



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

REPLY TO
ATTENTION OF

16 June 2020

Operations Division
Eastern Evaluation Section

SUBJECT: MVN-2013-01344-EG

Coastal Protection and Restoration Authority
Attn: Micaela Coner
P.O. Box 44027
Baton Rouge, LA 70804

Dear Ms. Coner,

The proposed work, to construct and maintain bioengineered oyster reef habitat along the shoreline of Eloi Bay, located at 29.774016°N, -89.391526°W, in St. Bernard Parish, Louisiana, as shown on the enclosed drawings, is authorized under **Category II** of the **Programmatic General Permit** provided that all conditions of the permit are met.

You must comply with the enclosed: "STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES".

This authorization has a blanket water quality certification from the Louisiana Department of Environmental Quality; therefore, no additional authorization from DEQ is required.

However, prior to commencing work on your project, you must obtain approvals from state and local agencies as required by law and by terms of this permit. These approvals include, but are not limited to, a permit, consistency determination or determination of "no direct or significant impact (NDSI) on coastal waters" from the Louisiana Department of Natural Resources, Office of Coastal Management.

This approval to perform work is valid for 5 years from the date of this letter. Permittee is aware that this office may reevaluate its decision on this permit at any time the circumstances warrant.

Should you have any further questions concerning this matter, please contact Angelle Greer at (504) 862-2279 or angelle.v.greer@usace.army.mil.

Sincerely,

FARABEE.MI Digitally signed by
FARABEE.MICHAEL
CHAEI.VERN VERNE 1053559979
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for
Martin S. Mayer
Chief, Regulatory Branch

Enclosures

STANDARD MANATEE CONDITIONS FOR IN-WATER ACTIVITIES

During in-water work in areas that potentially support manatees, all personnel associated with the project shall be instructed and aware of the potential presence of manatees, manatee speed zones, and the need to avoid collisions with, and injury to, manatee. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel shall be instructed not to attempt to feed or otherwise interact with the animal.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). To minimize potential impacts to manatees in areas of their potential presence, the permittee shall insure the following are adhered to:

- All work, equipment, and vessel operation shall cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Once the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the project area, all vessels associated with the project shall operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels shall follow routes of deep water whenever possible.
- If used, siltation or turbidity barriers shall be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities and removed upon completion. Each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8½" X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT BOTTOM CLEARANCE WHEN MANATEE IS PRESENT". A second temporary sign measuring 8½" X 11" shall be posted at a location prominently visible to all personnel engaged in water-related activities and shall read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".
- Collisions with, injury to, or sightings of manatees shall be immediately reported to the U.S. Fish and Wildlife Service's, Louisiana Ecological Services Office (337/291-3100) and the Louisiana Department of Wildlife and Fisheries, Natural Heritage Program (225/765-2821). Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

1. Activities authorized under this general permit shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single and complete project shall be treated together as constituting one single and complete project. All planned phases of multi-phased projects shall be treated together as constituting one single and complete project. This general permit shall not be used for any activity that is part of an overall project for which an individual permit is required.
2. No activity is authorized under this general permit which may adversely affect significant cultural resources listed or eligible for listing in the National Register of Historic Places until the requirements for Section 106 of the National Historic Preservation Act are met. Upon discovery of the presence of previously unknown historic and/or prehistoric cultural resources, all work must cease and the permittee must notify the State Historic Preservation Office and the Corps of Engineers. The authorization is suspended until it is determined whether or not the activity will have an adverse effect on cultural resources. The authorization may be reactivated or modified through specific conditions if necessary, if it is determined that the activity will have no adverse effect on cultural resources. The PGP authorization will be revoked if it is determined that cultural resources would be adversely affected, and an individual permit may be necessary.
3. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein. The permittee will, at his or her expense, install and maintain any safety lights, signals, and signs prescribed by the United States Coast Guard, through regulations or otherwise, on authorized facilities or on equipment used in performing work under the authorization.
4. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to block or impound water.
5. If the **authorized** activity involves the installation of aerial transmission lines, submerged cable, or submerged pipelines across navigable waters of the United States the following is applicable:

The National Ocean Service (NOS) has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Your notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notification to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282.

6. For pipelines under an anchorage or a designated fairway in the Gulf of Mexico the following is applicable: The NOS has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, and to the Director, National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282. The plans must include the location, configuration and actual burial depth of the completed pipeline project.

7. If the **authorized** project, or future maintenance work, involves the use of floating construction equipment (barge mounted cranes, barge mounted pile driving equipment, floating dredge equipment, dredge discharge pipelines, etc..) in the waterway, you are advised to notify the Eighth Coast Guard District so that a Notice to Mariners, if required, may be prepared. Notification with a copy of your permit approval and drawings should be mailed to the Commander (dpw), Eighth Coast Guard District, Hale Boggs Federal Building, 500 Poydras Street, Room 1230, New Orleans, Louisiana 70130, about 1 month before you plan to start work. Telephone inquiries can be directed to the Eighth Coast Guard District, Waterways Management at (504) 671-2107.

8. All activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (PL 92-500:86 Stat 816), or pursuant to applicable state and local laws.

9. Substantive changes to the Louisiana Coastal Resources Program may require immediate suspension and revocation of this permit in accordance with 33 CFR 325.7.

10. Irrespective of whether a project meets the other conditions of this permit, the Corps of Engineers retains discretionary authority to require an individual Department of the Army permit when circumstances of the proposal warrant this requirement.

11. Any individual authorization granted under this permit may be modified, suspended, or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest.

12. The Corps of Engineers may suspend, modify, or revoke this general permit if it is found in the public interest to do so.

13. Activities proposed for authorization under the PGP must comply with all other necessary federal, state, and/or local permits, licenses, or approvals. Failure to do so would result in a violation of the terms and conditions of PGP.

14. The permittee shall permit the District Commander or his authorized representative(s) or designee(s) to make periodic inspections of the project site(s) and disposal site(s) if different from the project site(s) at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

15. This general permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations nor does it obviate the requirements to obtain state or local assent required by law for the activity authorized herein.

16. In issuing authorizations under this permit, the federal government will rely upon information and data supplied by the applicant. If, subsequent to the issuance of an authorization, such information and data prove to be false, incomplete, or inaccurate, the authorization may be modified, suspended, or revoked, in whole or in part.

17. For activities resulting in sewage generation at the project site, such sewage shall be processed through a municipal sewage treatment system or, in areas where tie-in to a municipal system is not practical, the on-site sewerage system must be approved by the local parish sanitarian before construction.

18. Any modification, suspension, or revocation of the PGP, or any individual authorization granted under this permit, will not be the basis for any claim for damages against the United States.

19. Additional conditions deemed necessary to protect the public interest may be added to the general permit by the District Commander at any time. If additional conditions are added, the public will be advised by public notice. Individual authorizations under the PGP may include special conditions deemed necessary to ensure minimal impact and compliance with the PGP.

20. The PGP is subject to periodic formal review by MVN and OCM in coordination with the Environmental Protection Agency, US Fish and Wildlife Service, the National Marine Fisheries Service, and the Louisiana Department of Wildlife and Fisheries. Comments from reviewing agencies will be considered in determination as to whether modifications to the general permit are needed. Should the District Commander make a determination not to incorporate a change proposed by a reviewing agency, after normal negotiations between the respective agencies, the District Commander will explain in writing to the reviewing agency the basis and rationale for his decision.

21. CEMVN retains discretion to review the PGP, its terms, conditions, and processing procedures, and decide whether to modify, reissue, or revoke the permit. If the PGP is not modified or reissued within 5 years of its effective date, it automatically expires and becomes null and void.

22. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

23. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party as described in Special Condition 25 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

24. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

25. If you sell the property associated with this permit, you must provide this office with a copy of the permit and a letter noting your agreement to transfer the permit to the new owner and the new owner's agreement to accept the permit and abide by all conditions of the permit. This letter must be signed by both parties.

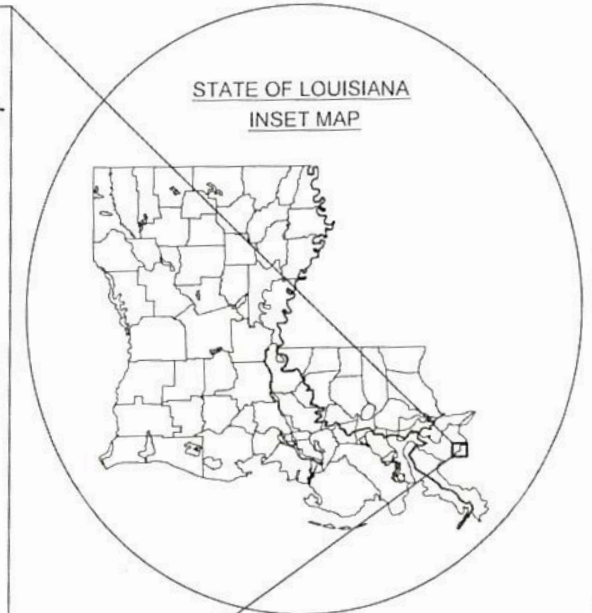
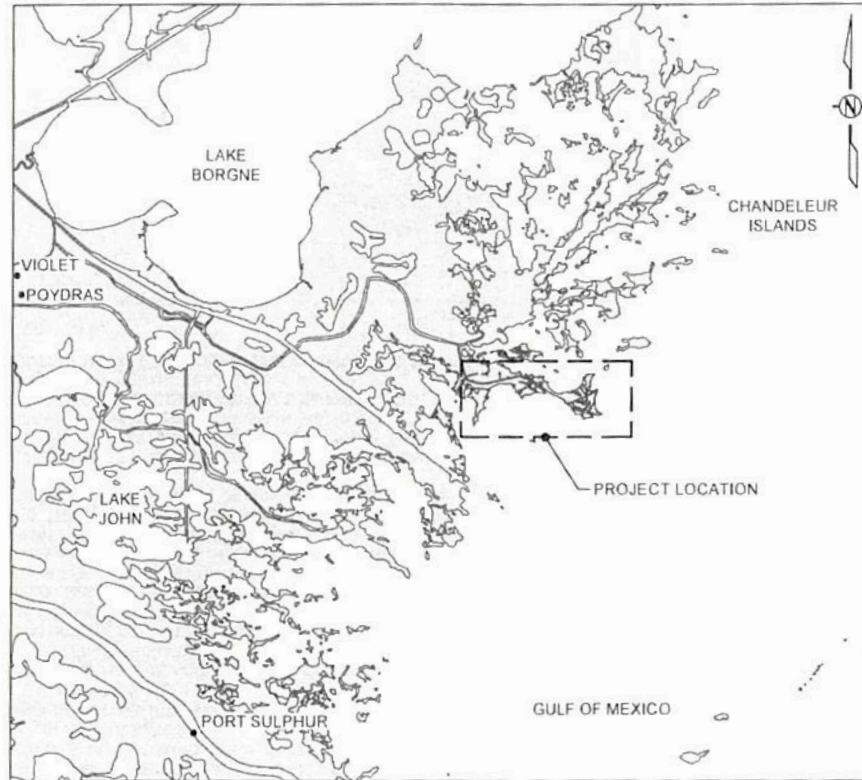
26. Many local governing bodies have instituted laws and/or ordinances in order to regulate dredge and/or fill activities in floodplains to assure maintenance of floodwater storage capacity and avoid disruption of drainage patterns that may affect surrounding properties. Your project involves dredging and/or placement of fill; therefore, you must contact the local municipal and/or parish governing body regarding potential impacts to floodplains and compliance of your proposed activities with local floodplain ordinances, regulations or permits.

27. In issuing authorizations under this permit, the federal government does not assume any liability for: damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest; damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit, and; design or construction deficiencies associated with the permitted work.

STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

BILOXI MARSH
LIVING SHORELINE PROJECT
STATE PROJECT NUMBER PO-0174
ST. BERNARD PARISH, LOUISIANA


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17	BREAKWATER DETAILS
18	ACCESS CHANNEL DETAILS
19	MARINE MATTRESS DETAILS 1
20	MARINE MATTRESS DETAILS 2



THIS DOCUMENT HAS BEEN PRODUCED UNDER THE AUTHORITY OF JOSHUA CARTER (LA PE 33391) FOR PERMITTING PURPOSES ONLY.

**PRELIMINARY
FOR PERMIT PURPOSES ONLY**



APPLICATION BY: COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	COVER SHEET
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	STATE PROJECT NUMBER: PO-0174 FEDERAL PROJECT NUMBER:
		DATE: 2/5/19 SHEET 1 OF 20	

GENERAL NOTES:

1. THERE IS NO UPLAND ACCESS TO THE PROJECT SITE. CONTRACTOR SHALL ACCESS THE PROJECT SITE FROM A NAVIGABLE WATER BODY SUCH AS BRETON SOUND VIA MISSISSIPPI RIVER.
2. TEMPORARY ACCESS/FLOTATION CHANNEL EXCAVATION MAY BE REQUIRED TO ACCESS THE PROJECT SITE. ALL EXCAVATED MATERIAL MAY BE PLACED INTO THE TEMPORARY SPOIL PLACEMENT AREAS SHOWN. THE TEMPORARY SPOILS SHALL BE BACKFILLED INTO THE TEMPORARY ACCESS CHANNEL AT THE COMPLETION OF THE PROJECT.
3. TOPOGRAPHIC AND BATHYMETRIC DATA FROM SURVEYS PERFORMED BY T. BAKER SMITH, LLC, SEPTEMBER 2017 - DECEMBER 2017.
4. THE VERTICAL DATUM FOR ALL ELEVATIONS IS NAVD88 (GEOID 12A), IN U.S. SURVEY FEET. THE HORIZONTAL DATUM FOR ALL GRID COORDINATES IS LOUISIANA STATE PLANE, SOUTH ZONE, NAD83, IN U.S. SURVEY FEET. THE HORIZONTAL DATUM FOR ALL GEOGRAPHIC COORDINATES IS NAD83.
5. THE REFERENCE BENCHMARKS ARE PO148-SM-01 AND PO148-SM-02.
6. PIPELINES ARE IDENTIFIED FROM BUREAU OF OCEAN ENERGY MANAGEMENT, NATIONAL PIPELINE MAPPING SYSTEM, LOUISIANA GEOLOGICAL SURVEY, AND OFFICE OF COASTAL MANAGEMENT DATABASES. ANTICIPATED PIPELINES ARE IDENTIFIED FROM MAGNETOMETER SURVEY PERFORMED BY T. BAKER SMITH, LLC IN DECEMBER 2017.
7. PERMANENT NAVIGATION AIDS TO BE LOCATED AND MARKED/LIGHTED IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS.
8. OYSTER REEF BREAKWATERS MAY BE CONSTRUCTED OF UNITS COMPOSED OF CONCRETE, STEEL, MESH, GEOGRID, PILES, ROCK, CHAINS, ANCHORS, FLOATING PLATFORMS, OYSTER SHELL, OR SIMILAR MATERIAL.
9. OYSTER LEASE AREAS SHOWN FROM THE LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES. ALL OYSTER REEF BREAKWATER STRUCTURES AND FLOTATION/ACCESS CHANNEL EXCAVATION SHALL HAVE A MINIMUM BUFFER OF 150 FT FROM ALL OYSTER LEASES. IF UNFEASIBLE, OYSTER LEASES WITHIN THE 150 FT BUFFER SHALL BE ACQUIRED AND EXTINGUISHED PRIOR TO CONSTRUCTION.
10. AS-BUILT DRAWINGS AND/OR PLATS SHALL HAVE WRITTEN ON THEM THE DATE OF COMPLETION OF SAID ACTIVITIES AND SHALL BE SUBMITTED TO THE LOUISIANA DEPARTMENT OF NATURAL RESOURCES, OFFICE OF COASTAL MANAGEMENT, P. O. BOX 44487, BATON ROUGE, LA 70804-4487 WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
11. ALL STRUCTURES, FACILITIES, WELL AND PIPELINES/FLOWLINES OCCURRING IN OPEN WATER AREAS OR IN OILFIELD CANALS OR SLIPS SHALL BE REMOVED WITHIN 120 DAYS OF ABANDONMENT OR THE FACILITIES FOR THE HEREIN PERMITTED USE UNLESS PRIOR WRITTEN APPROVAL TO LEAVE SUCH STRUCTURES IN PLACE IS RECEIVED FROM THE OFFICE OF COASTAL MANAGEMENT. THIS CONDITION DOES NOT PRECLUDE THE NECESSITY FOR REVISING THE CURRENT PERMIT OR OBTAINING A SEPARATE COASTAL USE PERMIT. SHOULD ONE BE REQUIRED.
12. IN ORDER TO ENSURE THE SAFETY OF ALL PARTIES, THE CONSTRUCTION CONTRACTOR SHALL CONTACT THE LOUISIANA ONE CALL SYSTEM (1-800-272-3020) A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION (DIGGING, DREDGING, JETTING, ETC.) OR DEMOLITION ACTIVITY.
13. FULLY LOADED DRAFTS OF ALL VESSELS WILL NOT EXCEED 7 FT. THE LOWEST POINT ON ALL VESSELS SHALL NOT EXCEED -6.0 FT NAVD88.
14. ALL STRUCTURES BUILT UNDER THE AUTHORIZATION AND CONDITIONS OF THIS PERMIT SHALL BE REMOVED FROM THE SITE WITHIN 120 DAYS OF ABANDONMENT OF THE FACILITIES FOR THE HEREIN PERMITTED USE, OR WHEN THESE STRUCTURES FALL INTO A STATE OF DISREPAIR SUCH THAT THEY CAN NO LONGER FUNCTION AS INTENDED. THIS CONDITION DOES NOT PRECLUDE THE NECESSITY FOR REVISING THE CURRENT PERMIT OR OBTAINING A SEPARATE COASTAL USE PERMIT. SHOULD ONE BE REQUIRED, FOR SUCH REMOVAL ACTIVITIES.
15. MARSH BUGGY/TRACKED EQUIPMENT SHALL BE LIMITED TO 18 FEET IN WIDTH AND CONFINED TO THE PROJECT FOOTPRINT. ALL EQUIPMENT SHALL BE MOBILIZED AND DEMOBILIZED BY BARGE.

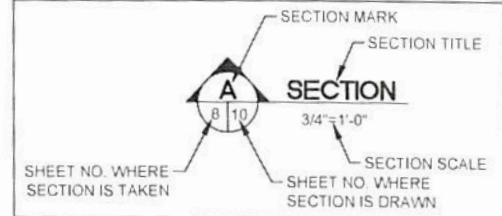
REFERENCE BENCHMARKS			
POINT ID	LATITUDE	LONGITUDE	ELEVATION (NAVD88)
PO148-SM-01	29° 47' 43.67" N	89° 23' 20.72" W	+3.7'
PO148-SM-02	29° 46' 24.80" N	89° 19' 9.89" W	+2.9'

TIDAL ELEVATIONS (NAVD88)	
TIDAL VERTICAL DATUM (NAVD88)	
MEAN HIGHER HIGH WATER (MHHW)	+1.32'
MEAN SEA LEVEL (MSL)	+0.60'
MEAN LOWER LOW WATER (MLLW)	-0.19'
NAVD88	0.00'

STANDARD ABBREVIATIONS:

- EL = ELEVATION
- T.O. = TOP OF
- B.O. = BOTTOM OF
- MHHW = MEAN HIGHER HIGH WATER
- EA. = EACH
- TYP. = TYPICAL
- O.C. = ON CENTER
- @ = AT
- APPROX = APPROXIMATE
- BM = BENCH MARK
- MAX = MAXIMUM
- MIN = MINIMUM
- U.N.O. = UNLESS NOTED OTHERWISE
- ' = MINUTES OR FEET
- " = SECONDS OR INCHES
- ☼ = CONTROL POINT
- ⊙ = TEMPORARY WARNING SIGN

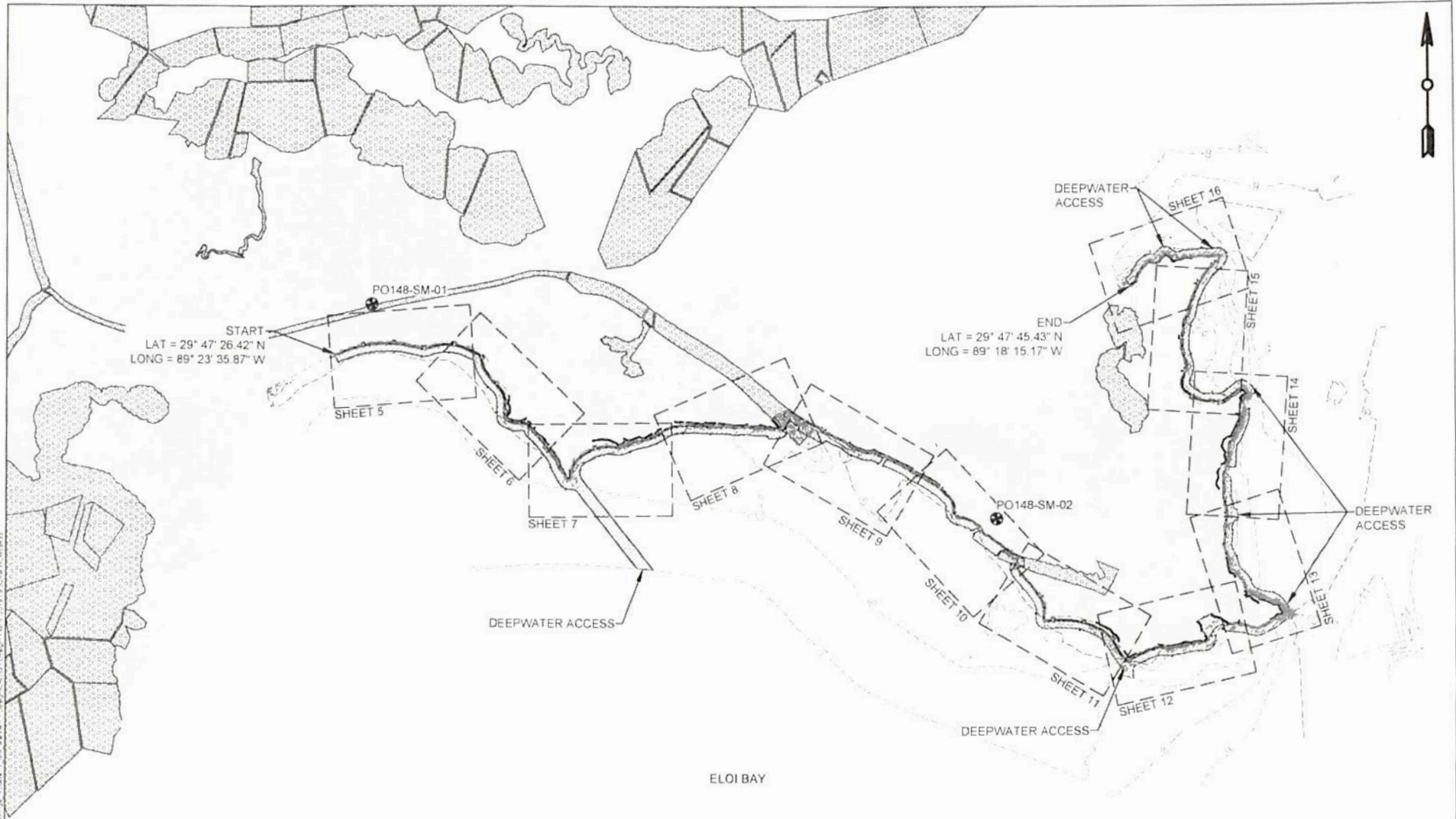
TYPICAL REFERENCE SYMBOLS






PRELIMINARY
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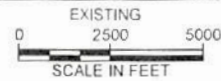
APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT NOTES
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER: SHEET 2 OF 20




LEGEND

-  TEMPORARY ACCESS/FLOTATION CHANNEL AND SPOIL PLACEMENT AREA
-  OYSTER LEASE AREAS
-  OYSTER REEF BREAKWATER AND MARINE MATTRESS

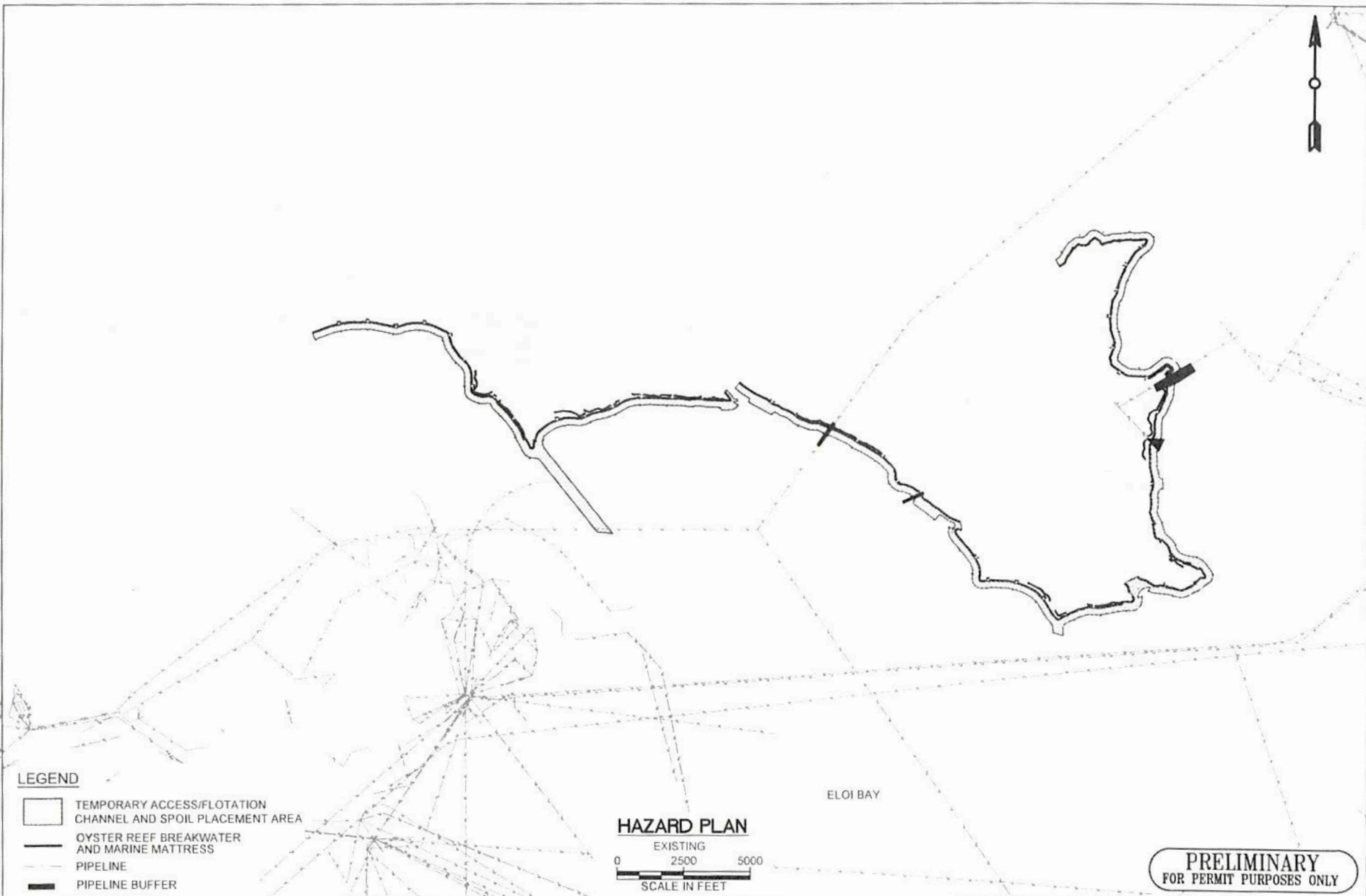
OVERALL LAYOUT



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	STATE PROJECT NUMBER: PO-0174	BILOXI MARSH LIVING SHORELINE PROJECT	OVERALL LAYOUT DATE: 2/5/19
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER:	SHEET 3 OF 20

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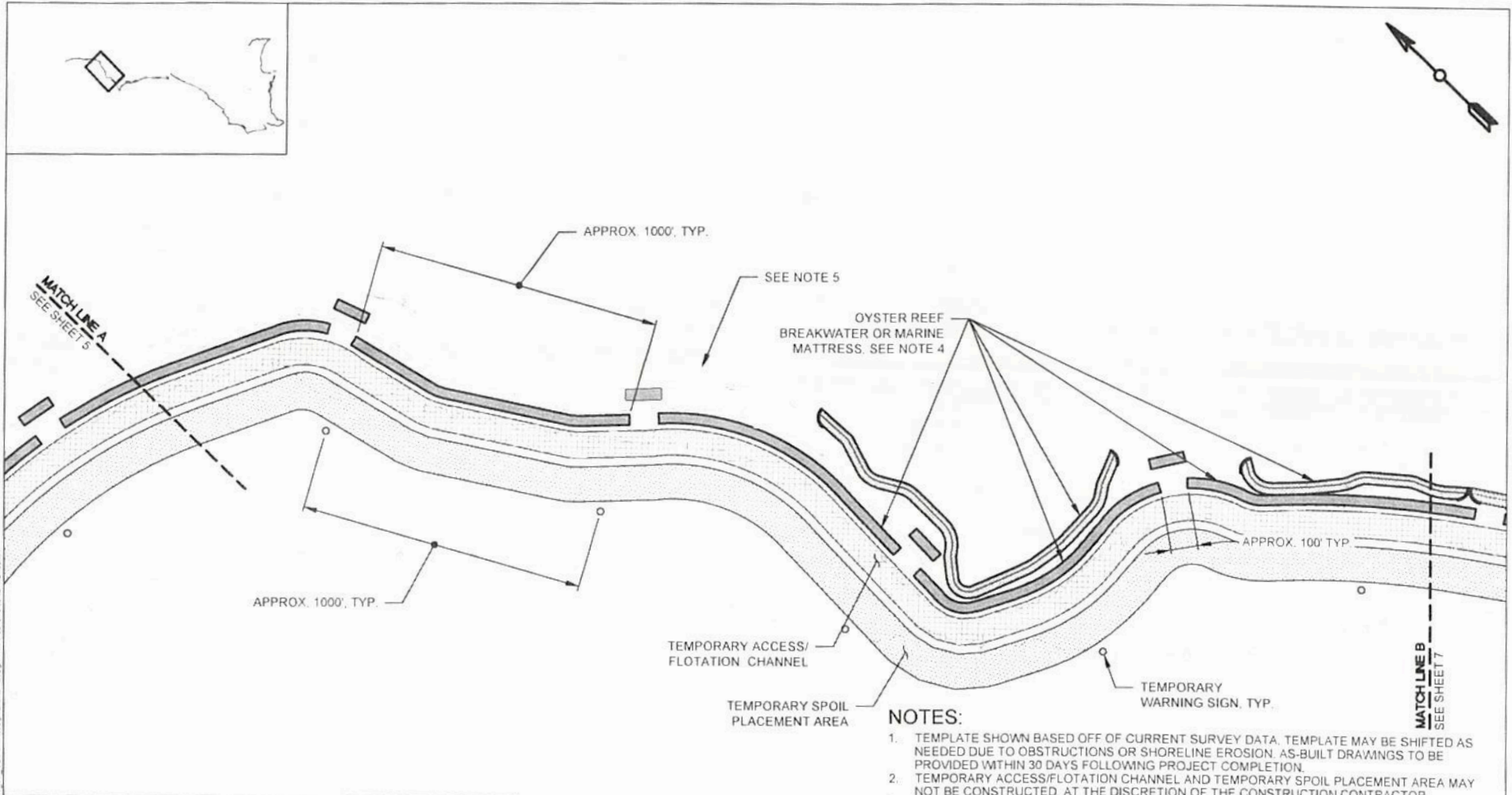
- TEMPORARY ACCESS/FLOTATION CHANNEL AND SPOIL PLACEMENT AREA
- OYSTER REEF BREAKWATER AND MARINE MATTRESS
- PIPELINE
- PIPELINE BUFFER

HAZARD PLAN



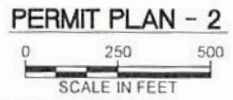
PRELIMINARY
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APPLICATION BY: COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	<div style="font-size: 2em; font-weight: bold; margin-bottom: 5px;">M</div> <div style="font-size: 2em; font-weight: bold; margin-bottom: 5px;">M</div> MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com		BILOXI MARSH LIVING SHORELINE PROJECT STATE PROJECT NUMBER PO-0174 FEDERAL PROJECT NUMBER	HAZARD PLAN DATE 2/5/19 SHEET 4 OF 20
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)		



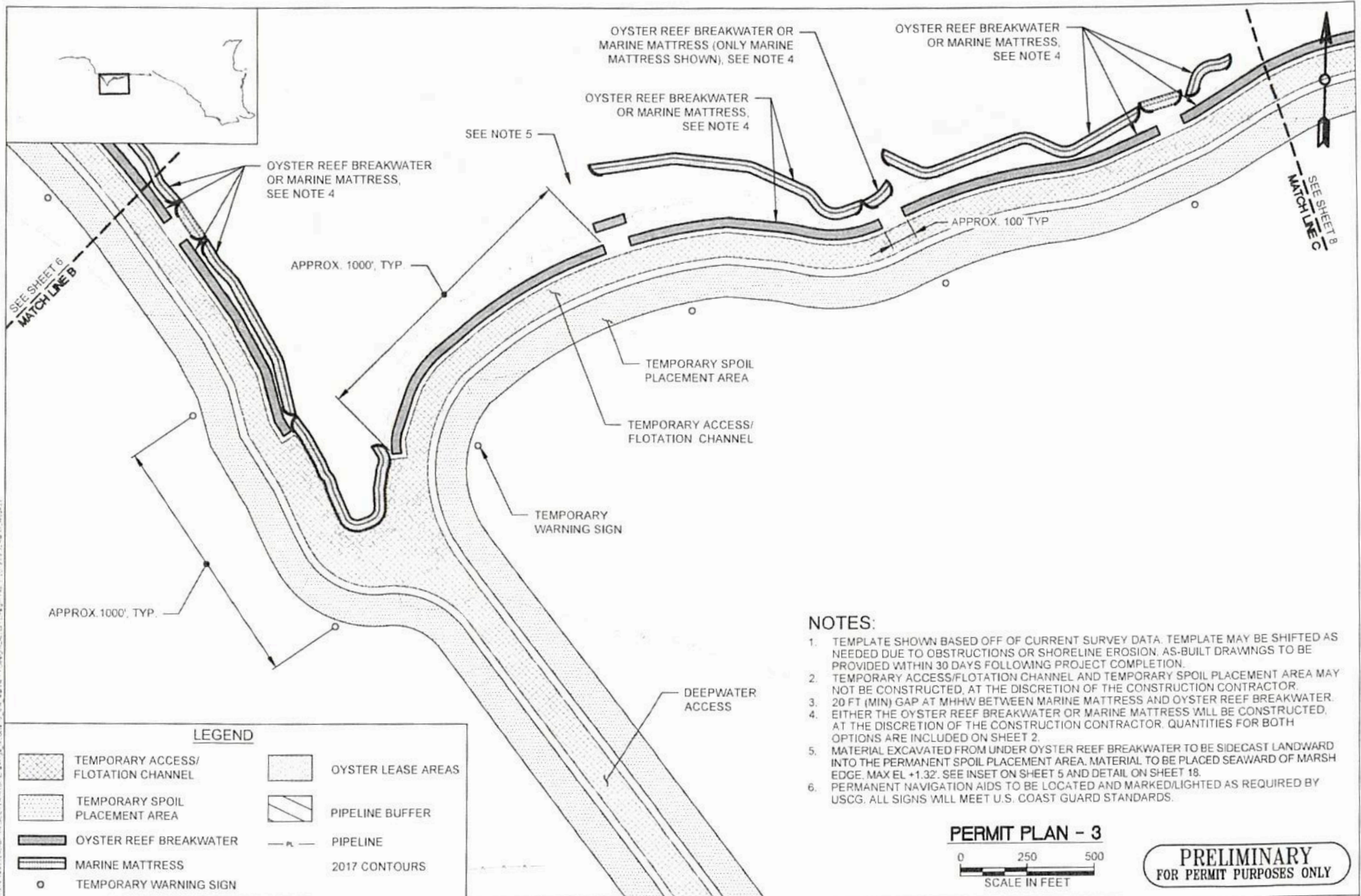
LEGEND	
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY SPOIL PLACEMENT AREA
	OYSTER REEF BREAKWATER
	MARINE MATTRESS
	TEMPORARY WARNING SIGN
	OYSTER LEASE AREAS
	PIPELINE BUFFER
	PIPELINE
	2017 CONTOURS

- NOTES:**
1. TEMPLATE SHOWN BASED OFF OF CURRENT SURVEY DATA. TEMPLATE MAY BE SHIFTED AS NEEDED DUE TO OBSTRUCTIONS OR SHORELINE EROSION. AS-BUILT DRAWINGS TO BE PROVIDED WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
 2. TEMPORARY ACCESS/FLOTATION CHANNEL AND TEMPORARY SPOIL PLACEMENT AREA MAY NOT BE CONSTRUCTED. AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR.
 3. 20 FT (MIN) GAP AT MHHW BETWEEN MARINE MATTRESS AND OYSTER REEF BREAKWATER
 4. EITHER THE OYSTER REEF BREAKWATER OR MARINE MATTRESS WILL BE CONSTRUCTED. AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR. QUANTITIES FOR BOTH OPTIONS ARE INCLUDED ON SHEET 2.
 5. MATERIAL EXCAVATED FROM UNDER OYSTER REEF BREAKWATER TO BE SIDECAST LANDWARD INTO THE PERMANENT SPOIL PLACEMENT AREA. MATERIAL TO BE PLACED SEAWARD OF MARSH EDGE, MAX EL +1.32'. SEE INSET ON SHEET 5 AND DETAIL ON SHEET 18.
 6. PERMANENT NAVIGATION AIDS TO BE LOCATED AND MARKED/LIGHTED AS REQUIRED BY USCG. ALL SIGNS WILL MEET U.S. COAST GUARD STANDARDS.



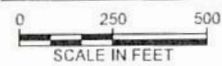
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			STATE PROJECT NUMBER PO-0174	DATE 2/5/19
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR, P.E.	FEDERAL PROJECT NUMBER	SHEET 6 OF 20	



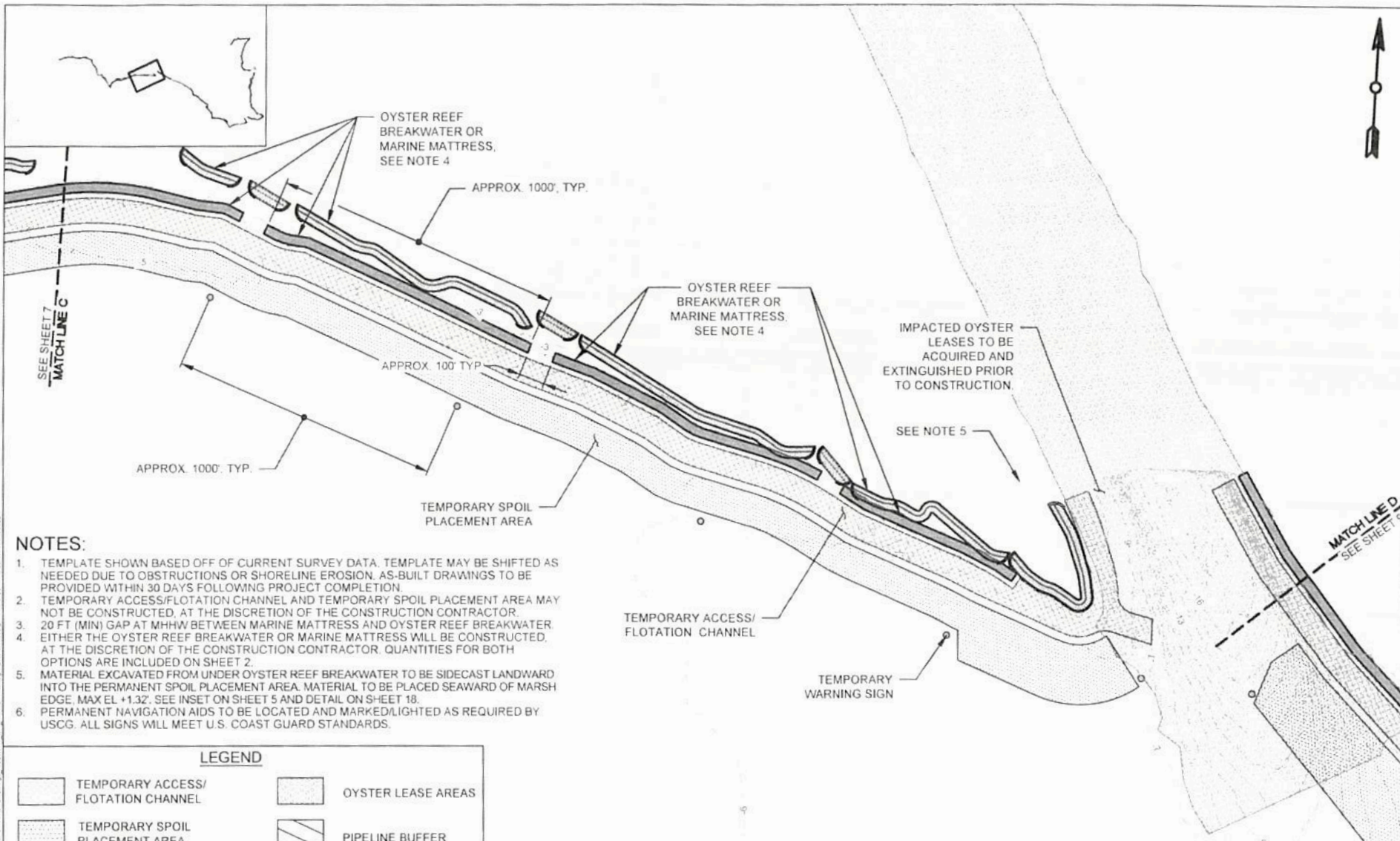
- NOTES:**
1. TEMPLATE SHOWN BASED OFF OF CURRENT SURVEY DATA. TEMPLATE MAY BE SHIFTED AS NEEDED DUE TO OBSTRUCTIONS OR SHORELINE EROSION. AS-BUILT DRAWINGS TO BE PROVIDED WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
 2. TEMPORARY ACCESS/FLOTATION CHANNEL AND TEMPORARY SPOIL PLACEMENT AREA MAY NOT BE CONSTRUCTED, AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR.
 3. 20 FT (MIN) GAP AT MHHW BETWEEN MARINE MATTRESS AND OYSTER REEF BREAKWATER.
 4. EITHER THE OYSTER REEF BREAKWATER OR MARINE MATTRESS WILL BE CONSTRUCTED, AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR. QUANTITIES FOR BOTH OPTIONS ARE INCLUDED ON SHEET 2.
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 6. PERMANENT NAVIGATION AIDS TO BE LOCATED AND MARKED/LIGHTED AS REQUIRED BY USCG. ALL SIGNS WILL MEET U.S. COAST GUARD STANDARDS.

PERMIT PLAN - 3



**PRELIMINARY
FOR PERMIT PURPOSES ONLY**

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT PLAN - 3
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J CARTER, P.E. (LA PE 33391)	STATE PROJECT NUMBER: PO-0174 FEDERAL PROJECT NUMBER
DATE: 2/5/19		SHEET 7 OF 20	



NOTES:

1. TEMPLATE SHOWN BASED OFF OF CURRENT SURVEY DATA. TEMPLATE MAY BE SHIFTED AS NEEDED DUE TO OBSTRUCTIONS OR SHORELINE EROSION. AS-BUILT DRAWINGS TO BE PROVIDED WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
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LEGEND

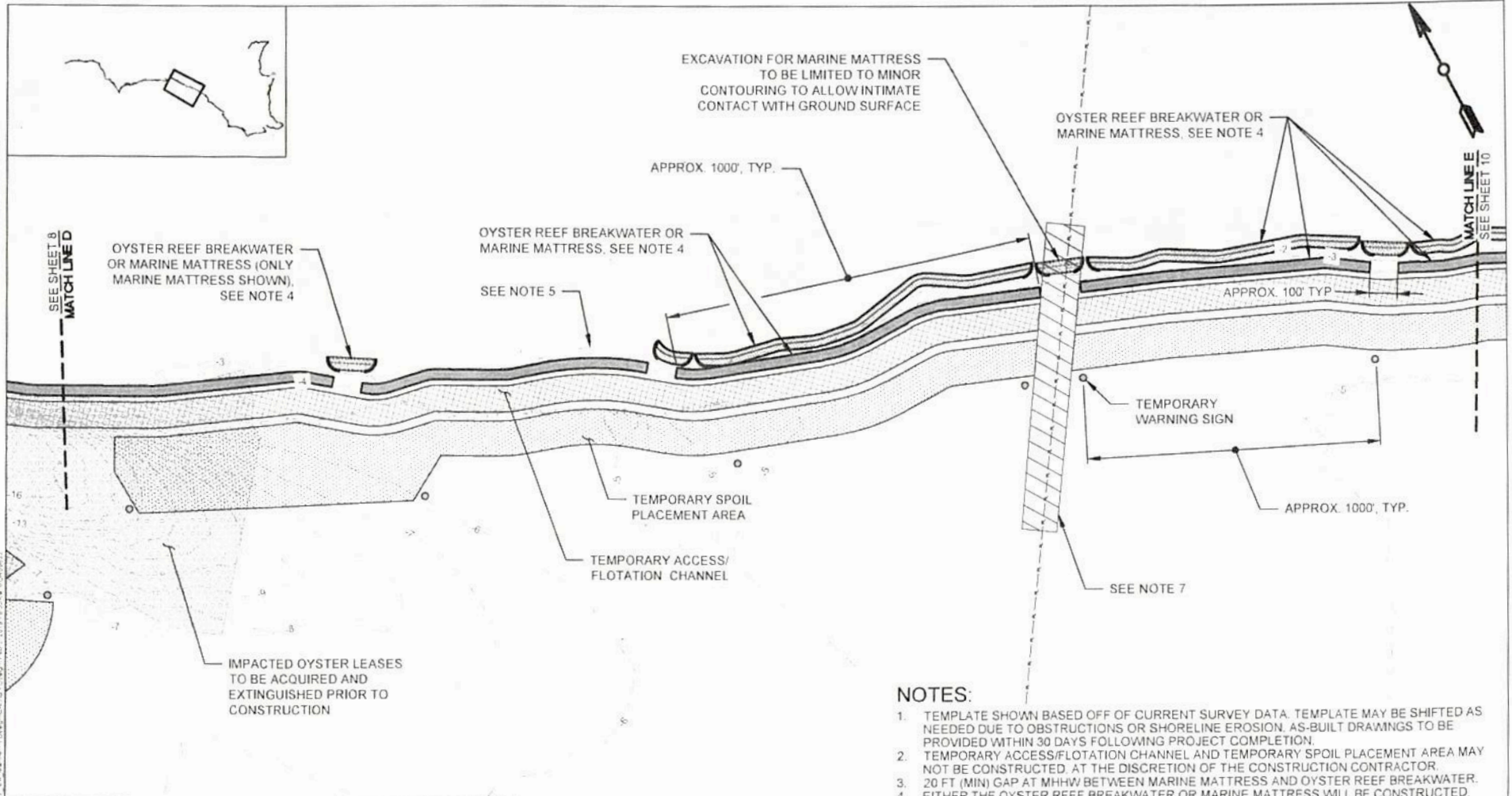
	TEMPORARY ACCESS/ FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
	OYSTER REEF BREAKWATER		PIPELINE
	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		

PERMIT PLAN - 4



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT PLAN - 4
			STATE PROJECT NUMBER PO-0174
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE: 33391)	FEDERAL PROJECT NUMBER
			SHEET 8 OF 20



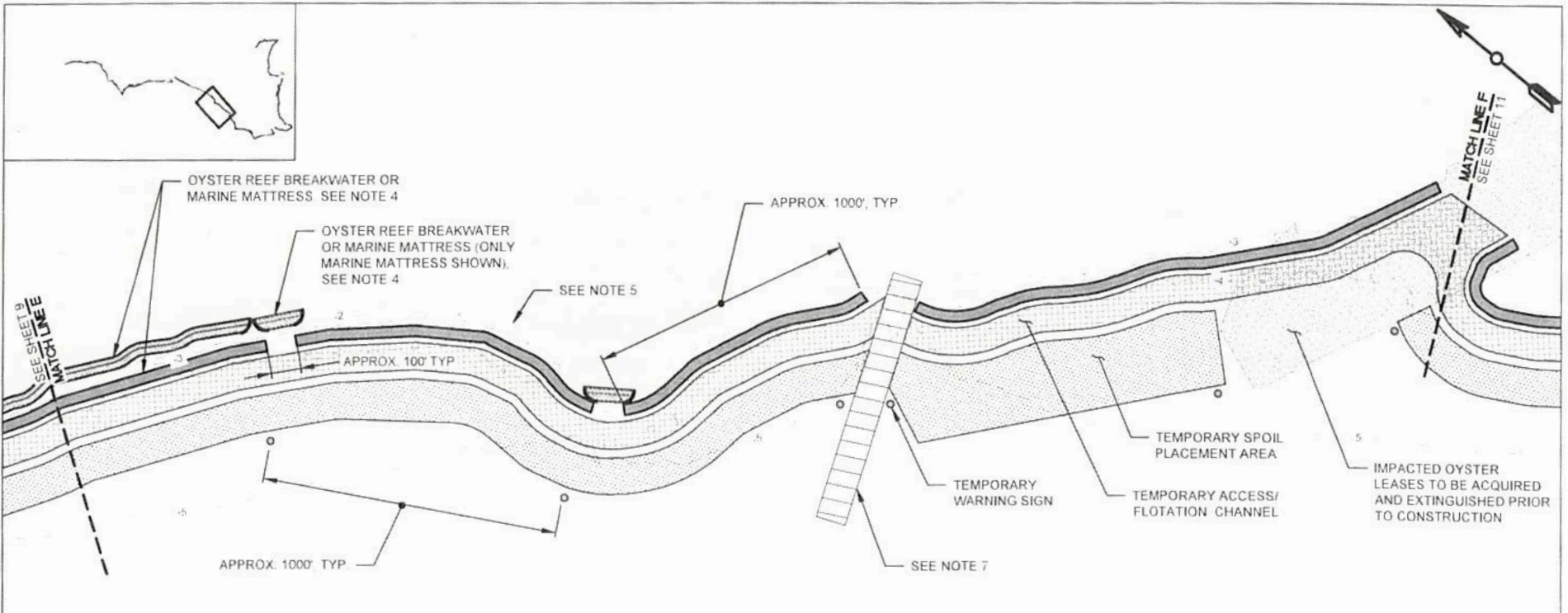
LEGEND	
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY SPOIL PLACEMENT AREA
	OYSTER REEF BREAKWATER
	MARINE MATTRESS
	TEMPORARY WARNING SIGN
	OYSTER LEASE AREAS
	PIPELINE BUFFER
	PIPELINE
	2017 CONTOURS

- NOTES:**
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 7. NO DEEP DRAFT ACCESS OVER PIPELINE BUFFER. CONTRACTOR SHALL LIGHT-LOAD TO CROSS OR ACCESS VIA DEEPWATER ACCESS LOCATIONS SHOWN ON SHEET 3.



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT PLAN - 5
			STATE PROJECT NUMBER PO-0174
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER SHEET 9 OF 20



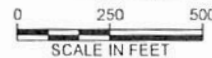
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LEGEND

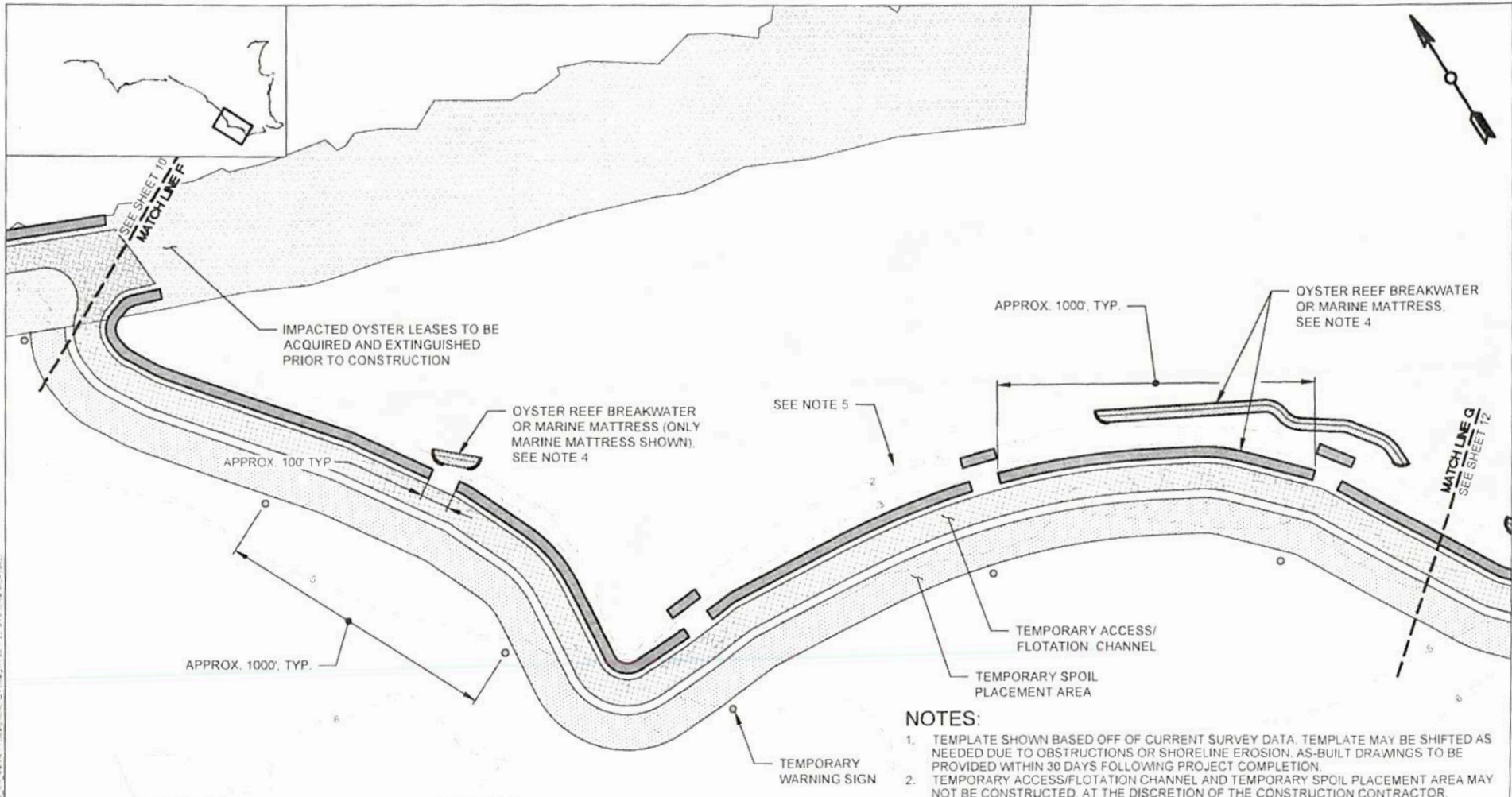
	TEMPORARY ACCESS/ FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
	OYSTER REEF BREAKWATER		PIPELINE
	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		

PERMIT PLAN - 6



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT		PERMIT PLAN - 6
		STATE PROJECT NUMBER PO-0174		DATE 2/5/19
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER:	SHEET 10 OF 20



LEGEND

	TEMPORARY ACCESS/ FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
	OYSTER REEF BREAKWATER		PIPELINE
	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		

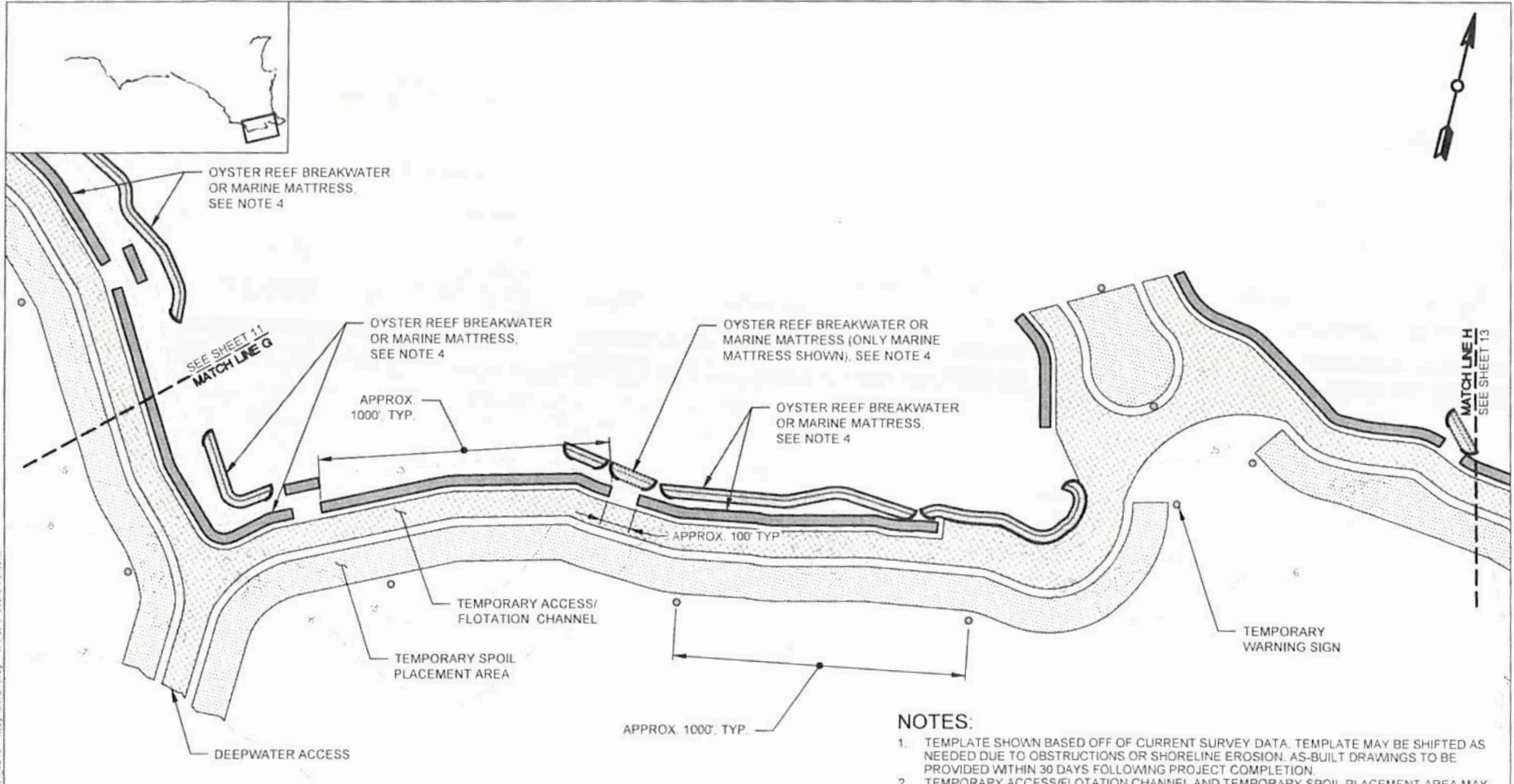
PERMIT PLAN - 7

SCALE IN FEET

- NOTES:**
1. TEMPLATE SHOWN BASED OFF OF CURRENT SURVEY DATA. TEMPLATE MAY BE SHIFTED AS NEEDED DUE TO OBSTRUCTIONS OR SHORELINE EROSION. AS-BUILT DRAWINGS TO BE PROVIDED WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
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PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	APPROVED BY J. CARTER, P.E. (LA PE 33391)	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT PLAN - 7
			STATE PROJECT NUMBER PO-0174	DATE 2/5/19
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR, P.E.	APPROVED BY J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER	SHEET 11 OF 20

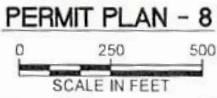


LEGEND

TEMPORARY ACCESS/FLOTATION CHANNEL	OYSTER LEASE AREAS
TEMPORARY SPOIL PLACEMENT AREA	PIPELINE BUFFER
OYSTER REEF BREAKWATER	PIPELINE
MARINE MATTRESS	2017 CONTOURS
TEMPORARY WARNING SIGN	

NOTES:

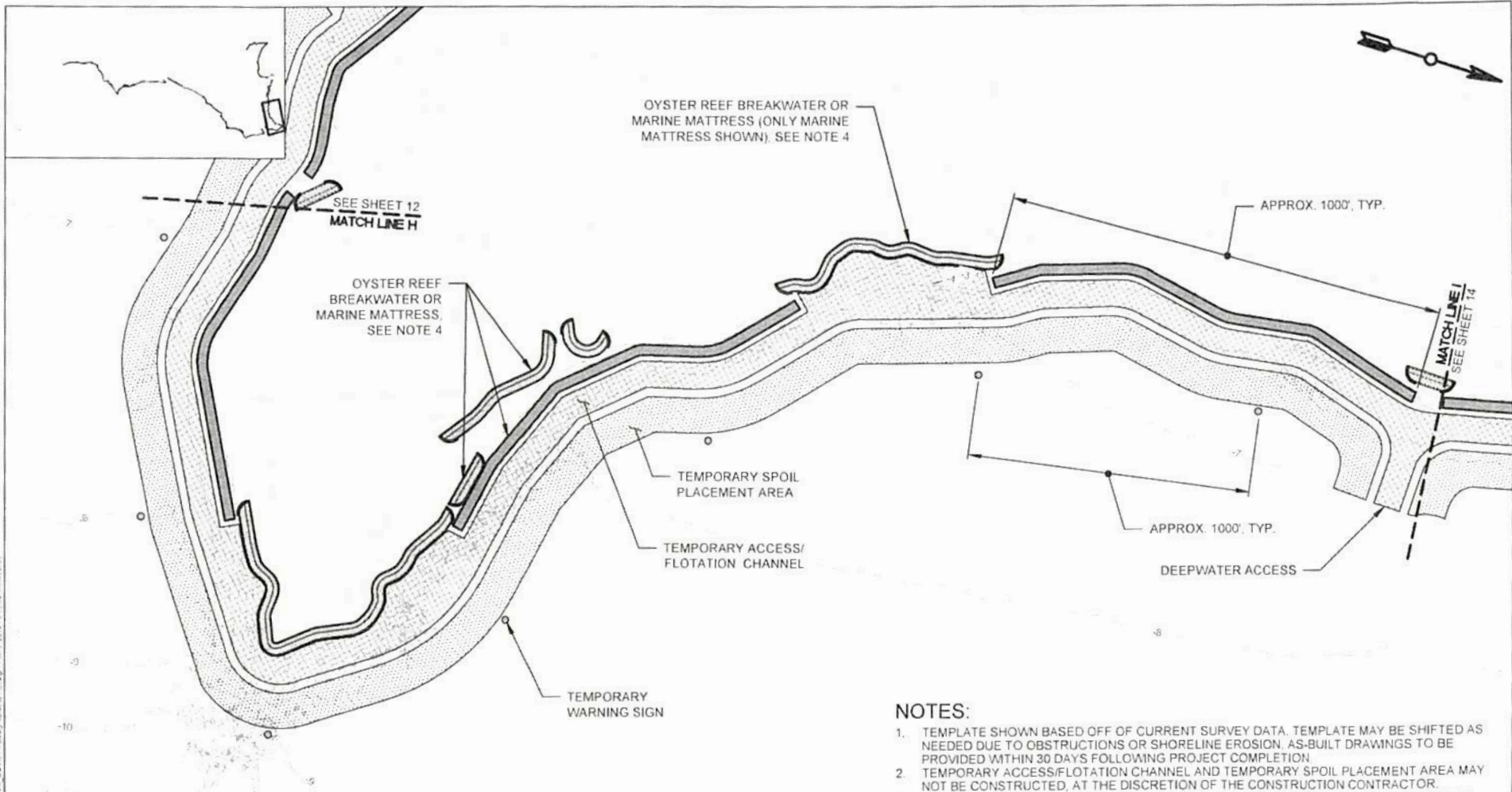
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			FEDERAL PROJECT NUMBER:	DATE: 2/5/19
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	SHEET 12 OF 20	

DATE: 02/05/19 08:54:47 AM; PLOT: C:\projects\2019\Biloxi Marsh Living Shoreline\Drawings\2019\2019-02-05\Biloxi Marsh Living Shoreline - Permit Plan - 8.dwg; PLOT DATE: 2/5/19 8:54:47 AM; PLOT SCALE: 1:1; PLOT SHEET: 12 OF 20



- NOTES:**
1. TEMPLATE SHOWN BASED OFF OF CURRENT SURVEY DATA. TEMPLATE MAY BE SHIFTED AS NEEDED DUE TO OBSTRUCTIONS OR SHORELINE EROSION. AS-BUILT DRAWINGS TO BE PROVIDED WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
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LEGEND

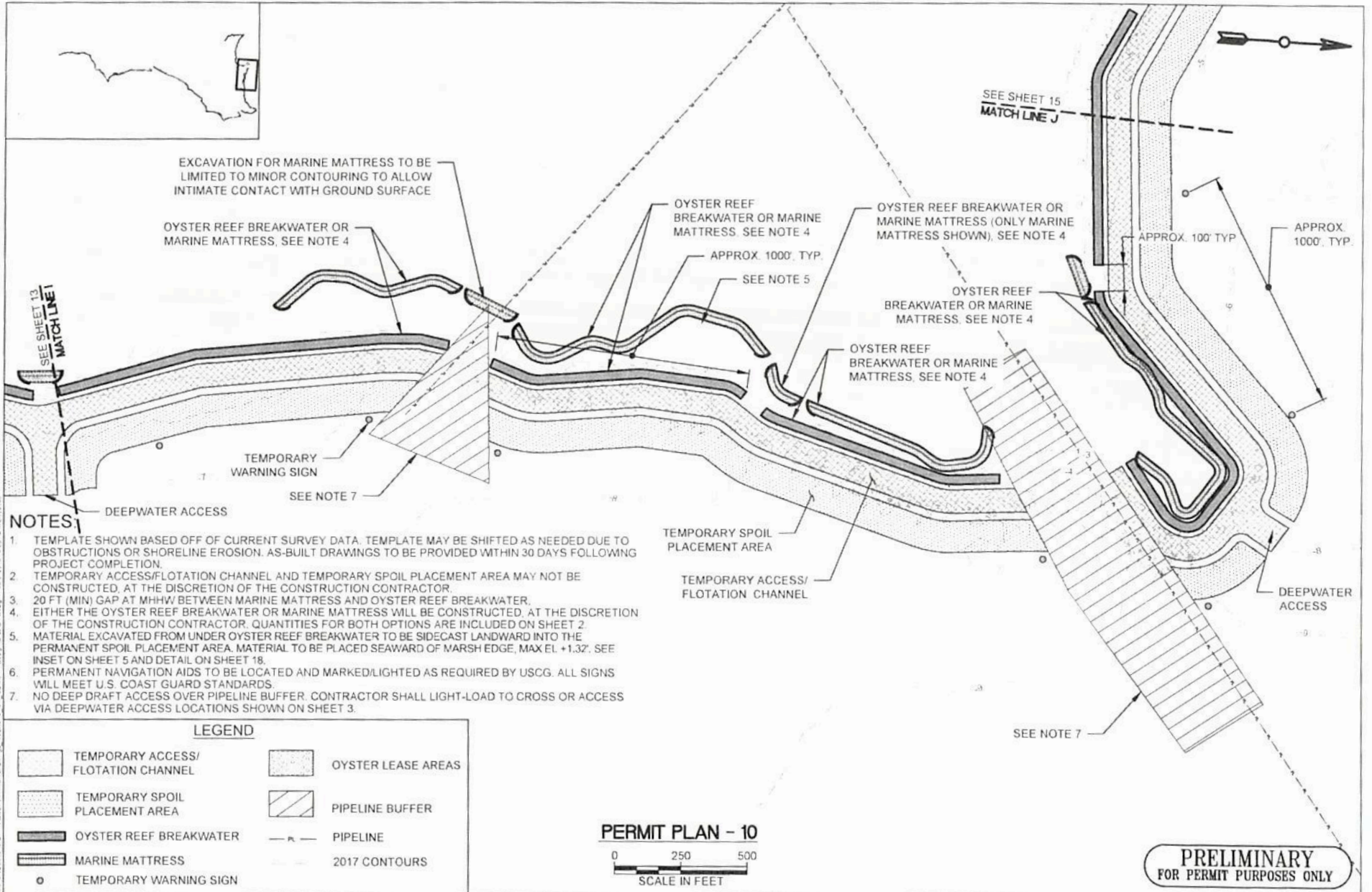
	TEMPORARY ACCESS/FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
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	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		



PRELIMINARY
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APPLICATION BY: COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	STATE PROJECT NUMBER: PO-0174	PERMIT PLAN - 9
			DATE 2/5/19
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER:
			SHEET 13 OF 20

DATE PLOTTED: 02/05/19 10:58 AM; PLOTTER: HP DesignJet T1100PS; PLOT SCALE: 1"=50'; PLOT SHEET: 13 OF 20; PLOT TITLE: PERMIT PLAN - 9



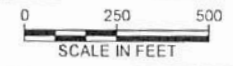
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LEGEND

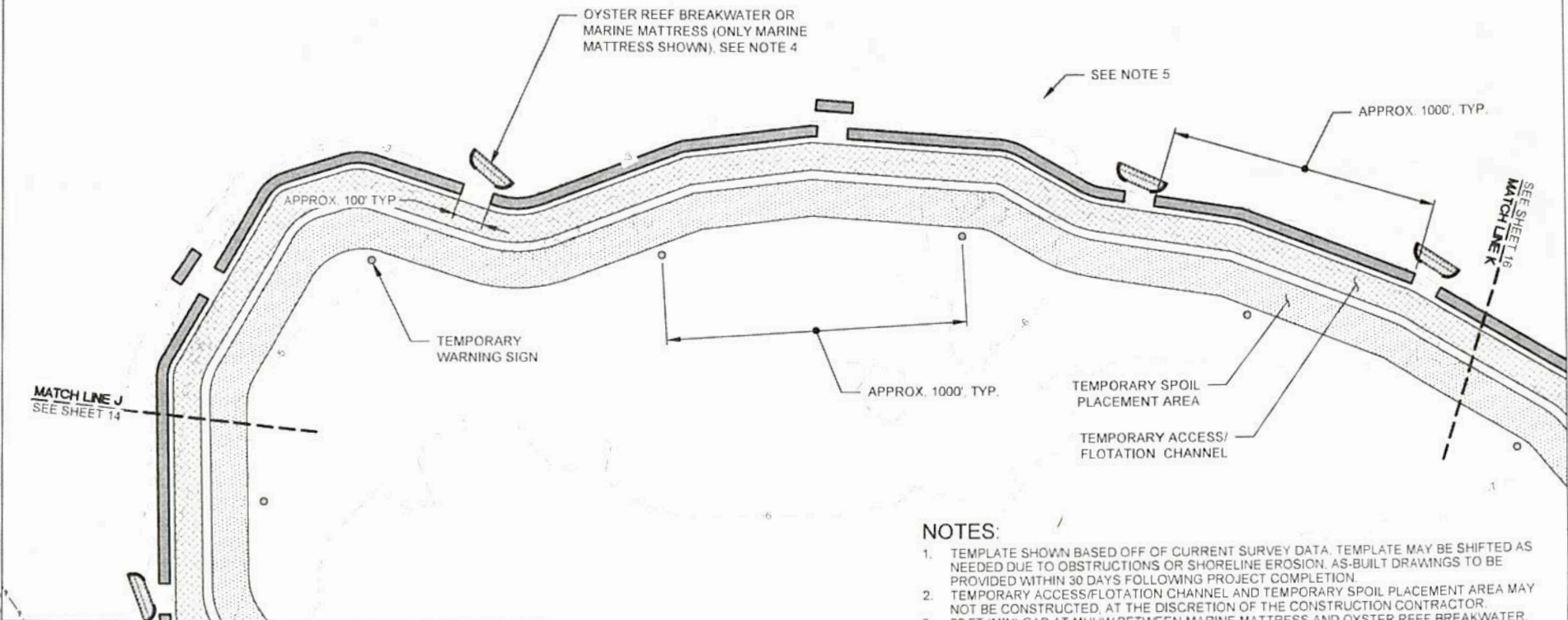
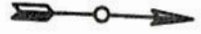
	TEMPORARY ACCESS/ FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
	OYSTER REEF BREAKWATER		PIPELINE
	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		

PERMIT PLAN - 10



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD	650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT		PERMIT PLAN - 10
			STATE PROJECT NUMBER: PO-0174	DATE: 2/5/19	
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER:	SHEET 14 OF 20	



LEGEND

	TEMPORARY ACCESS/ FLOTATION CHANNEL		OYSTER LEASE AREAS
	TEMPORARY SPOIL PLACEMENT AREA		PIPELINE BUFFER
	OYSTER REEF BREAKWATER		PIPELINE
	MARINE MATTRESS		2017 CONTOURS
	TEMPORARY WARNING SIGN		

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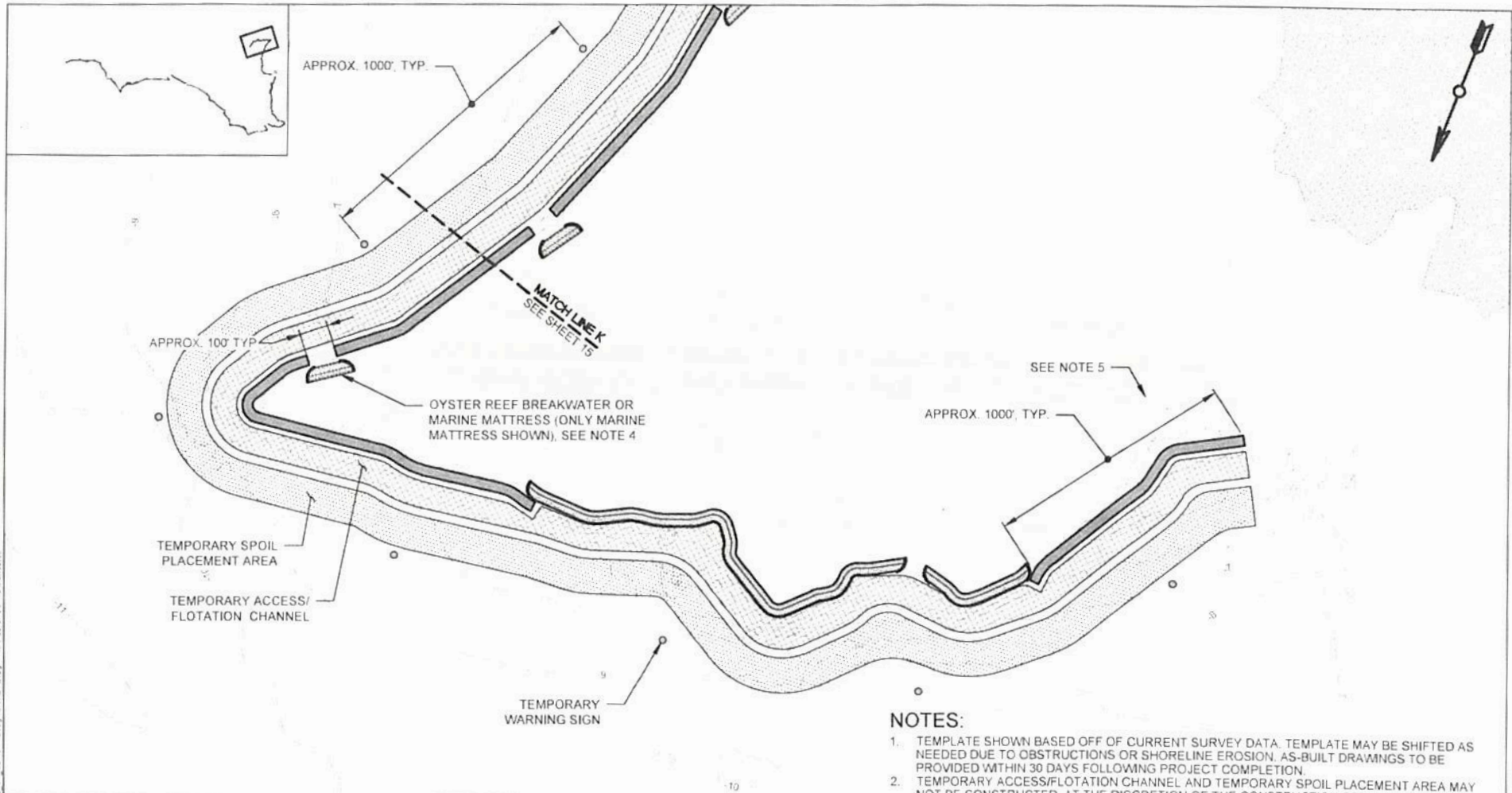
PERMIT PLAN - 11



PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	PERMIT PLAN - 11
			STATE PROJECT NUMBER: PO-0174
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER: _____ SHEET 15 OF 20

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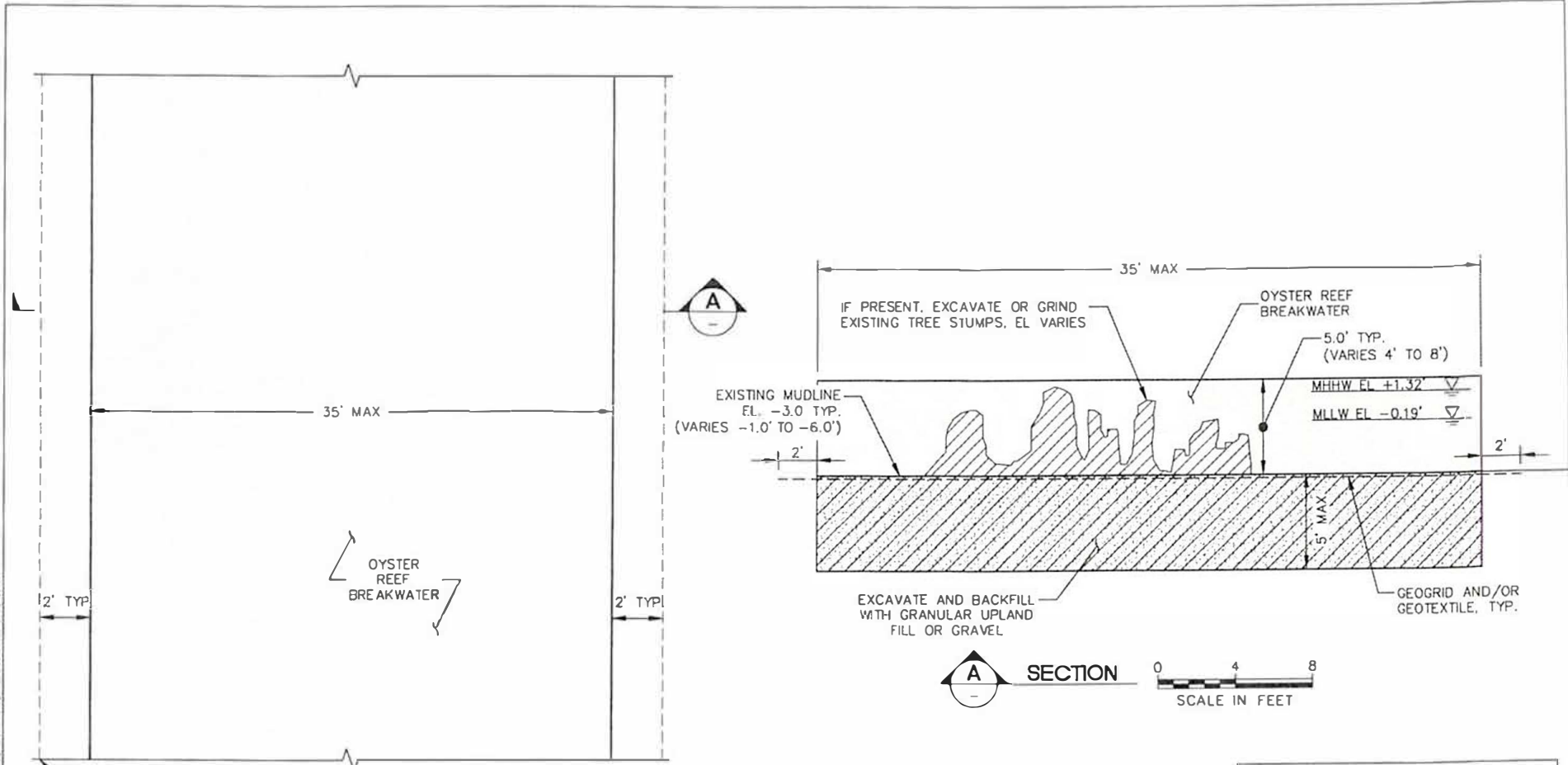
LEGEND	
	TEMPORARY ACCESS/FLOTATION CHANNEL
	TEMPORARY SPOIL PLACEMENT AREA
	OYSTER REEF BREAKWATER
	MARINE MATTRESS
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	2017 CONTOURS

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			STATE PROJECT NUMBER: PO-0174	FEDERAL PROJECT NUMBER:	DATE: 2/5/19
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER:	DATE: 2/5/19	SHEET 16 OF 20



LEGEND

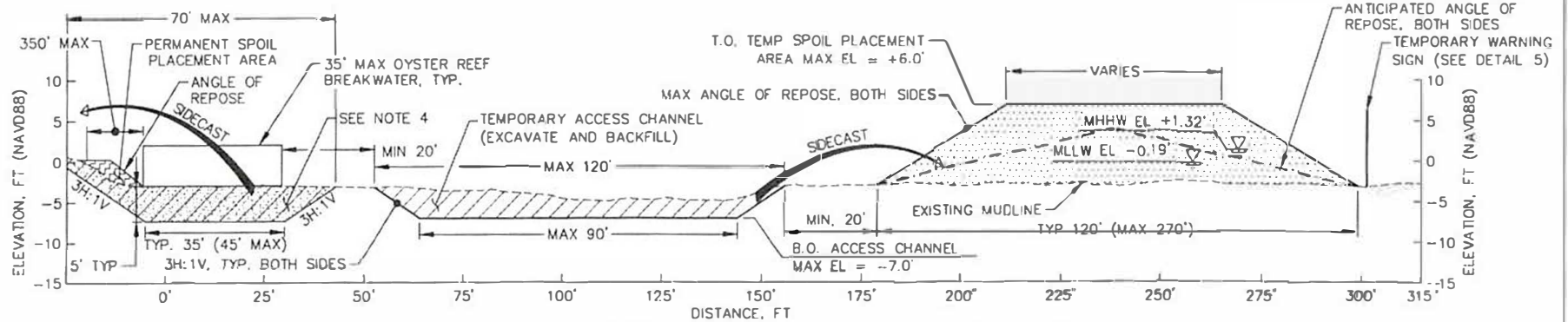
- OYSTER REEF BREAKWATER
- EXCAVATION & BACKFILL WITH GRANULAR UPLAND FILL OR GRAVEL
- EXISTING TREE STUMPS

NOTES

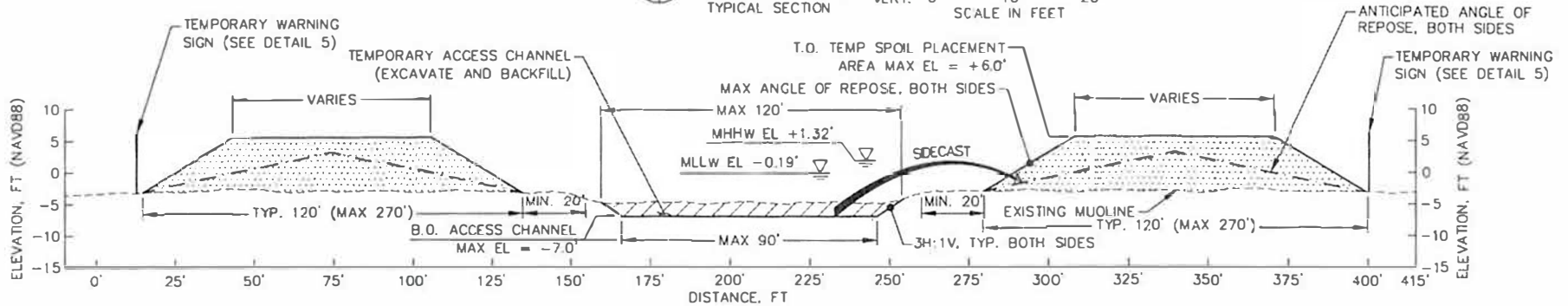
1. OYSTER REEF BREAKWATER UNITS WILL BE COMPOSED OF CONCRETE, STEEL, MESH, GEOGRID, PILES, ROCK, OYSTER SHELL, PILES, ROCK, CHAINS, ANCHORS, FLOATING PLATFORMS, AND/OR SIMILAR MATERIAL.
2. EXISTING TREE STUMPS MAY NOT BE EXCAVATED/GROUND, AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR.
3. EXCAVATION AND BACKFILL MAY NOT BE PERFORMED, AT THE DISCRETION OF THE CONSTRUCTION CONTRACTOR.

PRELIMINARY
FOR PERMIT PURPOSES ONLY

APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD	650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	BREAKWATER DETAILS
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR P E	APPROVED BY J. CARTER P.E. (LA PE 33391)	STATE PROJECT NUMBER PO-0174	DATE 2/5/19
			FEDERAL PROJECT NUMBER	SHEET 17 OF 20



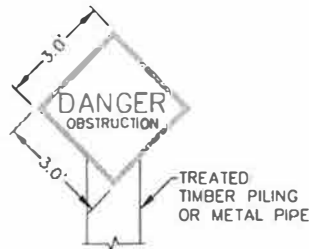
3 DETAIL
FLOTATION CHANNEL TYPICAL SECTION
HORIZ. 0 20 40
VERT. 0 10 20
SCALE IN FEET



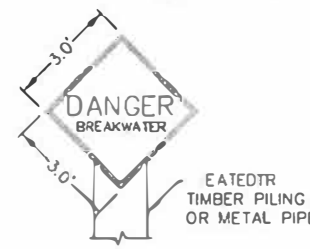
4 DETAIL
ACCESS CHANNEL ENTRANCE TYPICAL SECTION
HORIZ. 0 25 50
VERT. 0 12.5 25
SCALE IN FEET

NOTES

1. THE TEMPORARY SPOILS SHALL BE BACKFILLED INTO THE TEMPORARY ACCESS AND FLOTATION CHANNEL AT THE COMPLETION OF THE PROJECT.
2. TEMPORARY WARNING SIGNS SHALL BE INSTALLED AT LOCATIONS SHOWN ON SHEETS 5-16. PERMANENT NAVIGATION AIDS TO BE LOCATED AND MARKED/LIGHTED AS REQUIRED BY USCG. ALL SIGNS WILL MEET U.S. COAST GUARD STANDARDS.
3. DISTANCE FROM MLLW TO OYSTER REEF BREAKWATER VARIES FROM 0' TO 350'.
4. EXCAVATE AND BACKFILL WITH GRANULAR UPLAND FILL OR GRAVEL. MATERIAL EXCAVATED FROM UNDER OYSTER REEF BREAKWATER TO BE SIDECAST LANDWARD INTO THE PERMANENT SPOIL PLACEMENT AREA. MATERIAL TO BE PLACED SEAWARD OF MARSH EDGE, MAX EL +1.32'. SEE INSET ON SHEET 5.



5 DETAIL
TEMPORARY WARNING SIGN

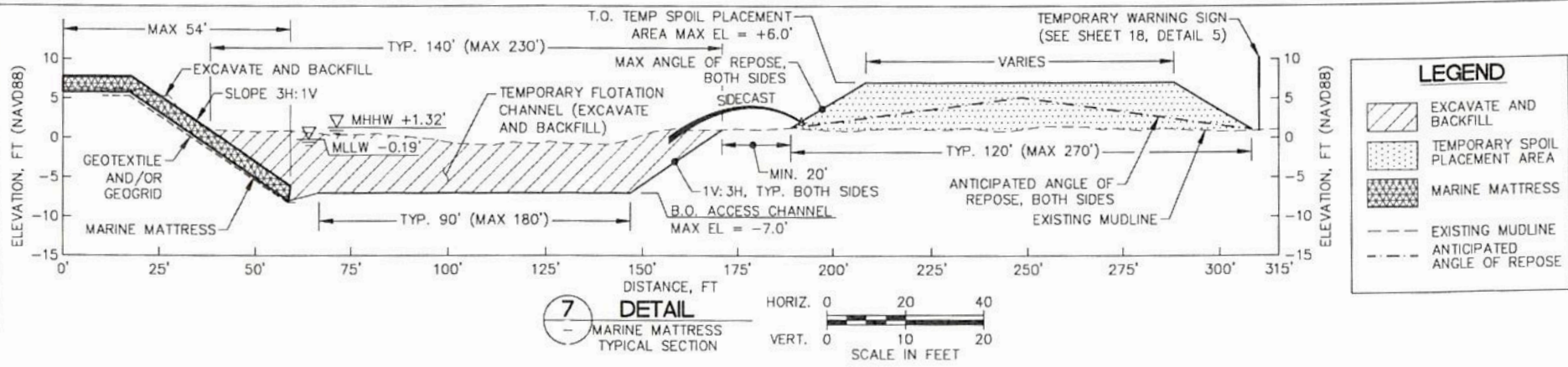


6 DETAIL
PERMANENT NAVIGATION AID

LEGEND	
	OYSTER REEF BREAKWATER
	TEMPORARY SPOIL PLACEMENT AREA
	EXCAVATION & BACKFILL WITH GRANULAR UPLAND FILL OR GRAVEL
	PERMANENT SPOIL PLACEMENT AREA
	EXCAVATION & BACKFILL
	EXISTING MUDLINE
	ANTICIPATED ANGLE OF REPOSE

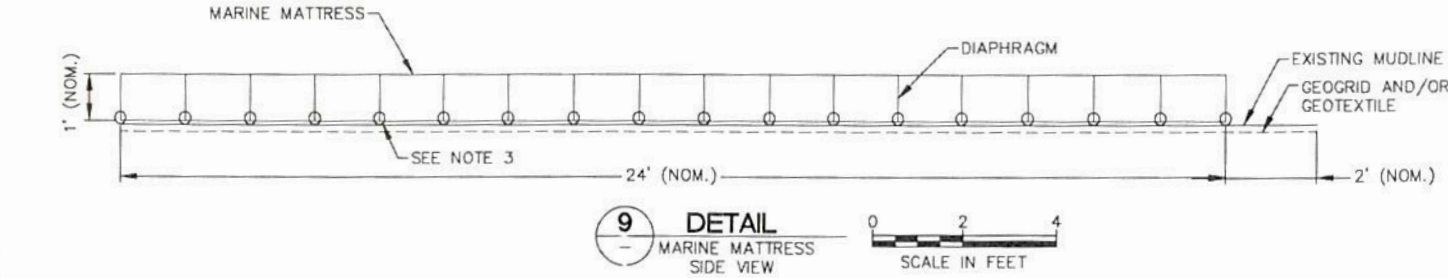
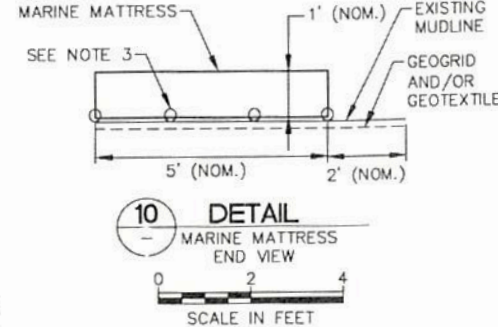
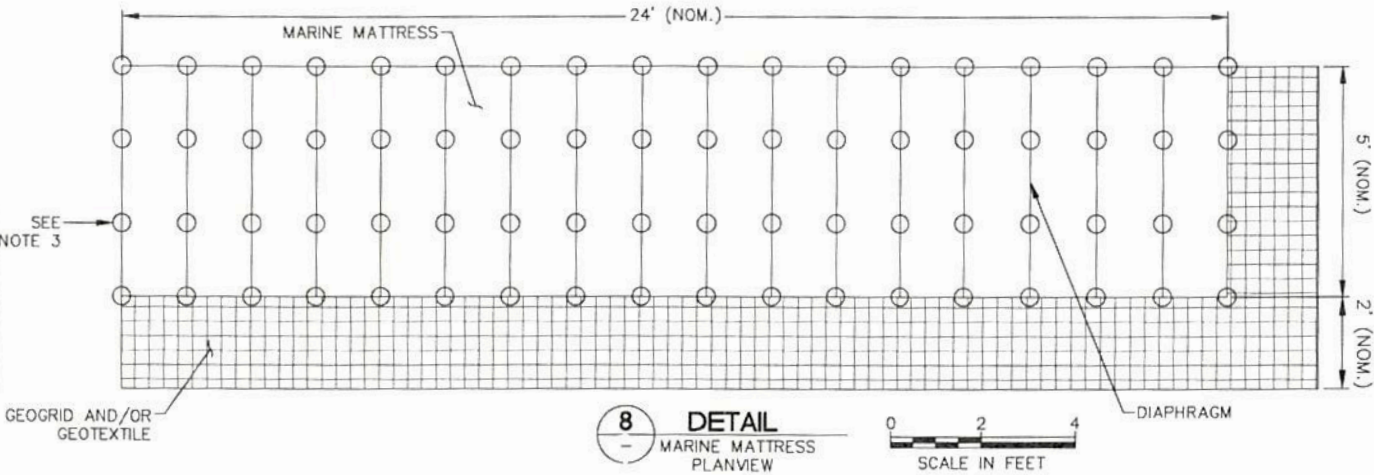
PRELIMINARY
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APPLICATION BY COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD 650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	ACCESS CHANNEL DETAILS
			STATE PROJECT NUMBER PO-0174
DRAWN BY: S KINNINGHAM	DESIGNED BY: C CONNOR, P.E.	APPROVED BY: J CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER
			SHEET 18 OF 20



LEGEND

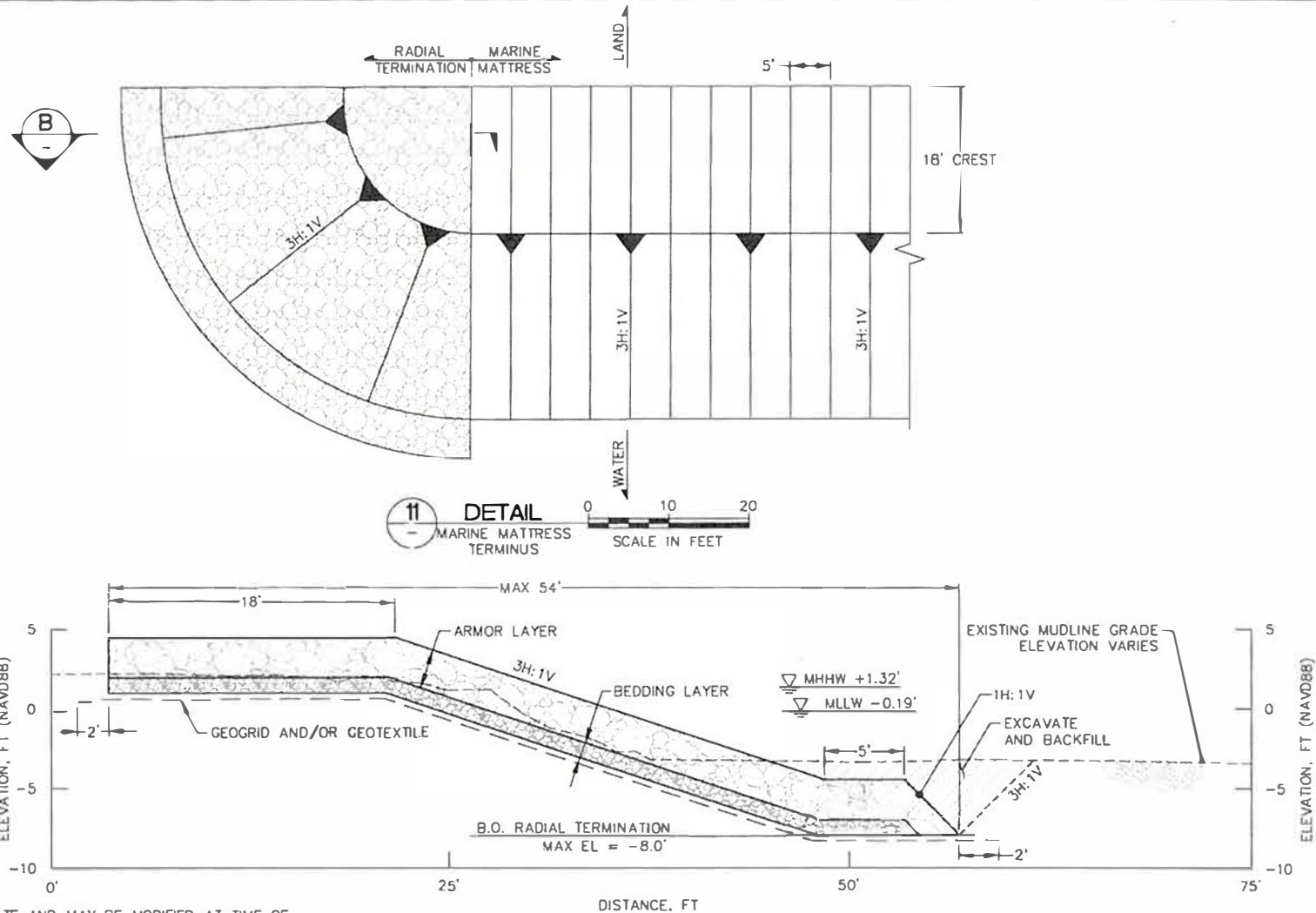
- EXCAVATE AND BACKFILL
- TEMPORARY SPOIL PLACEMENT AREA
- MARINE MATTRESS
- EXISTING MUDLINE
- ANTICIPATED ANGLE OF REPOSE



- NOTES**
1. DIMENSIONS ARE APPROXIMATE AND MAY BE MODIFIED AT TIME OF CONSTRUCTION.
 2. MARINE MATTRESS TERMINUS OR BENDS TO BE CONSTRUCTED WITH STONE, MARINE MATTRESS OR SIMILAR.
 3. GEOGRID AND/OR GEOTEXTILE SHALL BE SECURELY FASTENED TO THE BOTTOM OF EACH MARINE MATTRESS. FASTENERS SHALL BE PLACED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 4. GEOGRID AND/OR GEOTEXTILE SHALL OVERLAP THE MARINE MATTRESS ON ONE SIDE AND AT ONE END TO ALLOW FOR END-TO-END AND SIDE-TO-SIDE OVERLAP BETWEEN ADJACENT MATTRESSES.

**PRELIMINARY
FOR PERMIT PURPOSES ONLY**

APPLICATION BY: COASTAL PROTECTION AND RESTORATION AUTHORITY 150 TERRACE AVENUE, BATON ROUGE, LA 70802	 MOTT MACDONALD	650 Poydras Street Suite 2025 New Orleans, Louisiana 70130 T +1 (504) 529 7687 www.mottmac.com	BILOXI MARSH LIVING SHORELINE PROJECT	MARINE MATTRESS DETAILS 1
			STATE PROJECT NUMBER PO-0174	DATE 2/5/19
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR, P.E.	APPROVED BY J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER	SHEET 19 OF 20



11 DETAIL
MARINE MATTRESS TERMINUS
SCALE IN FEET

B SECTION
MARINE MATTRESS TERMINUS
SCALE IN FEET

NOTES

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			STATE PROJECT NUMBER PO-0174	DATE 2/5/19
DRAWN BY S KINNINGHAM	DESIGNED BY C CONNOR, P.E.	APPROVED BY J. CARTER, P.E. (LA PE 33391)	FEDERAL PROJECT NUMBER	SHEET 20 OF 20