHUSETTS			



**CITY OF FALL RIVER**



T.B.M.:  
SPIKE # 3 57' LEFT OF PROP. PIPE  
@ STA. 24+12  
ELEVATION: 22.4'

- NOTE:**
1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MAY 2004.
  2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	JAA	CAC
2	10/20/06	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS.	JAA	CAC
1	7/23/04	AMENDED SURVEY DETAIL INFORMATION	JAA	SJS

NO.	DATE	REVISION

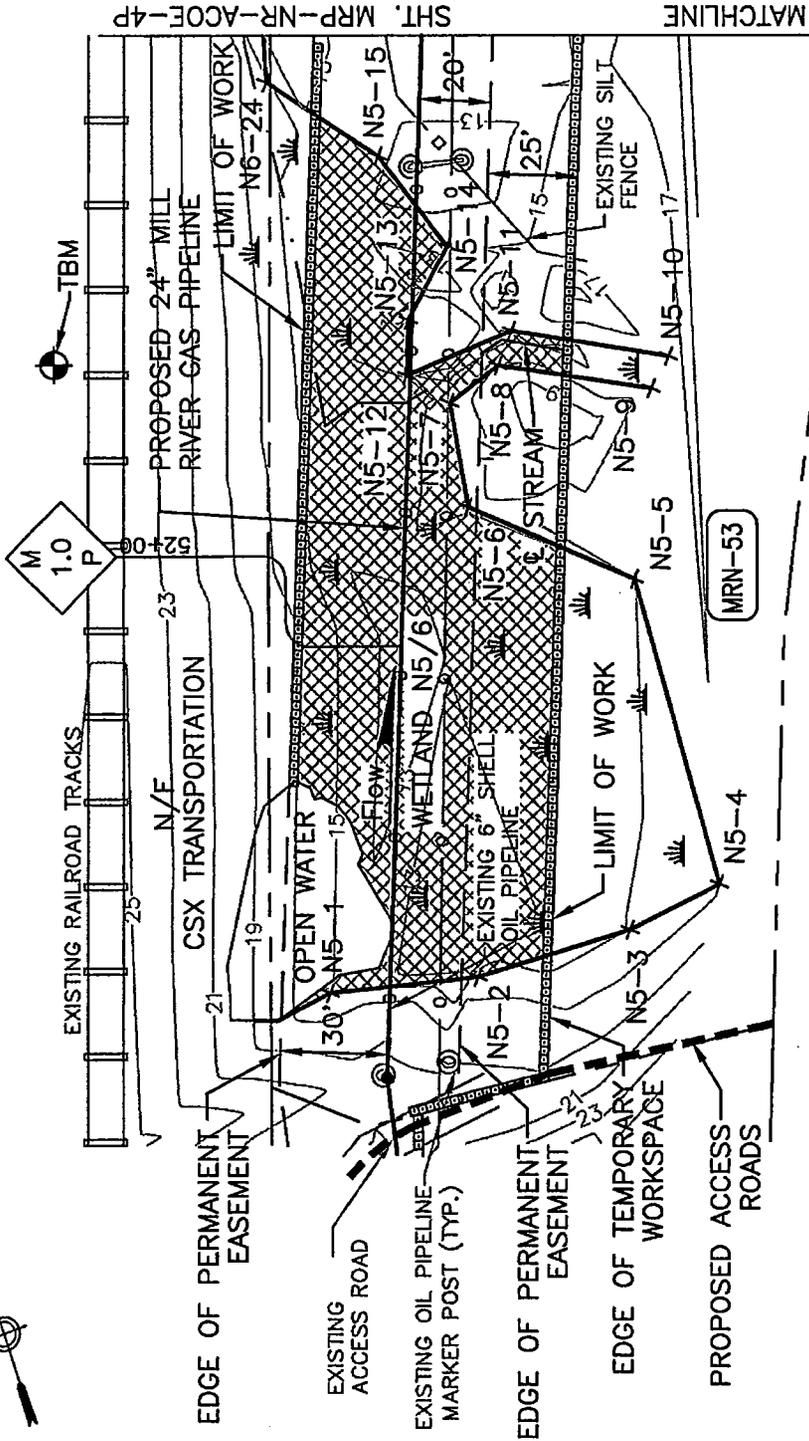
**COLER & COLANTONIO & ASSOCIATES**  
ENGINEERS AND SURVEYORS  
100 STATE STREET  
FALL RIVER, MA 01931  
TEL: 508-671-1111  
FAX: 508-671-1112



DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
MP		DATE	
APPROVED		DATE	
SCALE	1"=50'		

APPROVED BY	
MILL RIVER PIPELINE PROJECT	DATE
PROPOSED 24" NATURAL GAS PIPELINE	MILL RIVER PIPELINE
ACOE PERMIT DRAWING	MRP-NR-ACOE-2P
BRISTOL COUNTY, MASSACHUSETTS	REV: 2

CITY OF FALL RIVER



T.B.M.:  
 SPIKE # 504 100' LEFT OF PROP. PIPE  
 @ STA. 52+75  
 ELEVATION: 23.8'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	REV.	CRD.	APR.
2	10/20/06	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED PROPOSED ACCESS ROADS.	J.A.	CSG	
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.	J.A.	SCS	

GRAPHIC SCALE



REFERENCE DRAWINGS

DRAWING NO.	TITLE
WCE-AN-A-1002	ALIGNMENT SHEET

COLER & COLANTONIO &  
 ENGINEERS AND ARCHITECTS  
 100 STATE STREET  
 FALL RIVER, MASSACHUSETTS 01931



PIPELINE SHEET: 3 OF 16

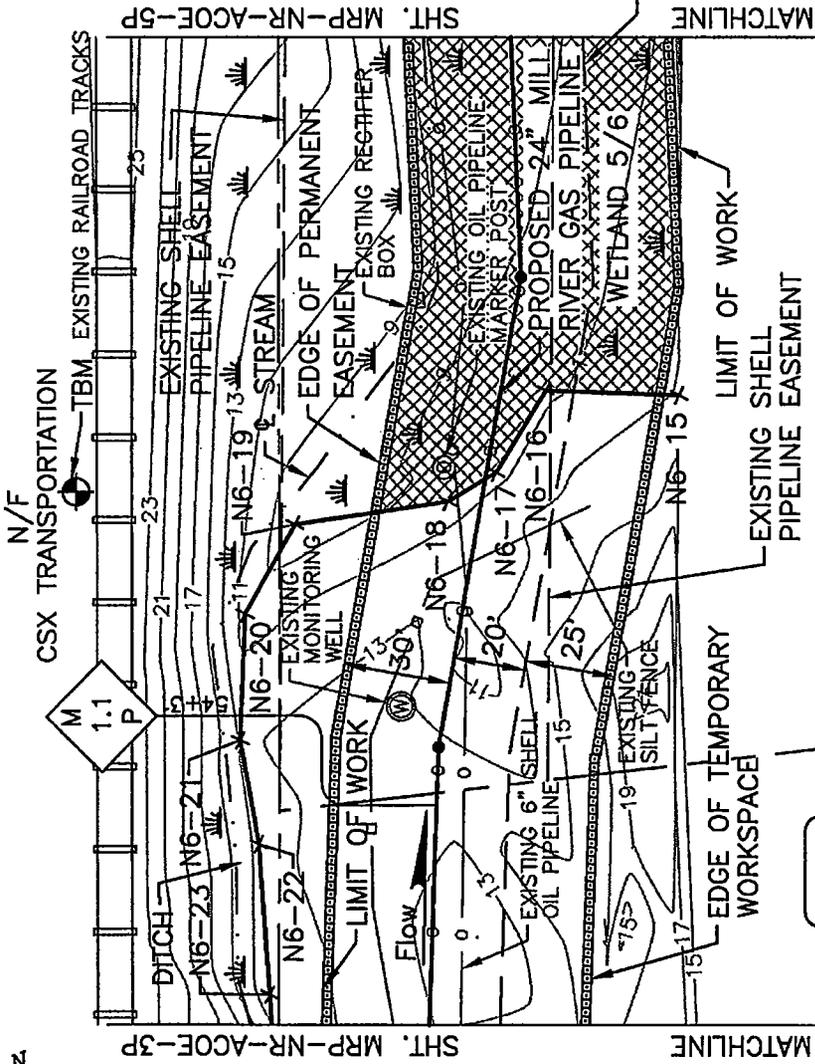
File No.: ACOE-3P

APPROVED BY

MILL RIVER PIPELINE PROJECT  
 PROPOSED 24" NATURAL GAS PIPELINE  
 ACOE PERMIT DRAWING  
 BRISTOL COUNTY, MASSACHUSETTS

DATE: MILL RIVER PIPELINE  
 MRP-NR-ACOE-3P  
 REV: 2

# CITY OF FALL RIVER



T.B.M.:  
SPIKE # 521 112' LEFT OF PROP. PIPE  
@ STA. 54+99  
ELEVATION: 23.6'

MRN-54

MRN-53

NORTH MAIN STREET

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	REV.	CD.	MR.
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL DISBURSE.	JJA	CAC	
1	7/25/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.	JJA	SSS	

REFERENCE DRAWINGS	
DRAWING NO.	TITLE
WCE-AN-A-1002	ALIGNMENT SHEET

DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
MRP		DATE	
APPROVED		DATE	
SCALE: 1" = 50'			



APPROVED BY	
MILL RIVER PIPELINE PROJECT	DATE:
PROPOSED 24" NATURAL GAS PIPELINE	MILL RIVER PIPELINE
ACOE PERMIT DRAWING	MRP-NR-ACOE-4P
BRISTOL COUNTY, MASSACHUSETTS	REV: 2

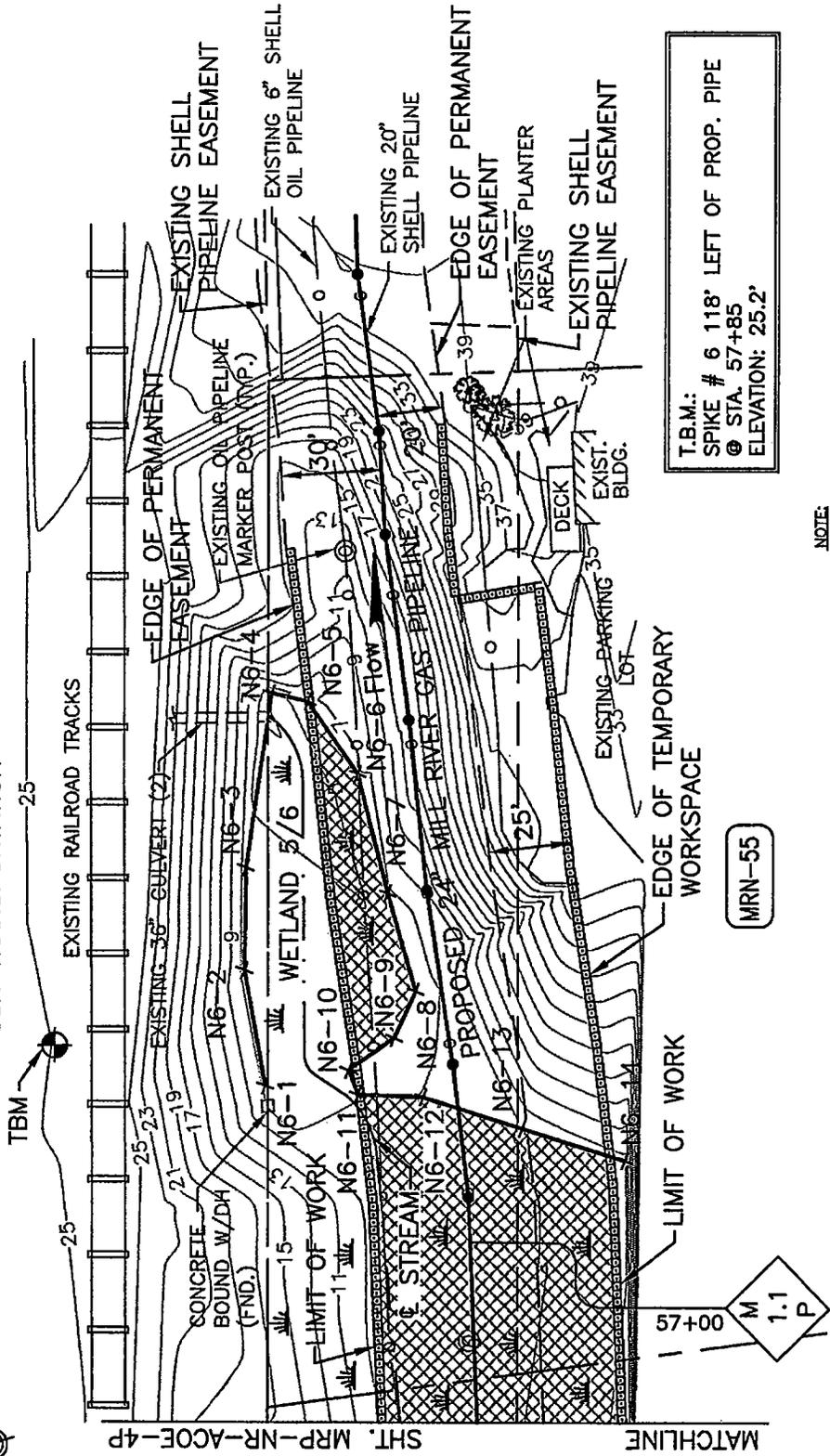
PIPELINE SHEET: 4 OF 16

File No.: 4896-4P

# CITY OF FALL RIVER



N/F  
CSX TRANSPORTATION



T.B.M.:  
SPIKE # 6 118' LEFT OF PROP. PIPE  
@ STA. 57+85  
ELEVATION: 25.2'

MRN-55

**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	REV. CHD./APP.
2	10/20/06	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL EASEMENT.	J.A. CAC
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.	J.A. SCS

GRAPHIC SCALE  
50 25 0 50 100 FEET

DRAWING NO. WCE-AN-A-1002		TITLE ALIGNMENT SHEET	
REFERENCE DRAWINGS			
DRAWN DATE: 3/18/04		CHECKED DATE:	
DESIGNED DATE:		APPROVED DATE:	
SCALE: 1"=50'		FILE NO.: 6036-8P	
COLER & COLANTONIO & ASSOCIATES INC. ENGINEERS AND SURVEYORS 100 STATE ST. FALL RIVER, MA 01931		MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS	
APPROVED BY:		DATE:	
MILL RIVER PIPELINE		MRP-NR-ACOE-5P	
PIPELINE SHEET: 5 OF 16		REV: 2	

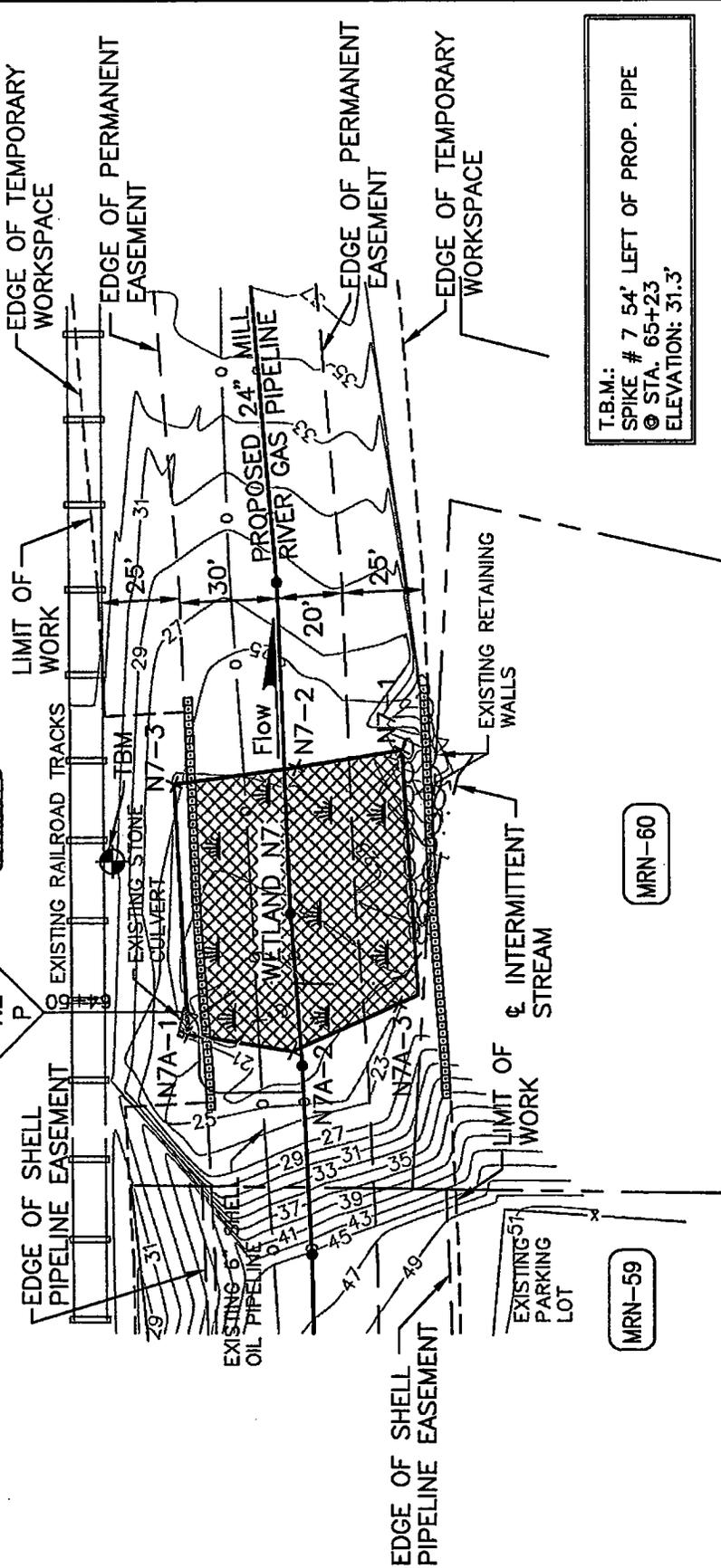


CITY OF FALL RIVER



M  
1.2  
P

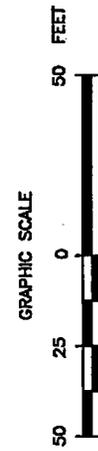
MRN-2.04



T.B.M.:  
SPIKE # 7 54' LEFT OF PROP. PIPE  
@ STA. 65+23  
ELEVATION: 31.3'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MARCH 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



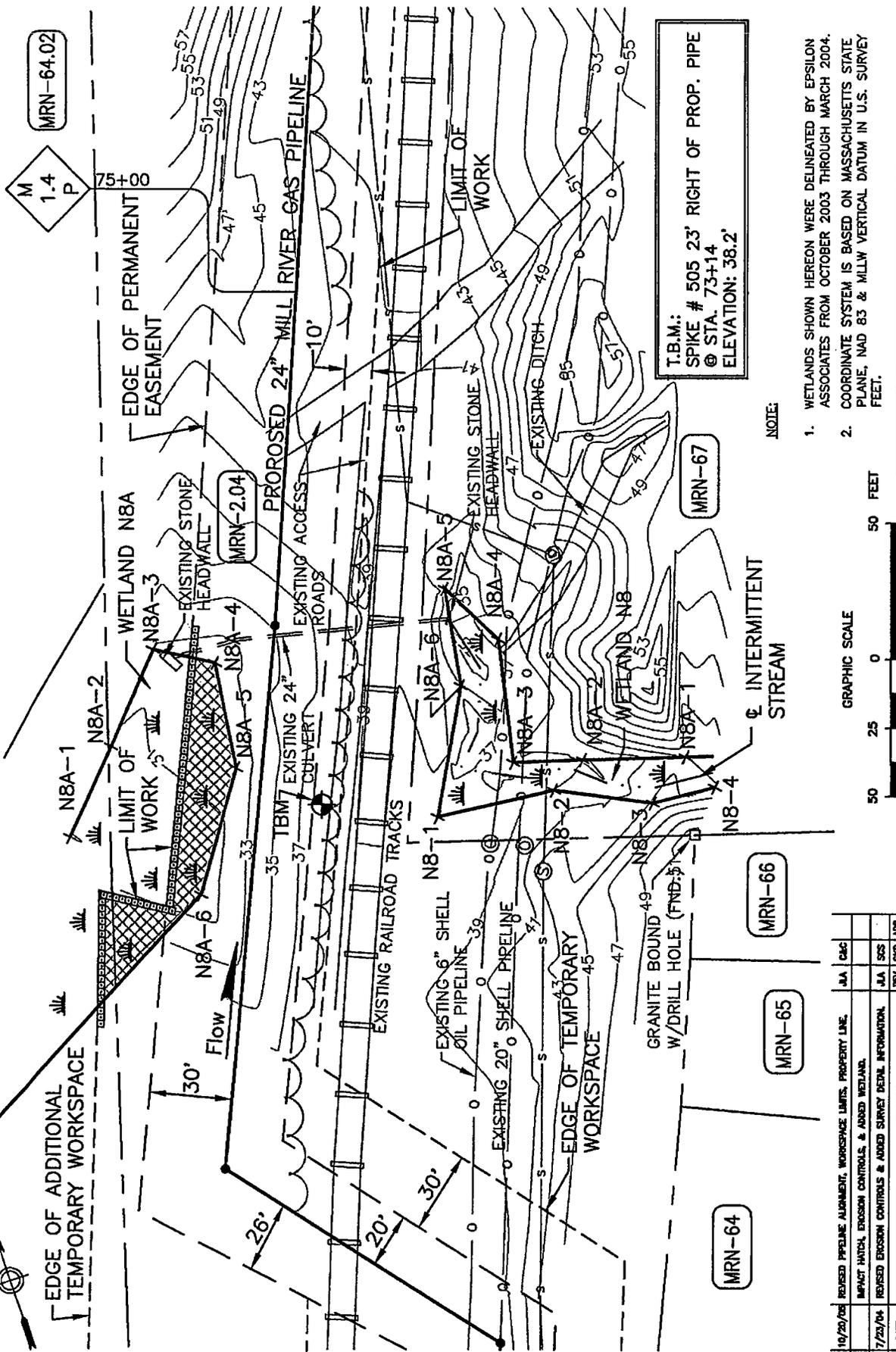
NO.	DATE	REVISION	JAA DMC
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & ADDED SHELL EASEMENT	JAA DMC
1	7/23/04	REVISED EROSION CONTROLS & ADDED SURVEY DETAIL INFORMATION.	JAA SES

DRAWING NO. WCE-AN-A-1002		TITLE ALIGNMENT SHEET	
REFERENCE DRAWINGS			
DRAWN CAG		DATE 3/18/04	
CHECKED MJP		DATE	
APPROVED JAA		DATE	
SCALE: 1"=50'		PIPELINE SHEET: 6 OF 16	
APPROVED BY		MILL RIVER PIPELINE PROJECT	
DATE		PROPOSED 24" NATURAL GAS PIPELINE	
DATE		ACOE PERMIT DRAWING	
DATE		BRISTOL COUNTY, MASSACHUSETTS	
DATE		MRP-NR-ACOE-6P	
DATE		REV: 2	



COLER & COLANTONIO &  
ENGINEERS AND ARCHITECTS  
100 STATE STREET  
FALL RIVER, MA 01931  
TEL: 508-671-1234

CITY OF FALL RIVER



MRN-64.02

MRN-2.04

MRN-67

MRN-65

MRN-66

MRN-64

T.B.M.: SPIKE # 505 23' RIGHT OF PROP. PIPE @ STA. 73+14 ELEVATION: 38.2'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MARCH 2004. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINE, IMPACT HATCH, EROSION CONTROLS, & ADDED WETLAND.
1	7/25/04	REVISED EROSION CONTROLS & ADDED SURVEY DETAIL INFORMATION.

DATE	REVISION
JUL 2004	JJA CAC
JUL 2004	JJA SCS

COLLER & COLANTONIO ENGINEERS AND ARCHITECTS  
700 STATE STREET  
FALL RIVER, MASSACHUSETTS 01923  
TEL: 508-671-1111 FAX: 508-671-1112



PIPELINE SHEET: 7 OF 16

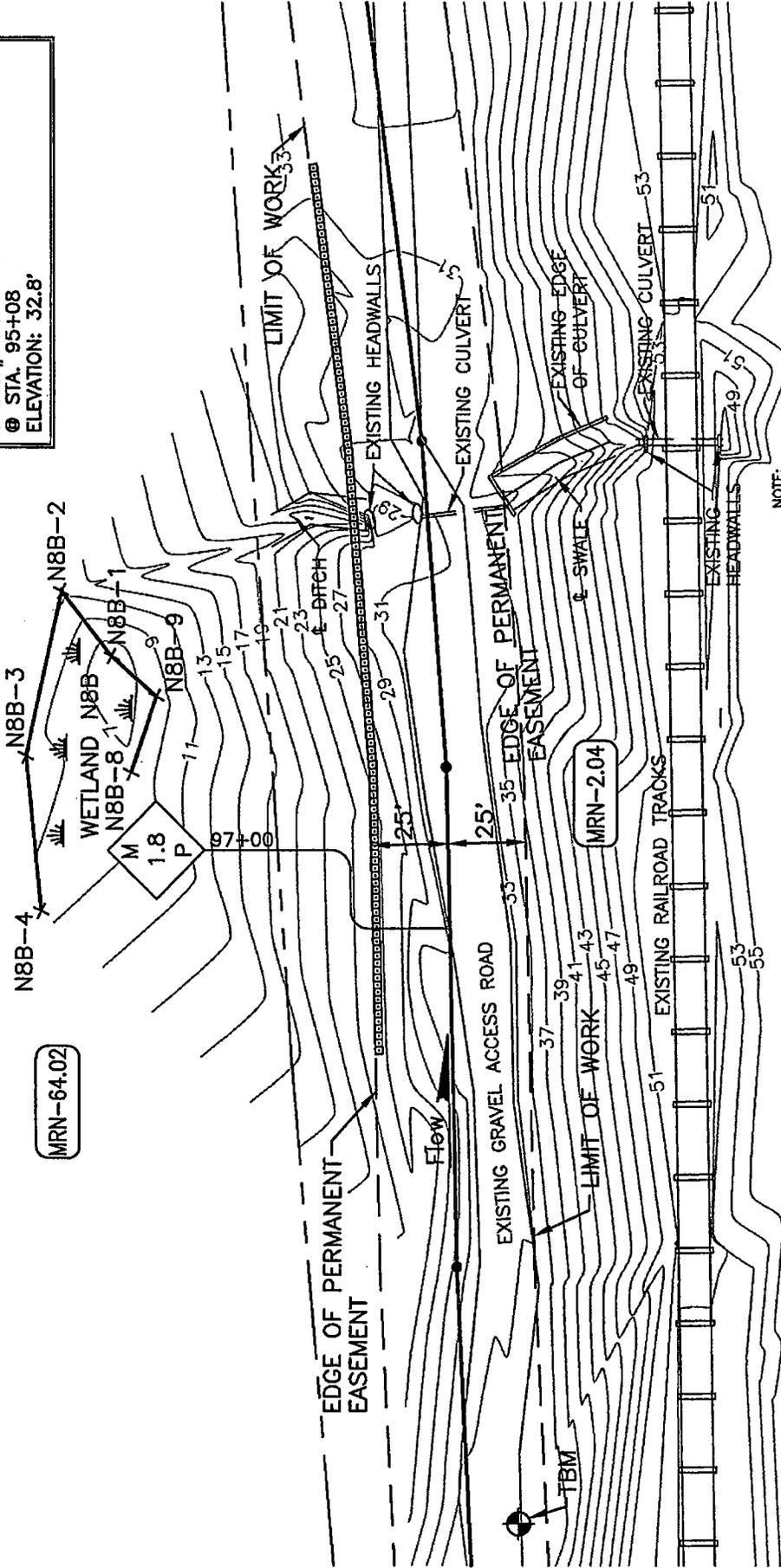
APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	
PROPOSED 24" NATURAL GAS PIPELINE	
ACOE PERMIT DRAWING	
BRISTOL COUNTY, MASSACHUSETTS	
MRP-NR-ACOE-7P	
REV: 2	

File No.: 489E-7P

CITY OF FALL RIVER



T.B.M.:  
SPIKE # 32 16' RIGHT OF PROP. PIPE  
@ STA. 95+08  
ELEVATION: 32.8'



NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MARCH 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLW VERTICAL DATUM IN U.S. SURVEY FEET.

GRAPHIC SCALE  
50 25 0 50 FEET

NO.	DATE	REVISION	REV.	CHG.	APP.

COLER & COLANTONIO #  
ENGINEER AND SURVEYOR  
1000 STATE ST. SUITE 200  
FALL RIVER, MA 01923  
TEL: 508-671-1111



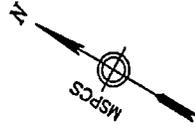
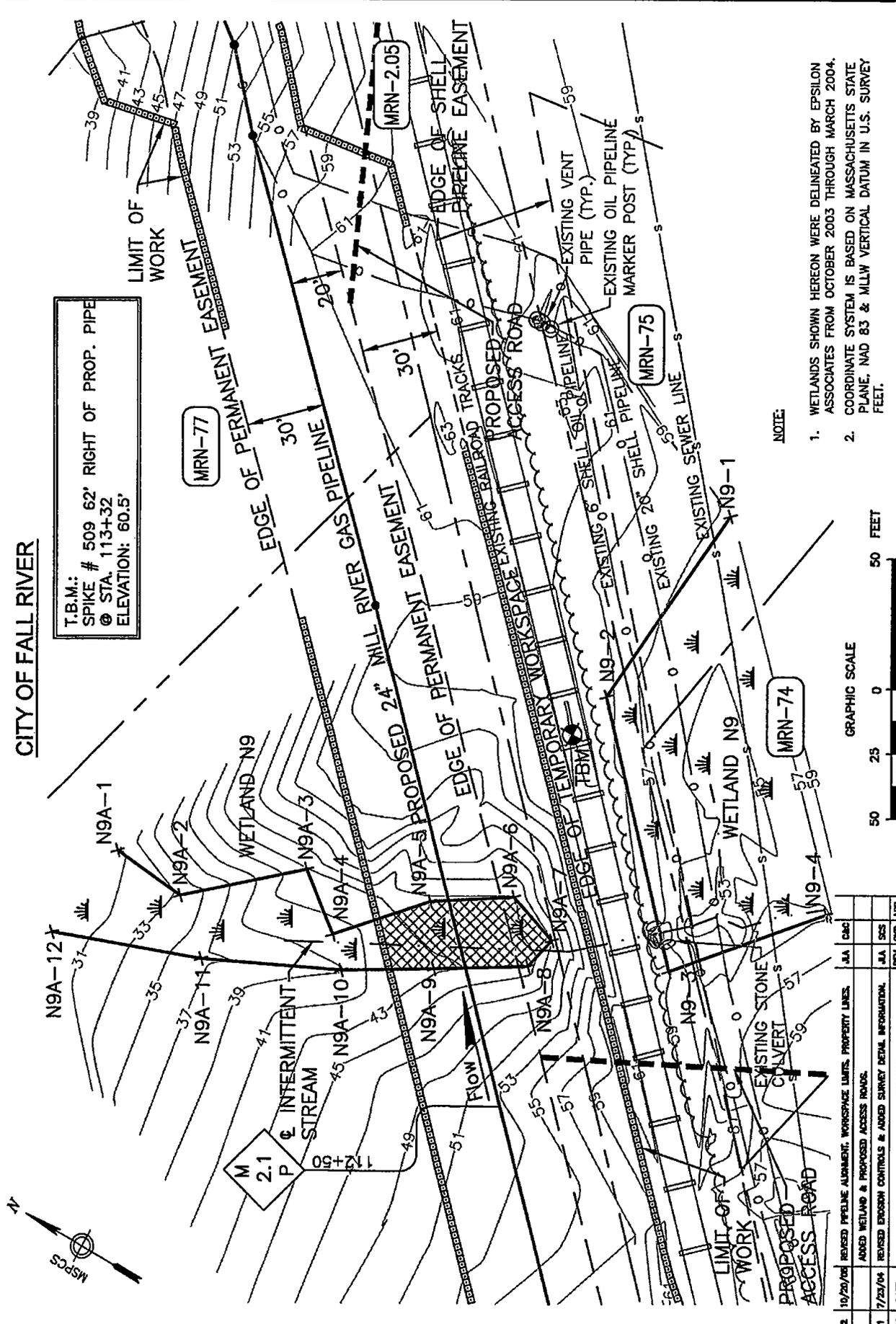
PIPELINE SHEET: 8 OF 16

APPROVED BY	DATE:
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	MRP-NR-ACOE-8P
ACOE PERMIT DRAWING	REV: 0
BRISTOL COUNTY, MASSACHUSETTS	

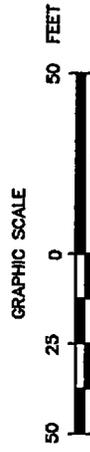
FILE NO.: A626-8P	DATE: 10/14/06
DRAWN: CAC	CHECKED: MRP
APPROVED: MRP	SCALE: 1"=50'

**CITY OF FALL RIVER**

T.B.M.: SPIKE # 509 62' RIGHT OF PROP. PIPE  
 @ STA. 113+32  
 ELEVATION: 60.5'



- NOTE:**
1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MARCH 2004.
  2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

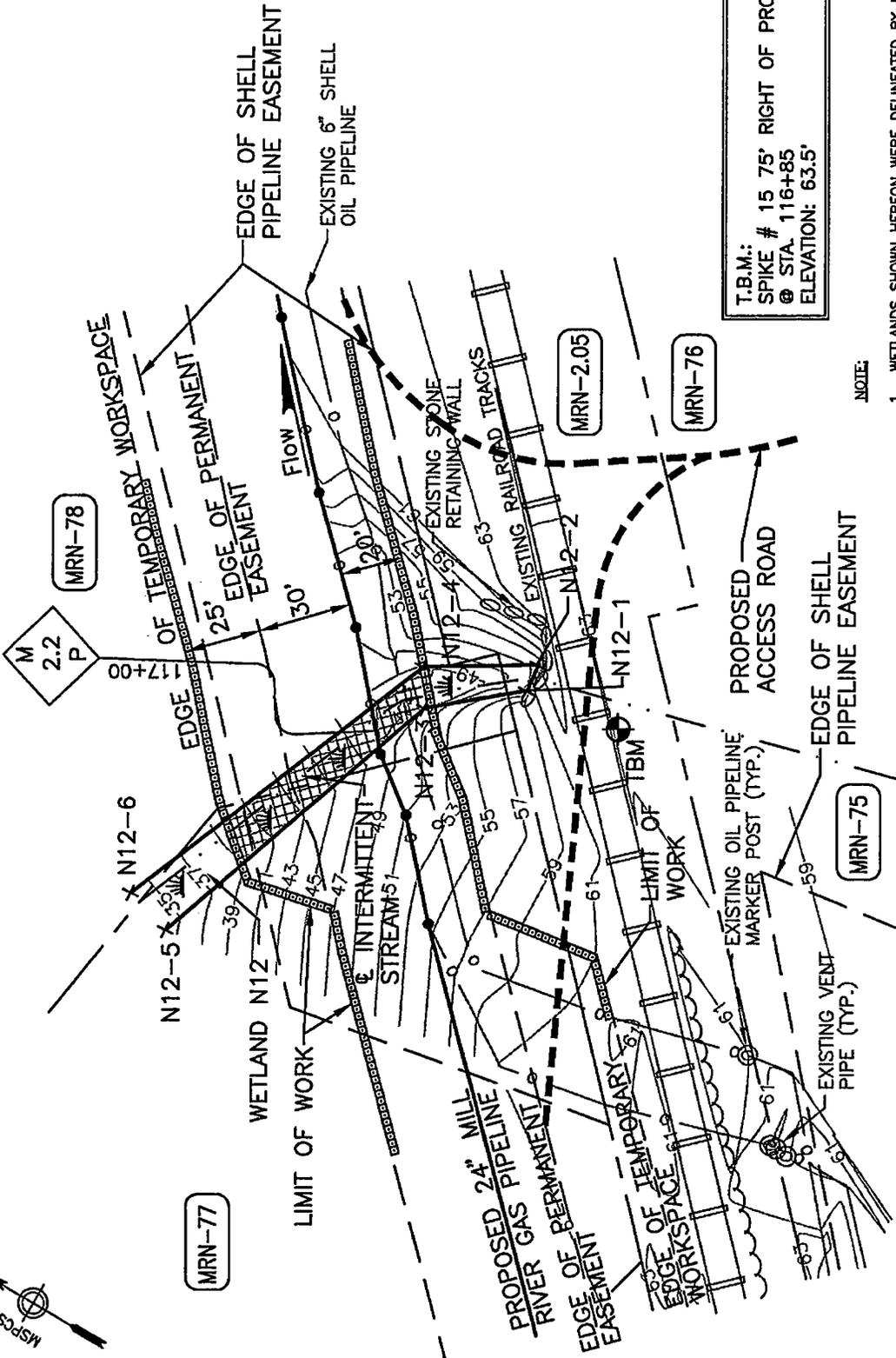
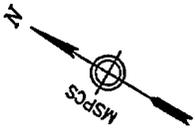


NO.	DATE	REVISION
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINES, ADDED WETLAND & PROPOSED ACCESS ROADS.
1	7/23/04	REVISED EROSION CONTROLS & ADDED SURVEY DETAIL INFORMATION.

DRAWING NO. WCE-AN-A-1003 TITLE ALIGNMENT SHEET		REFERENCE DRAWINGS	
COLER & COLANTONIO & ASSOCIATES ENGINEER AND SURVEYOR		MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS	
DATE 3/25/04 CHECKED [ ] DATE [ ] MAP [ ] APPROVED [ ] DATE [ ] SCALE: 1"=50'		APPROVED BY [ ] DATE: [ ] MILL RIVER PIPELINE MRP-NR-ACOE-9P REV. 2	
PIPELINE SHEET: 9 OF 16			



**CITY OF FALL RIVER**



T.B.M.:  
SPIKE # 15 75' RIGHT OF PROP. PIPE  
@ STA. 116+85  
ELEVATION: 63.5'

**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES IN MAY 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

GRAPHIC SCALE

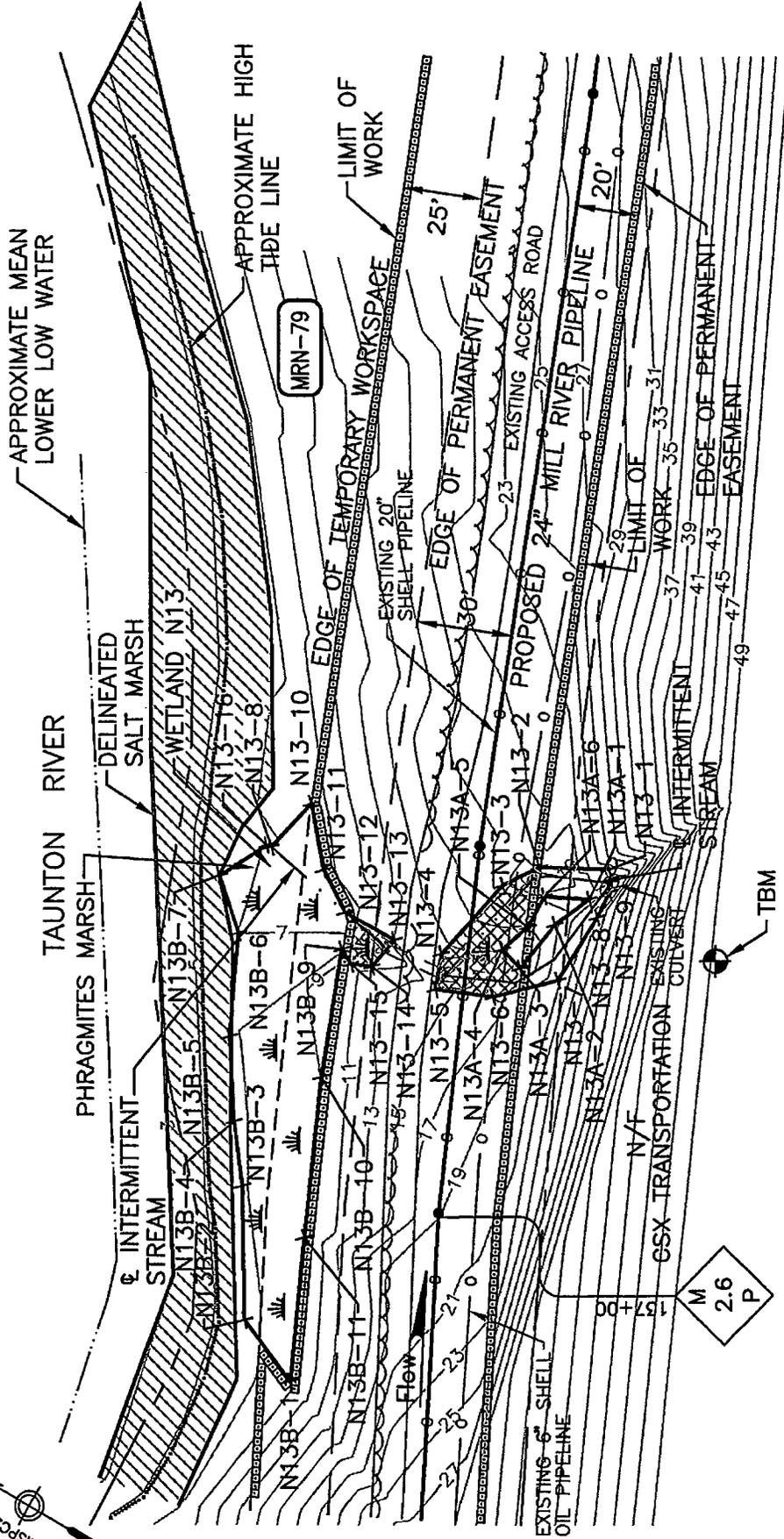


NO.	DATE	REVISION	REV.	CRD.	APR.
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, PROPERTY LINES, & ADDED PROPOSED ACCESS ROAD.	JJA	CSG	
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.	JJA	SGS	

DRAWING NO. <b>WCE-AN-A-1003</b>		TITLE <b>ALIGNMENT SHEET</b>	
REFERENCE DRAWINGS			
APPROVED BY MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS			
DATE:		DATE:	
MRP-NR-ACOE-10P		MILL RIVER PIPELINE	
REV: 2		REV: 2	



TOWN OF FREETOWN



T.B.M.: SPIKE # 515 79' RIGHT OF PROP. PIPE @ STA. 137+90 ELEVATION: 48.2'

NOTE:

1. WETLANDS & SALT MARSH SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES IN APRIL 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLW VERTICAL DATUM IN U.S. SURVEY FEET.



APPROVED BY	DATE
MILL RIVER PIPELINE PROJECT	MILL RIVER PIPELINE
PROPOSED 24" NATURAL GAS PIPELINE	MRP-NR-ACOE-11P
ACOE PERMIT DRAWING	REV: 2
BRISTOL COUNTY, MASSACHUSETTS	

FILE No. 1. ACOE-11P
PIPELINE SHEET: 11 OF 16

DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
APPROVED		DATE	
SCALE	1"=50'		

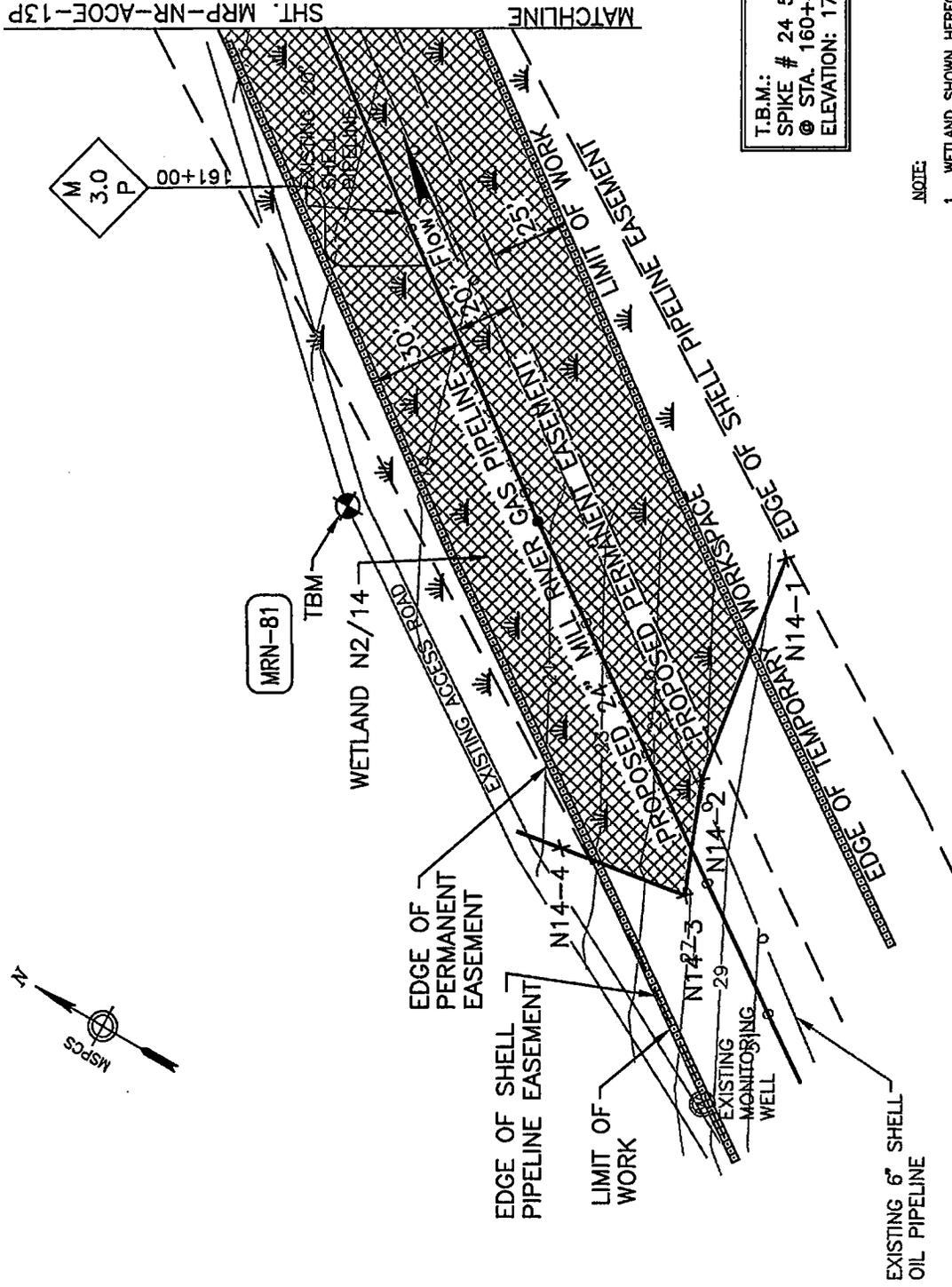
NO.	DATE	REVISION
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION
2	10/20/04	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS

DRIVING NO.	WCE-AN-A-1003
TITLE	ALIGNMENT SHEET

COLER & COLANTONIO & ASSOCIATES  
ENGINEERS AND SURVEYORS  
100 STATE STREET  
BOSTON, MA 02109



TOWN OF FREETOWN



T.B.M.:  
SPIKE # 24 53' LEFT OF PROP. PIPE  
@ STA. 160+41  
ELEVATION: 17.4'

NOTE:

1. WETLAND SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES IN APRIL 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.



NO.	DATE	REVISION	REV.	CHKD.	APPR.
2	10/20/04	REVISED PIPELINE ALIGNMENT & WORKSPACE LIMITS.	J.A.	CMG	
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.	J.A.	SCS	

NO.	DATE	REVISION	REV.	CHKD.	APPR.
REFERENCE DRAWINGS					
DRAWING NO. WCE-AW-A-1004					
TITLE ALIGNMENT SHEET					

COLLER & COLANTONIO, INC.  
ENGINEERS AND ARCHITECTS  
100 WEST MAIN STREET  
BOSTON, MASSACHUSETTS 02108  
TEL: 617-552-1234  
FAX: 617-552-1235  
www.colandroni.com

Mill River PIPELINE

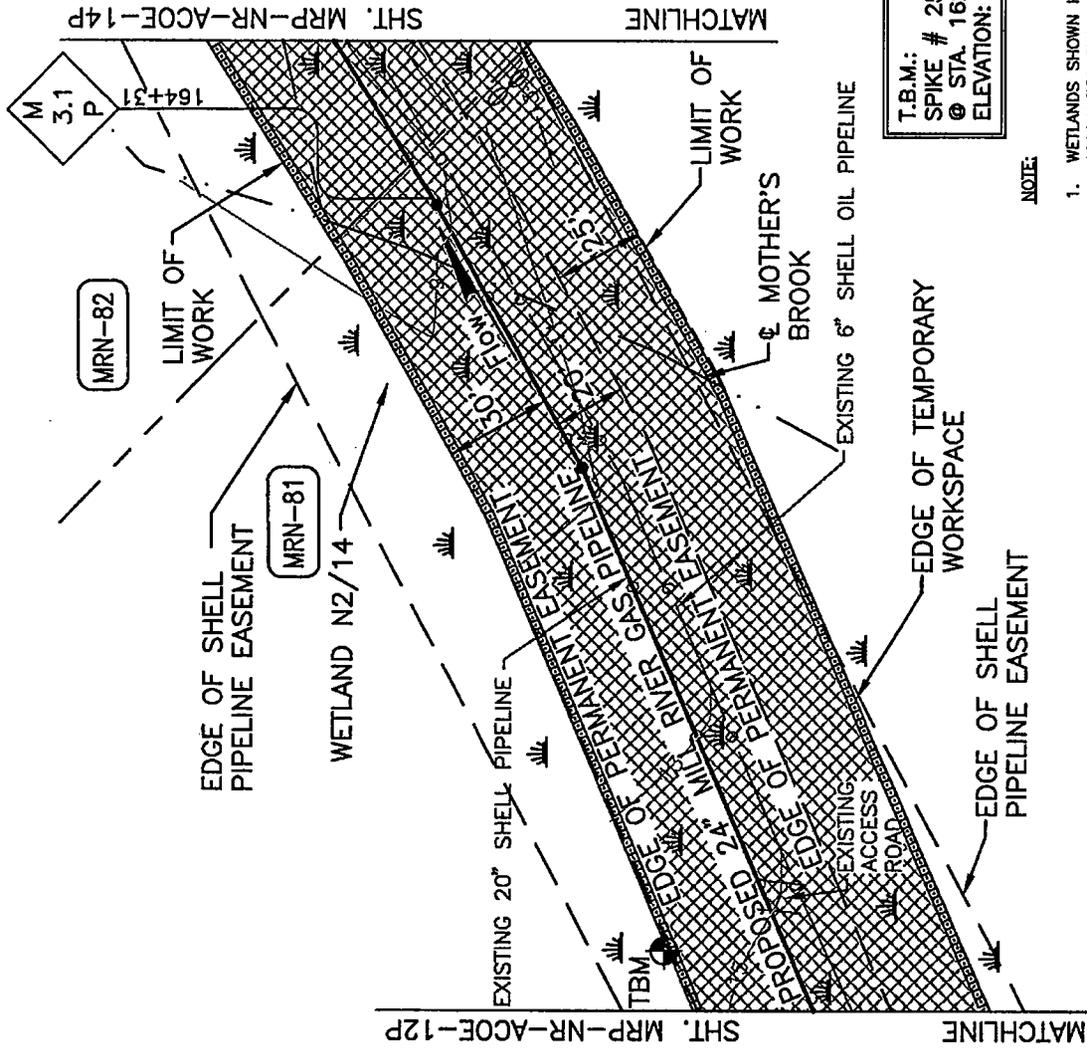
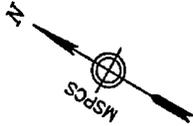
DRAWN	CHKD	MRP	APPROVED	SCALE
DATE: 3/18/04	DATE	DATE	DATE	T=50'

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
MILL RIVER PIPELINE PROJECT  
PROPOSED 24" NATURAL GAS PIPELINE  
ACOE PERMIT DRAWING  
BRISTOL COUNTY, MASSACHUSETTS  
MRP-NR-ACOE-12P  
REV: 2

FILE No.: ACOE-12P  
PIPELINE SHEET: 12 OF 16

MATCHLINE SHT. MRP-NR-ACOE-13P

TOWN OF FREETOWN



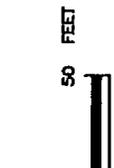
T.B.M.:  
SPIKE # 25 32' LEFT OF PROP. PIPE  
@ STA. 162+13  
ELEVATION: 13.6'

NOTE:

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH APRIL 2004.
2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, & PROPERTY LINES.
1	7/23/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DETAIL INFORMATION.

DATE	DATE	DATE	DATE
DRAWN	CAS	3/18/04	
CHECKED	MRP		
APPROVED			

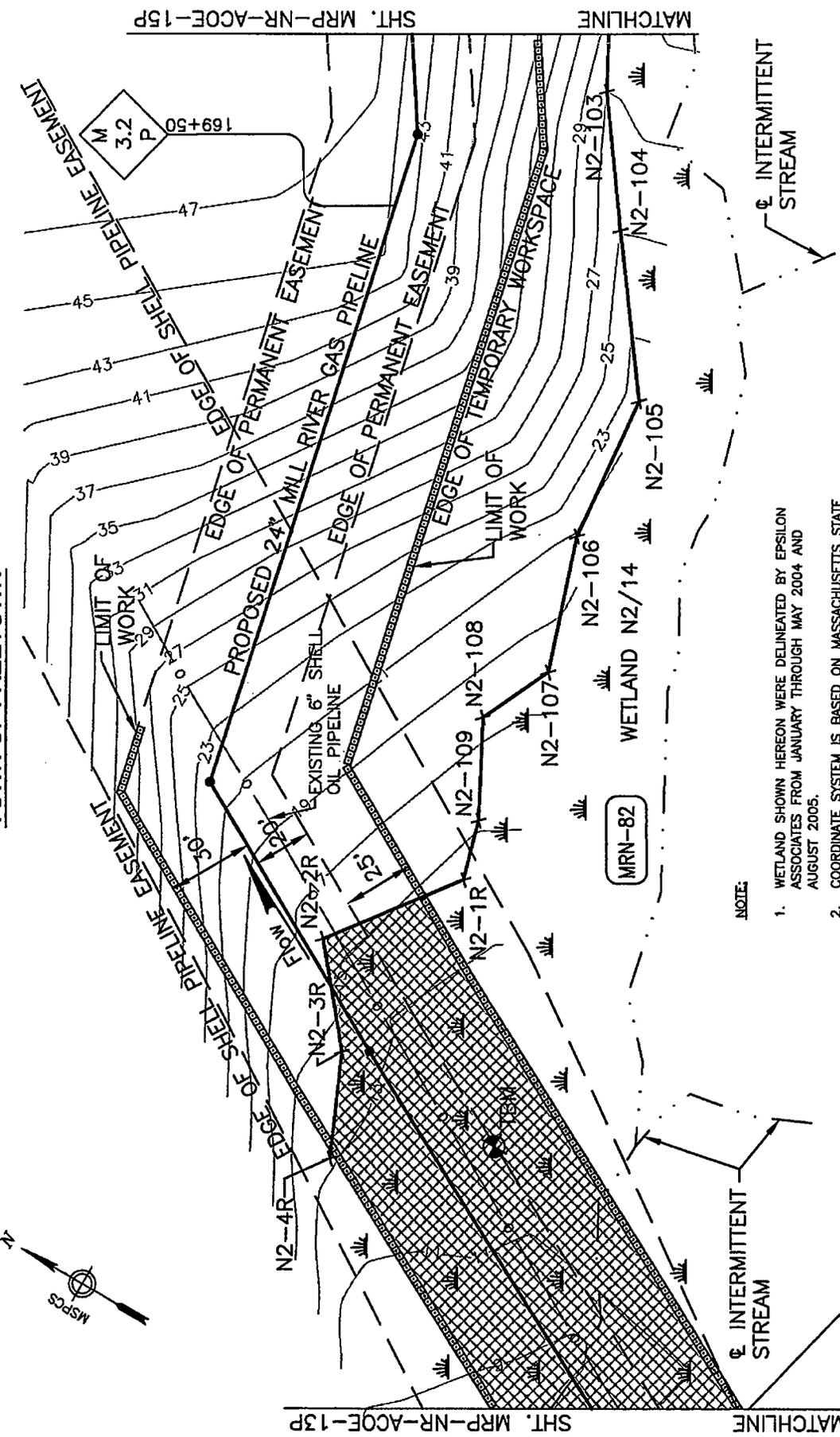


REFERENCE DRAWINGS DRAWING NO. WCE-AN-A-1004 TITLE ALIGNMENT SHEET		APPROVED BY DATE:	
MILL RIVER PIPELINE PROJECT PROPOSED 24" NATURAL GAS PIPELINE ACOE PERMIT DRAWING BRISTOL COUNTY, MASSACHUSETTS		DATE:	
FILE NO.: ACOE-13P		MILL RIVER PIPELINE MRP-NR-ACOE-13P REV: 2	



COLER & COLANTONIO  
ENGINEERS AND SURVEYORS  
100 STATE STREET  
BRISTOL, MA 01520  
TEL: 508-649-1234

TOWN OF FREETOWN



T.B.M.:  
 SPIKE # 507 20' RIGHT OF PROP. PIPE  
 @ STA. 165+78  
 ELEVATION: 12.3'

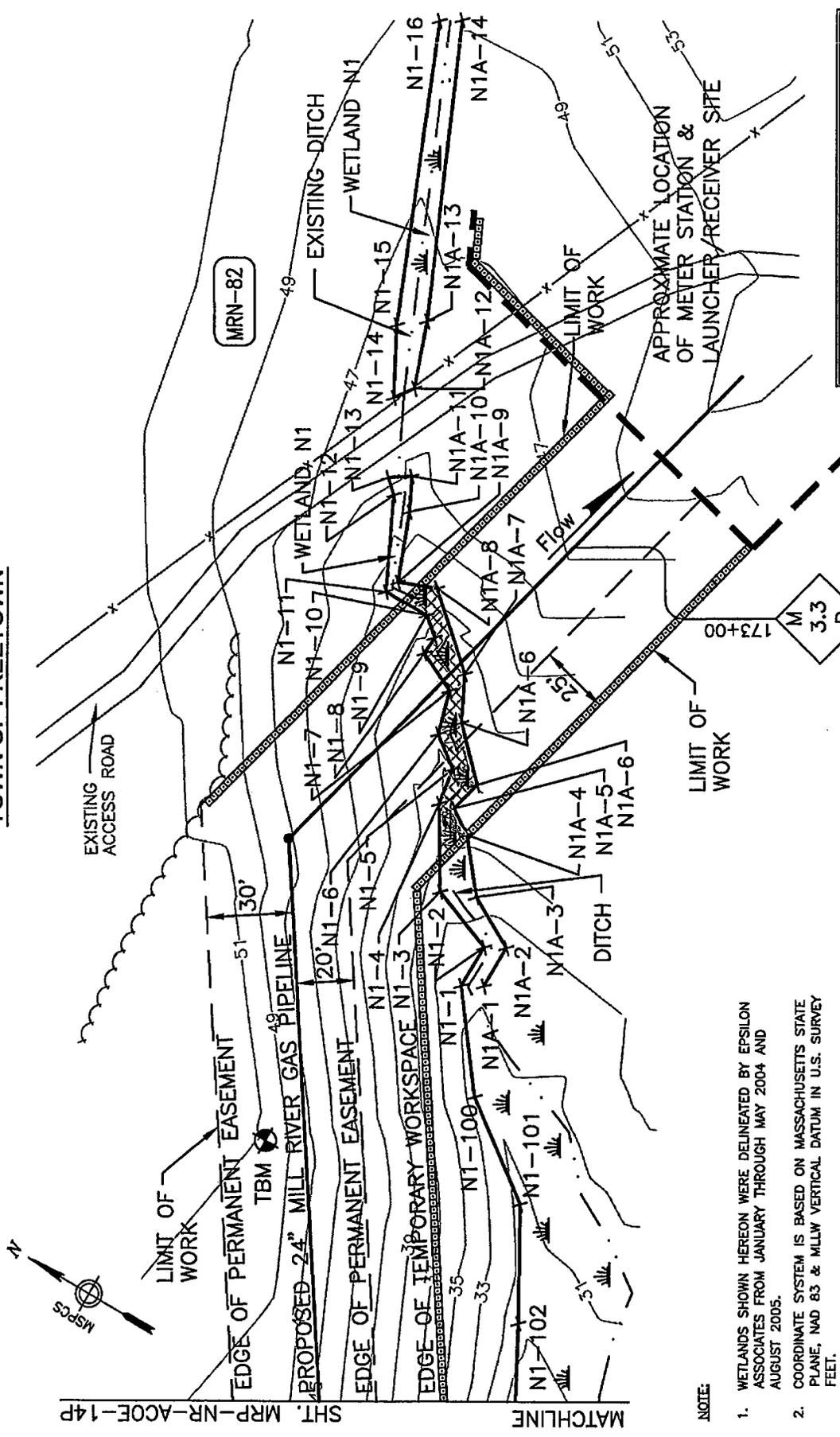
- NOTE:
1. WETLAND SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM JANUARY THROUGH MAY 2004 AND AUGUST 2005.
  2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION
2	11/20/05	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, NOTE # 1, & ADDED ADDITIONAL WETLAND FLAGS.
1	7/25/04	REVISED WETLAND LOCATION, EROSION CONTROLS, & ADDED SURVEY DATA INFORMATION.

DRAWING NO. WCE-AN-A-1004		TITLE ALIGNMENT SHEET	
COLLEGE COLANTONIO & ASSOCIATES INC. ENGINEERS AND ARCHITECTS 1000 ROUTE 1A, SUITE 200, WESTPORT, MASSACHUSETTS 01886 TEL: 978-365-8800 FAX: 978-365-8801			
DRAWN: J.A. CAC		DATE: 3/18/04	
CHECKED: MSP		DATE:	
APPROVED:		DATE:	
SCALE: 1"=50'		DATE:	
FILE NO.: ACE-14P		APPROVED BY:	
MILL RIVER PIPELINE PROJECT		DATE: MILL RIVER PIPELINE	
PROPOSED 24" NATURAL GAS PIPELINE		MRP-NR-ACOE-14P	
ACOE PERMIT DRAWING		REV: 2	
BRISTOL COUNTY, MASSACHUSETTS			
PIPELINE SHEET: 14 OF 16			



**TOWN OF FREETOWN**



T.B.M.:  
SPIKE # 701 14' LEFT OF PROP. PIPE  
@ STA. 171+03  
ELEVATION: 50.4'

- NOTE:**
1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM JANUARY THROUGH MAY 2004 AND AUGUST 2005.
  2. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MLLW VERTICAL DATUM IN U.S. SURVEY FEET.

NO.	DATE	REVISION	REASON
2	10/20/04	REVISED PIPELINE ALIGNMENT, WORKSPACE LIMITS, NOTE # 1, & ADDED ADDITIONAL WETLAND FLAGS.	JJA CMB
1	7/23/04	REVISED EROSION CONTROLS & ADDED SURVEY DETAIL INFORMATION.	JJA SES

REFERENCE DRAWINGS	
DRAWING NO.	TITLE
WCE-AN-A-1004	ALIGNMENT SHEET

**COLER & COLANTONIO**  
ENGINEERS AND SURVEYORS  
100 STATE STREET  
BOSTON, MASSACHUSETTS 02109  
TEL: 617-552-1234

DRAWN	DATE	3/18/04
CHECKED	DATE	
MRP	DATE	
APPROVED	DATE	
SCALE	1" = 50'	

File No.: 606-18P  
**MILL RIVER PIPELINE PROJECT**  
 PROPOSED 24" NATURAL GAS PIPELINE  
 ACOE PERMIT DRAWING  
 BRISTOL COUNTY, MASSACHUSETTS

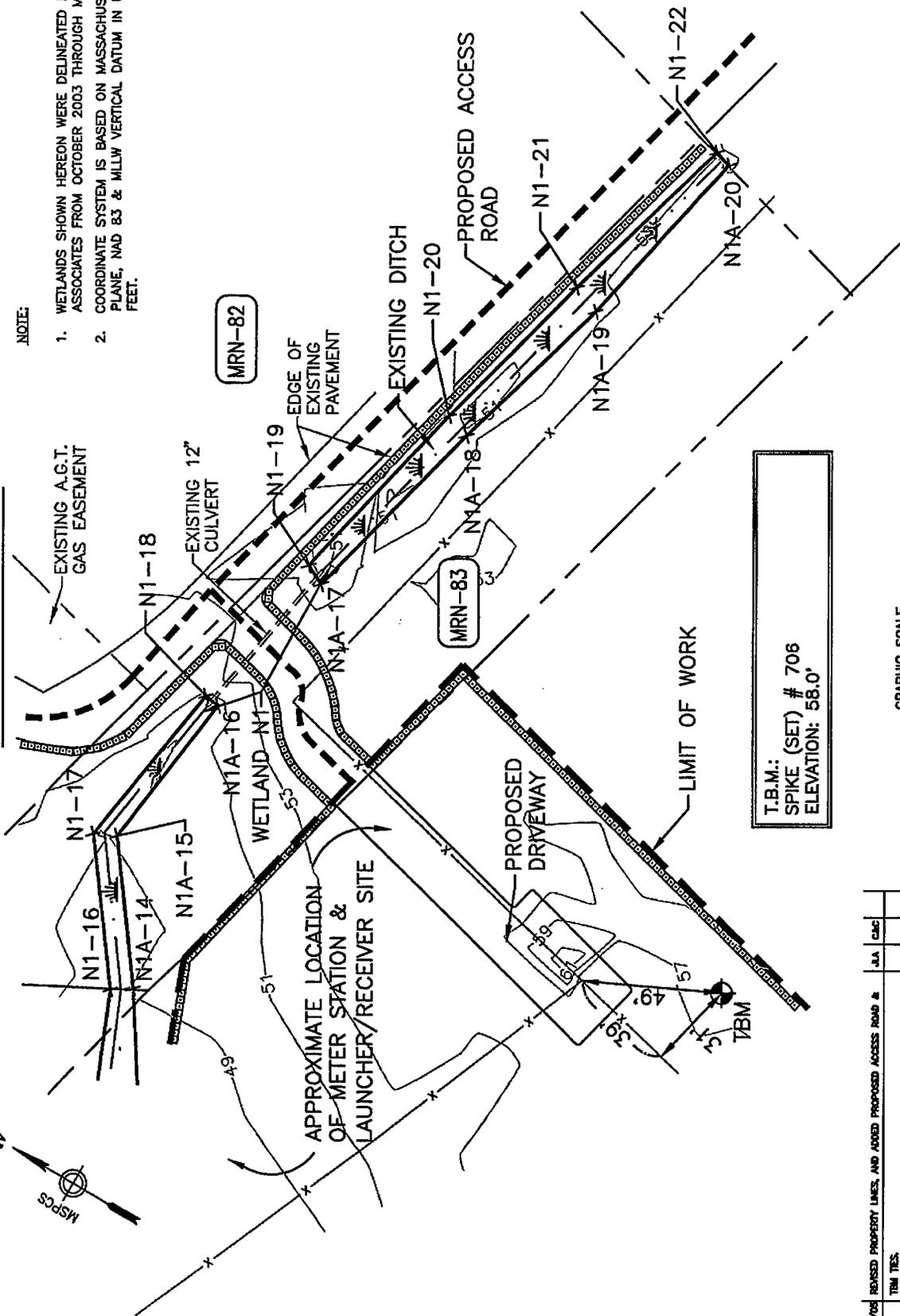
APPROVED BY  
 DATE: **MILL RIVER PIPELINE**  
**MRP-NR-ACOE-15P**  
 REV. 2



**TOWN OF FREETOWN**

**NOTE:**

1. WETLANDS SHOWN HEREON WERE DELINEATED BY EPSILON ASSOCIATES FROM OCTOBER 2003 THROUGH MARCH 2004. COORDINATE SYSTEM IS BASED ON MASSACHUSETTS STATE PLANE, NAD 83 & MILLW VERTICAL DATUM IN U.S. SURVEY FEET.
- 2.



APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_

MILL RIVER PIPELINE PROJECT  
 PROPOSED 24" NATURAL GAS PIPELINE  
 ACOE PERMIT DRAWING  
 BRISTOL COUNTY, MASSACHUSETTS

MRP-NR-ACOE-16P  
 REV: 2

FILE No. 1.660E-18P

DRAWN	CAC	DATE	3/18/04
CHECKED		DATE	
MRP		DATE	
APPROVED		DATE	

SCALE: 1"=50'

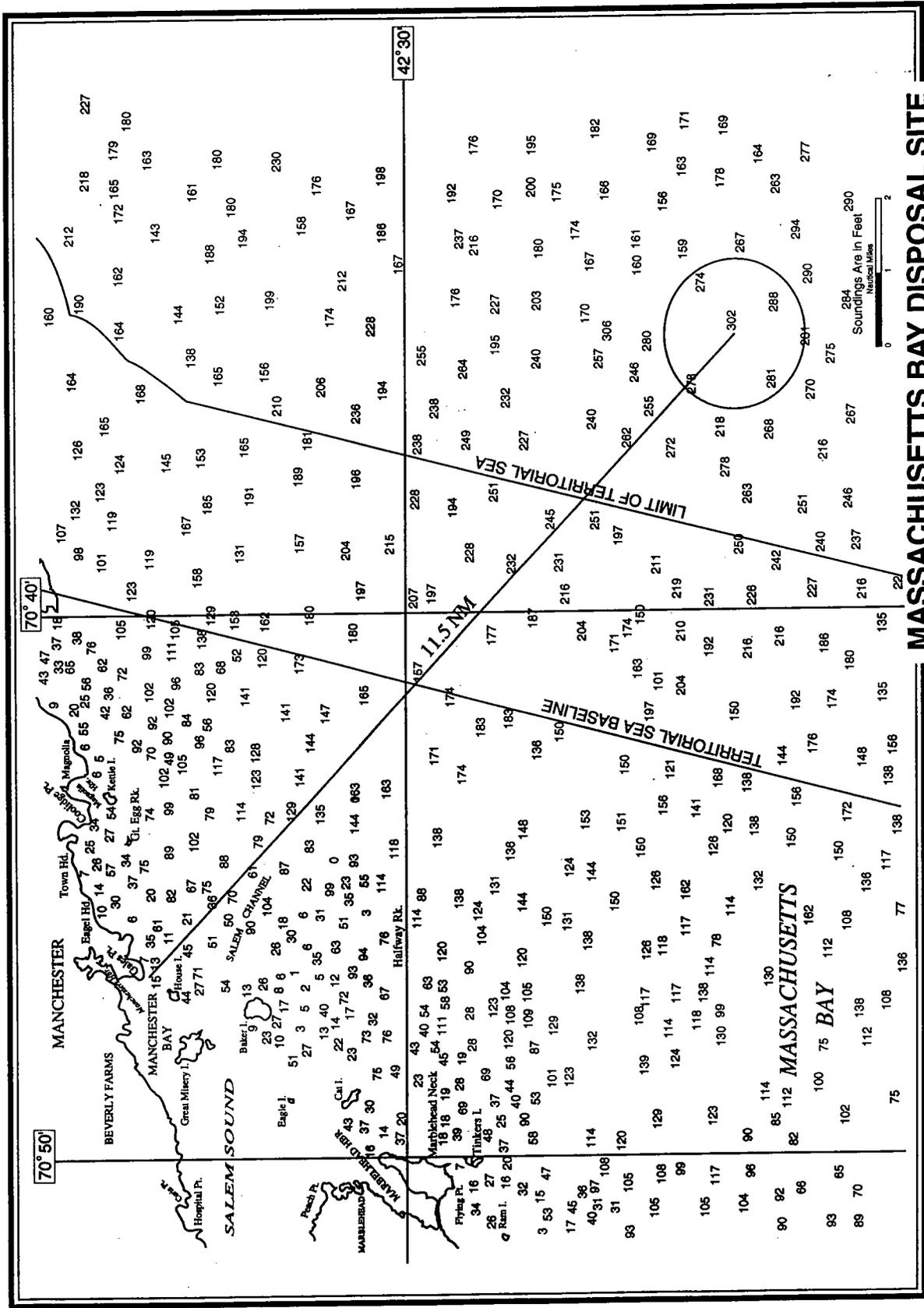
PIPELINE SHEET: 16 OF 16

**COLER & COLANTONIO**  
 ENGINEERS AND SURVEYORS  
 100 STATE STREET, SUITE 200  
 BOSTON, MA 02109  
 TEL: 617-552-2200 FAX: 617-552-2201

**Mill River PIPELINE**

NO.	DATE	REVISION	REV.	CRD.	APR.
2	10/20/06	REVISED PROPERTY LINES, AND ADDED PROPOSED ACCESS ROAD & TBM TIES	J.A.	CAC	
1	7/25/04	ADDED EROSION CONTROLS, PROPOSED DRIVEWAY, & SURVEY DETAIL INFORMATION.	J.A.	SCS	

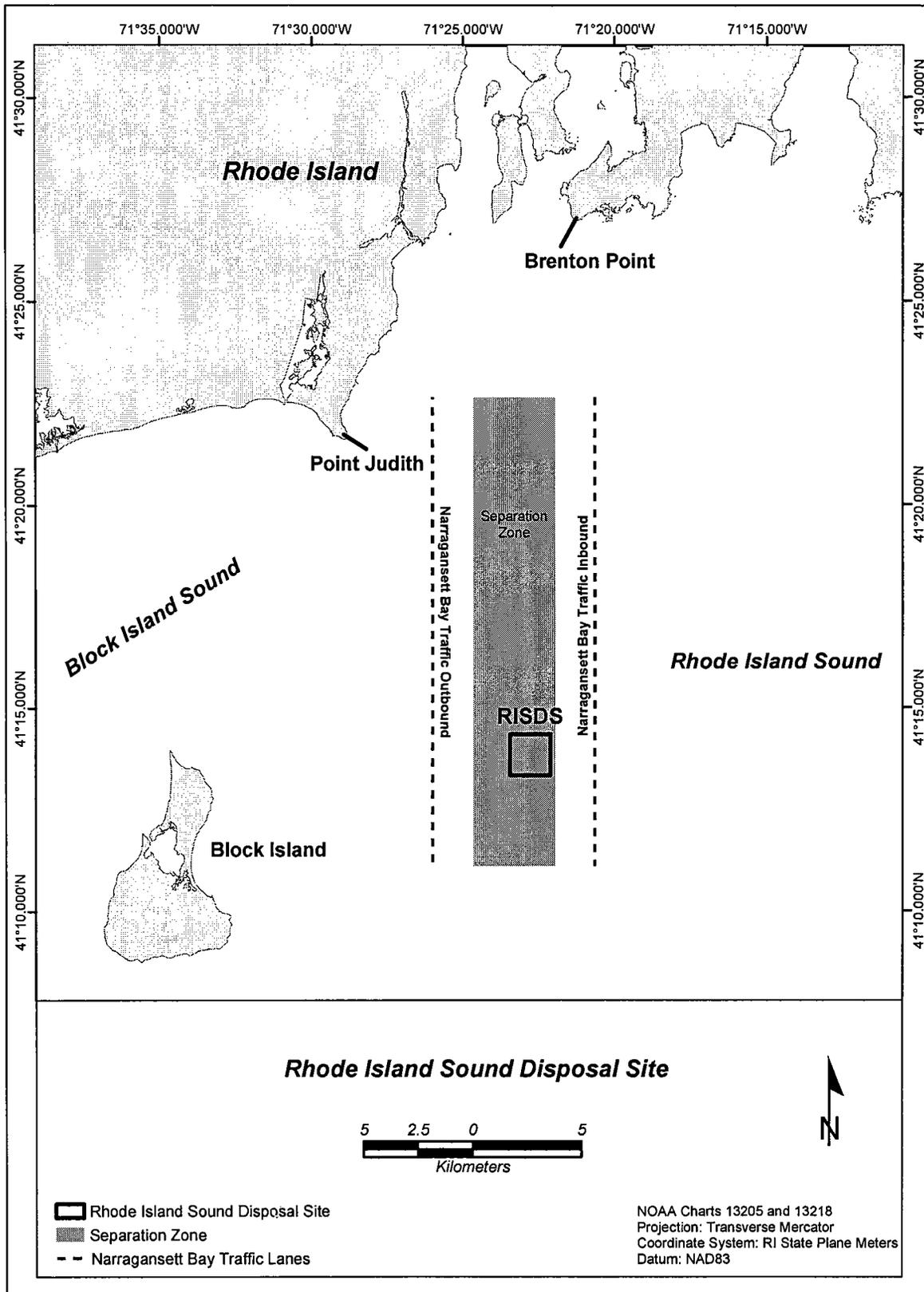
DRAWING NO. WCE-AN-A-1004  
 TITLE ALIGNMENT SHEET



**MASSACHUSETTS BAY DISPOSAL SITE**

Description: This site is a circular area with a diameter of 2 nautical miles and center at 42° 25.1'N, 70° 35.0'W. From the center, the Marblehead Tower bears true 295° at 24,916 yards and Bakers Island Horn bears true 308° at 23,237 yards. The authorized disposal point (within the overall disposal area) is specified for each dredging project in other project documents. Depth range: 272 to 302 feet MLW.

NOTE: The map depicts the disposal site's location in relation to landmarks. It is not intended for use in navigation.





#79001/Weaver'sCove/Permitting/404/Mitigation

September 15, 2005

VIA EMAIL

Mr. Ted Lento  
U.S. Army Corps of Engineers  
Division of Regulatory Permitting  
Concord Park  
696 Virginia Road  
Concord, Massachusetts 01742

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Cindy Schlessinger

Lester B Smith, Jr

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978 897 7100  
FAX 978 897 0099

**Subject: Revised Off-Site Winter Flounder Habitat Mitigation Plan, Weaver's Cove Energy, LLC (Individual Permit #NAE-2004-2355).**

Dear Mr. Lento:

On May 20, 2005, Weaver's Cove Energy, LLC ("Weaver's Cove") submitted for agency review, a proposed mitigation plan for approximately 12 acres of aquatic habitat as a consequence of shoreline straightening and deepening and widening of the Turning Basin at the terminus of the Fall River-Mount Hope Bay Federal Navigation Channel. NOAA has asserted that approximately 11 of the 12 acres provide winter flounder spawning habitat.

Because there are no meaningful opportunities for on-site, in-kind mitigation of impacts to aquatic winter flounder habitats, Weaver's Cove proposed that an "in-lieu" fee of \$500,000 be established in a trust account administered by a state or Federal resource agency or paid directly to a private natural resource management entity for the purpose of providing compensatory mitigation for approximately 12 acres of aquatic resource impacts. The use of in-lieu fees for the purpose of providing compensation for adverse impacts to aquatic resources is consistent with other Corps Individual Permits (see Special Condition #16 for the Hubline project) and Corps regulatory guidance letters.

The amount of financial assistance proposed by Weaver's Cove in the May 20<sup>th</sup> mitigation plan was determined through the evaluation of three general mitigation scenarios commensurate with dredging related impacts including: 1) winter flounder

habitat/water quality research in the Mt. Hope Bay watershed through inventory and assessment; 2) removal of a tidal restriction to create subtidal estuarine habitat; and 3) salt marsh restoration through the removal of fill material. These three approaches towards mitigating winter flounder habitat impacts were derived from the *2003 Mount Hope Bay Tidal Restriction Atlas* (the "Atlas") prepared by the Corps and the Massachusetts Wetlands Restoration Program. It is believed that any one of these approaches would be of benefit to winter flounder and would in varying degrees contribute to the restoration, creation or enhancement of functions and values associated with lost subtidal habitat.

On July 6, 2005, representatives of Weaver's Cove attended an interagency meeting with the Corps and cooperating state and federal resource agencies. The purpose of this meeting was to discuss the mitigation plan and receive feedback and comments. In discussions with the agencies, it was requested that Weavers Cove propose actions that may result in a more direct net benefit for winter flounder spawning and/or larval survival than would be realized by salt marsh restoration/creation projects. Specifically, salt marsh was characterized as not being a preferred habitat for winter flounder. Thus, creation of salt marsh through the removal of tidal restrictions and/or fill in degraded wetland areas was not considered by the agencies to be the most desirable mitigation approach even though there are a number of representative project sites identified in the Atlas where this type of restoration could be accomplished and of benefit to the coastal environment (and to winter flounder and other biota present in the 11 acres affected by the Weaver's Cove project).

Alternatively, and with more direct benefits to winter flounder, channels could be opened into tidally restricted estuarine areas to create more open-water shallow subtidal habitat with comparable substrate type, grain size distribution, and benthic flora and fauna preferred by winter flounder for spawning. Removal of tidal restrictions also allows for flushing of stagnant, brackish backwater areas that trap nutrients. The flushing action may reduce the over-growth of algae and support healthy aquatic vegetation. The reduction of algae may also open sea bottom areas needed for spawning by fish such as winter flounder. This type of restoration was also advocated in the Atlas and opportunities generally exist in the Taunton River-Mount Hope Bay system and southern Massachusetts coastal areas.

The above notwithstanding, another mitigation option suggested by the agencies would be to bring about water quality improvements through the reduction of discharges from combined sewer overflows ("CSO's") in the Mount Hope Bay watershed. Such improvements would result in benefits to the marine ecosystem in general, which would indirectly benefit winter flounder and other species. It also

could be implemented in the area of Fall River, which would have the additional benefit of mitigating impacts to the local community by providing needed funds for water quality improvements. A mitigation plan based on this concept is described below.

### **Combined Sewer Overflows**

There are approximately 19 CSO's in the City of Fall River, one of which exists on the Weaver's Cove project site. Combined sewer overflows occur during wet weather periods when the hydraulic capacity of the combined sewer system becomes overloaded. When an overflow occurs, the excess flows tend to be discharged into a receiving body of water (e.g., the Taunton River). CSOs typically discharge a variable mixture of raw sewage, industrial/commercial wastewater, polluted runoff, and scoured materials that build up in the collection system during dry weather periods. These discharges contain a variety of pollutants that may adversely impact the receiving water body. Currently, the 19 CSO outfalls in Fall River discharge approximately 1.3 billion gallons of rainwater and sewage into Mount Hope Bay each year.<sup>1</sup>

Since approximately 1992, Fall River has implemented a series of CSO abatement measures under a Consent Decree with the Conservation Law Foundation. These improvements include capacity expansion at the existing regional wastewater treatment plant and construction of a 20-foot diameter "south tunnel". The so-called south tunnel connects 15 CSO's located throughout the southern and central portions of the City to the regional wastewater treatment plant. The City of Fall River is currently evaluating the construction of a so-called "north tunnel" to collect the remaining four CSO's (including the CSO on the Weaver's Cove site) as well as a pilot study to screen, disinfect and/or dechlorinate discharges before they reach the Taunton River.<sup>2</sup> The City is also planning on installing approximately 100 new catch basins and disconnecting nearly 200 catch basins from the existing CSO system and connecting them with the new storm sewer system to eliminate storm water contributions.<sup>3</sup>

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<sup>1</sup> City of Fall River Website (<http://www.fallriverma.org/sewer>).

<sup>2</sup> U.S. District Court, Joint Motion to Amend Order; Conservation Law Foundation v. City of Fall River; February 17, 2005.

<sup>3</sup> Ibid

### CSO Trust Account

While the costs of making improvements to the CSO's ultimately rest with the water and sewer ratepayers within the City of Fall River, for the past 12 years, Congress has allocated federal grants to assist with the above mentioned CSO improvements (\$500,000 was included in the 2006 appropriations bill for the Environmental Protection Agency).<sup>4</sup> Portions of Fall River's CSO abatement project are also funded with low-interest revolving loans from the Massachusetts Department of Environmental Protection ("DEP")<sup>5</sup> with costs ultimately born by the citizens of Fall River.

Weaver's Cove is proposing to contribute \$500,000 towards Fall River's CSO abatement project. It is recommended that these funds be placed into a trust account administered by the U.S. Environmental Protection Agency ("EPA") or DEP. This approach is similar to that which was used by the Corps in their issuance of an Individual Permit for the Hubline project (Special Condition #16).

### Conclusions

It is envisioned that the ongoing CSO improvements, in conjunction with other ongoing steps to improve water quality in the Mount Hope Bay watershed (e.g., enforced fishing restrictions and permit limitations on power plant discharges), will contribute to the recovery of winter flounder and their spawning habitats. It is not practicable to demonstrate by monitoring or other analysis that a reduction in CSO discharges *per se* will directly benefit winter flounder or improve/expand their spawning habitat. It is however reasonable to presume that any water quality improvements should benefit species in the affected habitats. This approach towards mitigating potential impacts is practicable, close to the affected area and sufficient to offset any impacts and may provide more direct benefits than compensation through salt marsh enhancement as originally proposed by Weaver's Cove.

Funding of the CSO would have a collateral benefit of reducing water/sewer rates paid by the citizens of Fall River who are ultimately responsible for cleaning up the CSO's. Accelerating this clean up or making the clean up more effective will

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<sup>4</sup> Herald News, "CSO Flush With Fed Funds"; August 1, 2005.

<sup>5</sup> Herald News, "CSO: Massive Sewer Project Will Help Environment"; March 5, 2003.

Mr. Ted Lento  
U.S. Army Corps of Engineer

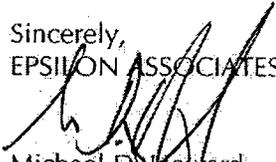
5

provide direct benefits to both the citizens of Fall River and the health of the Taunton River.

In closing, the Weaver's Cove project team looks forward to continuing to work proactively with the Corps and the cooperating resource agencies in advancing this important energy infrastructure project. During our meeting of July 6<sup>th</sup> all present agreed that the most efficient way to continue the development of this mitigation plan would involve an exchange of views via e-mail distributed through the Corps (as opposed to additional face to face meetings). As such we are sending this communication to the Corps for email distribution to each attendee at the July 6<sup>th</sup> meeting and we ask that each party submit their comments back to the entire group. I will be the lead contact person for Weaver's Cove.

If you have any questions regarding this submittal, please do not hesitate to contact me at (978) 461-6247 or via email at [mhoward@epsilonassociates.com](mailto:mhoward@epsilonassociates.com).

Sincerely,  
EPSILON ASSOCIATES, INC.



Michael D. Howard  
Manager, Ecological Sciences

CC: Mr. Ted Gehrig, Weaver's Cove Energy, LLC.  
Mr. Vance Wood, Weaver's Cove Energy, LLC.



#79001/Weaver'sCove/Permitting/404/Mitigation/Shellfish

September 15, 2005

VIA EMAIL

Mr. Ted Lento  
U.S. Army Corps of Engineers  
Division of Regulatory Permitting  
Concord Park  
696 Virginia Road  
Concord, Massachusetts 01742

PRINCIPALS

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978 897 7100  
FAX 978 897 0099

**Subject: Revised Shellfish Habitat Mitigation Plan, Weaver's Cove Energy, LLC  
(Individual Permit #NAE-2004-2355).**

Dear Mr. Lento:

On May 20, 2005, Weaver's Cove Energy, LLC ("Weaver's Cove") submitted for agency review, a proposed financial assistance mitigation plan for project related impacts to mapped shellfish habitat. As you will recall, approximately 84 acres of the approximately 160 acre dredge footprint in Massachusetts has been mapped by the Massachusetts Division of Marine Fisheries ("MADMF") as potential habitat for northern quahog (*Mercenaria mercenaria*). While not mapped, an additional 11.5 acres of potential northern quahog habitat may exist in the approximately 33 acre dredging footprint located in Rhode Island waters. Areas mapped as soft-shelled clam (*Mya arenaria*) and American oyster (*Crassostrea Virginica*) habitat do not overlap the dredging limits and will not be impacted by the project.

On July 6, 2005, representatives of Weaver's Cove attended an interagency meeting with the Corps of Engineers (the "Corps") and cooperating state and federal resource agencies. The purpose of this meeting was to discuss the May 20<sup>th</sup> financial assistance mitigation plan and receive feedback and comments. The plan has been revised accordingly and reflects the agencies recommendations. A summary of the proposed revisions is provided below.

### **Financial Assistance Mitigation Plan (May 20, 2005)**

As background, Weaver's Cove proposed to provide Federal and Massachusetts resource agencies with financial assistance in the amount \$450,000 towards a shellfish harvest, relay and re-seeding program. The proposed funding was to be placed in a Commonwealth of Massachusetts trust account administered by the MADMF. This approach is not without precedent and the language proposed in the May 20<sup>th</sup> plan is consistent with that which was used in the Corps Individual Permit for the Hubline project (Special Condition #16).

Financial assistance placed in a trust account with a fixed dollar compensation is no longer being proposed. The financial assistance plan has been revised to a performance based plan undertaken by Weaver's Cove. Weaver's Cove will be responsible for implementing the proposed shellfish mitigation plan and demonstrating compliance with the success criteria described herein. Implementation of the plan will need to be developed further with input from the resource agencies but the general elements outlined in the May 20<sup>th</sup> version remain unchanged.

### **Performance Based Plan Undertaken By Weaver's Cove (Current Plan)**

#### *Phase #1 - Pre-Harvest Survey*

At this time, only the expanded Turning Basin, an area of approximately 21 acres, is considered to be suitable quahog habitat as it is largely undisturbed and presumably provides suitable substrate. Notwithstanding, MADMF has mapped a larger area (approximately 84 acres) including portions of the existing Federal Channel where fine sediments not preferred by quahogs exist. This performance based plan recommends that a pre-harvest survey be conducted throughout the mapped MADMF areas where dredging is proposed to establish relative abundance and location of quahogs so that it can be determined if a potentially commercially harvestable quantity exists (i.e., such that dredging-based relays are feasible using currently accepted commercial best management practices and equipment and mitigation is warranted). Weaver's Cove will continue to work with the resource agencies to develop a pre-harvest survey methodology that is consistent with current MADMF protocol and to agree upon a practicable harvestable density (e.g., number or biomass of clams on a per acre basis, etc). The results of the pre-harvest survey will define the locations from which harvesting will occur (see Phase 2 below).

### *Phase #2 - Harvest and Relay*

The purpose of the shellfish harvest and relay phase is to remove and transfer potentially commercially-harvestable quahogs that may be directly impacted by the dredging project. By removing the quahogs and relaying them to suitable off-site locations, impacts to the existing (and currently restricted) resource will be minimized. As a result, those shellfish resources can continue to grow, may be depurated if moved to less contaminated areas, and may be harvested off-site, providing a net benefit.

It is anticipated that harvesting will occur in the area of the expanded Turning Basin which comprises approximately 21 acres. The pre-harvest survey of other mapped MADMF shellfish resources within the dredge footprint will determine whether or not there are other areas proposed for dredging that contain potentially commercially-harvestable quantities of quahog. These areas will also be included for harvesting to the extent that the quahogs can be removed feasibly from deeper waters (e.g., water depths greater than 20 feet, the approximate limits of the gear typically used to dredge quahogs).

Fortunately, the MADMF already administers a commercial shellfish harvest and relay program in the late Winter/early Spring from waters near the project site. Weaver's Cove recommends that the pre-dredging harvest be conducted in a similar manner, using similar equipment and permitted as a special condition through the pending Weaver's Cove Section 10/404 Individual Permit application. Where feasible the project will generally work to execute the harvest and relay phase between April 1 and November 30 but the program may occur through the year so as not to interfere with dredging operations undertaken by Weaver's Cove.

Once the harvested shellfish are transplanted to the recipient municipality or a previously dredged area, it will become the responsibility of the local shellfish warden to ensure the proper management of the resource. Weaver's Cove will work with MADMF to identify interested municipalities within a reasonable distance of the project site (i.e., south of Cape Cod, Massachusetts and Rhode Island waters) as recipients for the harvested shellfish consistent with guidelines approved by MADMF. Weaver's Cove will be responsible for delivering the harvested shellfish to these locations.

### *Phase #3 - Seeding*

Shellfish seeding is expected to boost natural regeneration and shellfish propagation in suitable habitats. The pre-harvest survey completed under Phase 1 of this

program will identify suitable habitats for seeding. If requested by the resource agencies, Weaver's Cove will also seed other areas of the dredge footprint identified as providing potentially suitable quahog habitat by the most recent MADMF published shellfish maps<sup>1</sup> (recognizing that the pre-harvest survey data may reveal that these mapped areas do not in fact currently provide suitable substrate for quahog).

Seeding will occur once in the first Fall after all proposed maintenance and improvement dredging activities are complete (including dredging associated with the Mill River pipeline crossing and construction of the proposed pile supported jetty adjacent to the LNG Terminal site). Weaver's Cove anticipates placing orders with a MADMF-approved hatchery in February or March of the last dredging year so that the hatchery can ensure that a proper amount of stock is available for Fall planting. The amount of seed to be planted will be based on the results of the Phase 1 survey. The seeds will be broadcast from a boat.

Weaver's Cove will work with MADMF to identify the size of the shellfish seeds. Seeds planted in late spring and early summer are typically between 1 and 5 mm in length. It is Weaver's Cove understanding that to maximize survival, larger seeds (10 to 22 mm) are often planted in the late fall (October or November) when the animals are better able to avoid predators and when predation activity decreases in the decreasing water temperatures prior to winter.

*Phase #4 - Post-seed Monitoring and Success Criteria.*

Written reports will be provided to MADMF and the Corps upon the conclusion of each phase of the mitigation program. For example, the pre-harvest survey report will describe survey methods and results. The harvesting phase report will describe the harvesting procedure, harvest locations, the total amount of quahogs relayed and the location of receiving beds. The seeding report will describe the seeding parameters and protocol, seed acquisition process, and seed planting procedures including total number of seed clams planted and areas where planting occurred.

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<sup>1</sup> MassGIS Data Sources: MADMF 1997, 1999 and 2003.

As requested by the agencies, and in order to demonstrate that the seeding was successful, Weaver's Cove has prepared the following success criteria:

*During the pre-harvest survey and prior to the start of dredging in each Dredging Element, shellfish sampling will be performed to determine the numbers and weight of quahogs per unit area, as well as the sediment grain size distribution. This will be accomplished as part of the pre-harvest survey phase and harvest and relay phase, (i.e., as the quahogs are dredged for relay, the numbers and weight of clams in known areas will be recorded). Growth data (shell length versus age) available from University of Rhode Island researchers (Rice et al., 1989) will be used to determine the median age of quahogs present. Seeding will be performed and the areas re-surveyed to determine the biomass present. In locations within the dredging footprint, statistical analyses will be used to determine if the biomass present in the number of years after reseeding is equivalent (i.e., not significantly different from that of pre-dredging condition). If the biomass is significantly lower, an analysis will be made of the habitat characteristics (grain size and physical-chemical) of the seeded areas to determine if they are suitable for quahogs. If those areas are deemed suitable, additional seeding will be performed. If an area is deemed not suitable, other mitigation sites will be used (e.g., areas where harvesting such as the ongoing relays has occurred). Weaver's Cove will consult with MADMF on these evaluations. Once the biomass has reached the pre-dredging level, the area will be considered restored.<sup>2</sup>*

In closing, the Weaver's Cove project team looks forward to continuing to work proactively with the Corps and the cooperating resource agencies in advancing this important energy infrastructure project. During our meeting of July 6<sup>th</sup> all present agreed that the most efficient way to continue the development of this mitigation plan would involve an exchange of views via e-mail distributed through the Corps

---

<sup>2</sup> Rice, M. A., C. Hickox, and I. Zehra, 1989. Effects of intensive fishing effort on the population structure of quahogs, *Mercenaria mercenaria* (Linnaeus 1758), in Narragansett Bay. *Journal of Shellfish Research* 8(2): 345-354.

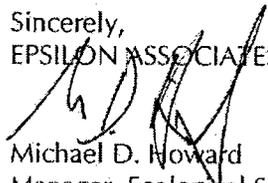
Mr. Ted Lento  
U.S. Army Corps of Engineer

6

(as opposed to additional face to face meetings). As such we are sending this communication to the Corps for email distribution to each attendee at the July 6<sup>th</sup> meeting and we ask that each party submit their comments back to the entire group. I will be the lead contact person for Weaver's Cove.

If you have any questions regarding this submittal, please do not hesitate to contact me at (978) 461-6247 or via email at [mhoward@epsilonassociates.com](mailto:mhoward@epsilonassociates.com).

Sincerely,  
EPSILON ASSOCIATES, INC.



Michael D. Howard  
Manager, Ecological Sciences

CC: Mr. Ted Gehrig, Weaver's Cove Energy, LLC.  
Mr. Vance Wood, Weaver's Cove Energy, LLC.