

OPERATION, MAINTENANCE AND REHABILITATION PLAN
FOR THE
WHISKEY ISLAND BACK BARRIER ISLAND MARSH CREATION
PROJECT (TE-50)



November 13, 2017



Coastal Protection and
Restoration Authority of Louisiana



**OPERATION, MAINTENANCE, AND REHABILITATION
PLAN**

**WHISKEY ISLAND BACK BARRIER MARSH
CREATION PROJECT
TE-50**

November 13, 2017

Prepared by:
Coastal Protection and Restoration Authority
Operations Division
Thibodaux Regional Office

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History of Revisions

OPERATION, MAINTENANCE, AND REHABILITATION PLAN
WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT

(TE-50)

The Coastal Protection and Restoration Authority (CPRA) and the United States Environmental Protection Agency (EPA) agree to carry out the terms of this Operation, Maintenance, and Rehabilitation Plan (hereinafter referred to as the “Plan”) of the accepted, completed project features in accordance with Memorandum of Agreement (MOA) No. C109050309.09, effective on February 9, 2016. (Attachment I – Cooperative Agreement)

The project features covered by this plan are inclusive of and are identified as the Whiskey Island Back Barrier Marsh Creation Project (TE-50). There are no requirements that this project function to any standard beyond the project life, except that it is not left as a hazard to navigation or a detriment to the environment.

Construction of the Whiskey Island Back Barrier Marsh Creation Project (TE-50) was authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) enacted on November 29, 1990, as amended. The Whiskey Island Back Barrier Marsh Creation Project (TE-50) was approved on the 13th Priority Project List.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The Whiskey Island Back Barrier Marsh Creation Project (TE-50) is located on Whiskey Island, one of the islands that comprise the Isles Dernieres barrier island chain, and lies within the Louisiana Department of Wildlife and Fisheries (LDWF) administered Isle Dernieres Barrier Islands Refuge. Whiskey Island is positioned approximately 18 miles southwest of Cocodrie in Terrebonne Parish, Louisiana, and is bounded by Coupe Colin to the west, Whiskey Pass to the east, Lake Pelto, Caillou Boca, and Caillou Bay to the north, and the Gulf of Mexico to the south. (Attachment II – Project Features)

Storm events, subsidence, and gulf and bay erosion had all contributed to the deteriorated state of Whiskey Island. Gulfside and bayside erosion resulted in the narrowing of Whiskey Island as the two shorelines migrate toward each other, subsequently leading to a significant decrease in the average width of the Isles Dernieres. Landloss projections into the future show that if restoration of the Isles Dernieres had not occurred, none of the island chain would remain by 2050. Other predictions suggest that, without restoration, the islands would have become subaqueous sand shoals by 2017 or disappear completely by 2019. The purpose of the Whiskey Island Back Barrier Marsh Creation Project (TE-50) was to create approximately 300 acres of back barrier intertidal marsh and to increase the height of the existing dune through the beneficial use of material dredged from a borrow source near the island. Creation of a back barrier marsh platform will increase the longevity of the previously restored and natural portions of the island by enabling the island to migrate landward as it washes over onto itself.

The project has a 20-year project life, which began in November 2009.

2. CONSTRUCTION COMPLETION

The Whiskey Island Back Barrier Marsh Creation Project (TE-50) completion report is included in Attachment III – Project Completion Report of this Plan. Within this completion report is a summary of information and significant events including: project personnel, final as-built project features, construction cost and CWPPRA project estimates, construction oversight cost, construction activities and change orders, pipeline and utility crossing owner information, and other significant milestone dates and comments.

The project “As-Built” drawings updated with all field changes and modifications that occurred during construction are included in Attachment IV – As-built Drawings.

3. PROJECT PERMITS

Project permit applications were completed and submitted to appropriate agencies, and permits were received prior to construction. These permits and permit amendments are included in Attachment V – Permits and Permit Amendments.

4. ITEMS REQUIRING OPERATION, MAINTENANCE, AND REHABILITATION

This project has no funding for the operation, maintenance, or rehabilitation of any of the constructed project features other than performing biennial inspections. The following completed components jointly accepted by CPRA and EPA will receive biennial inspections and engineering monitoring throughout the 20-year life of the project as scheduled in Attachment VI – Operations and Maintenance Budget, subject to future funding by the CWPPRA task force.

Marsh Platform

Fill Area - Fill material was placed to an elevation of +2.5 feet NAVD88 within a fully contained area encompassing 316 acres located between the existing marsh lobes (see As-built drawings in Attachment IV). The in-place fill quantity of material for the marsh platform was 2,300,000 cubic yards based on surveys. The fill material was hydraulically dredged from the offshore borrow site located approximately 3 to 4 miles southeast of the project area.

Containment - The northern bayside (Primary) earthen containment dike was constructed to an elevation of +4.5 feet NAVD88 with a 20-foot crest width and 5 to 1 side slopes using in-situ material excavated from within the marsh fill area. The length of Primary containment dike constructed was 4,967 linear feet. The western, eastern, and southern (Secondary) earthen containment dike was constructed to an elevation of +4.5 feet NAVD88 with a 10-foot crest width and 5 to 1 side slopes using in-situ material

excavated from within the marsh fill area. The length of Secondary containment dike constructed was 11,800 linear feet.

Tidal Creeks & Ponds - Three, 1-acre tidal ponds and 5,800 linear feet of tidal creeks were excavated prior to placement of marsh fill. The tidal ponds were excavated to a bottom elevation of -6.0 feet NAVD88 with a 240-foot bottom diameter with 3 to 1 side slopes. Tidal creeks were excavated to a bottom elevation of -6.0 feet NAVD88 with 3 to 1 side slopes. Three different bottom widths were used for the creeks: 20 feet, 30 feet, and 50 feet depending on the location. The tidal creeks and ponds were constructed prior to depositing dredge material in the fill area. By excavating the tidal creeks and ponds first, it was anticipated that differential settlement of the excavated areas after the marsh platform was constructed would create a depression along the tidal creeks allowing tidal transfer to the interior ponds. (see As-built drawings in Attachment IV).

Dune

The dune feature was constructed on the existing dune near the Gulf shoreline to an elevation of +6.0 feet NAVD88 with a crest width of 100 feet and 30 to 1 side slopes. The constructed dune measured 13,061 linear feet. The in-place fill quantity for the dune was 236,784 cubic yards based on as-built surveys. The fill material was hydraulically dredged from the offshore borrow site located approximately 3 to 4 miles southeast of the project area.

Sand Fence

A single row of sand fence, approximately 13,000 linear feet, was installed on top of the constructed dune, parallel to the dune, located 20 feet north of the Gulf-side edge of dune crest. The sand fence was constructed using 4-foot high, wood slat sand fence rolls fastened to 8-foot long, 4" diameter timber posts. The posts were embedded in the dune 4 feet. Galvanized, 13-gauge, steel wire was used to fasten the fence rolls to the posts.

5. OPERATION AND MAINTENANCE BUDGET

The Operations and Maintenance costs associated with the Whiskey Island Back Barrier Marsh Creation Project (TE-50) are included in Attachment VI. The O&M figure represents funding of biennial inspections for the twenty year life of the project, habitat mapping, topographic and bathymetric surveys.

6. OPERATION OF STRUCTURES

No operations are required for this project.

7. RESPONSIBILITIES – MAINTENANCE AND REHABILITATION

A. CPRA will:

1. In accordance with the Memorandum of Agreement (MOA) No. C109050309.09 included in Attachment I, assume all responsibilities for maintenance and rehabilitation of the accepted, completed project features identified in Section 4.
2. Conduct site inspections of the project site at least biennially and after major storm events if determined to be necessary by CPRA and EPA. CPRA will submit to EPA, a report detailing the condition of the project features and recommendations for any corrective action upon completion of the site inspection. If CPRA recommends that corrective actions are needed, the report will include the entire estimated cost for engineering and design, supervision and inspection, construction, contingencies, and the urgency of such action.
3. If corrective actions are needed beyond the scope of this plan and existing funding, CPRA will initiate negotiations with EPA to modify this plan to address those improvements according to the MOA and consistent with the CWPPRA Standard Operating Procedures. All responsibilities regarding planning and implementation of needed corrective actions will be outlined in the revised plan once approved and funded.

B. EPA will:

1. Participate in joint site inspections with CPRA of the project site at least biennial and after major storm events if determined to be necessary by CPRA and EPA. Participation is subject to available CWPPRA resources at the time of the inspection.
2. If required, assist CPRA in developing, recommending, and implementing any corrective actions that may be required beyond the scope of this plan. All responsibilities regarding planning and implementation of needed corrective actions will be outlined in the revised plan once approved and funded.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)

By: Brand Crapod

Date: 12/13/17

Title: Project Manager

COASTAL PROTECTION AND RESTORATION AUTHORITY (CPRA)

By: ALAL

Date: 12/20/17

Title: Project Manager

ATTACHMENT I

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

Memorandum of Agreement (MOA)



State of Louisiana
COASTAL PROTECTION & RESTORATION AUTHORITY
THROUGH THE DEPARTMENT OF NATURAL RESOURCES
OFFICE OF MANAGEMENT & FINANCE
(IN ACCORDANCE WITH R.S. 49:214.6.2C(4))

APR 29 2016

Mr. William Honkler, P.E.
Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: CPRA MOA Agreement No. C109050309.09
"Whiskey Island Back Barrier Marsh Creation Project OM&M (TE-0050)"

Dear Mr. Honkler:

Enclosed for your records is a fully executed copy of the agreement for the above referenced project.

Should you have any questions, please contact your Project Manager Darin Lee at (985) 447-0990.

Sincerely,

A handwritten signature in black ink, appearing to read "David Guidry".

David Guidry
Administrative Program Director

DG/ar

Enclosure

c: Darin Lee, Project Manager
Allison Richard, CPRA
Gwen Thomas, Fiscal

**Memorandum of Agreement
Between the
Environmental Protection Agency
And the
Coastal Protection and Restoration Authority Board of Louisiana
For the
Operations and Maintenance, Monitoring, and Inspection
of the
Whiskey Island Back Barrier Marsh Creation Project (TE-50)**

I. Parties and Authorities

This Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the State of Louisiana (State) through the Coastal Protection and Restoration Authority Board (CPRA Board) acting by and through the Chairman of the CPRA Board, as authorized by CPRA Board Resolution on the 18th day of February, 2009 and the provisions of La R.S. 49:214.1 and 49:214.5.2, recognizes the agencies' cooperation and participation in the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), (16 U.S.C. 777c, Sections 3951-3956) which is chaired by the United State Army Corps of Engineers (USACE).

As members of the Task Force established by CWPPRA, the agencies are responsible for, among other things, baseline and long-term monitoring of certain coastal wetland restoration project areas and reference sites associated with such projects, as well as the long-term operation, maintenance, repair, and rehabilitation of authorized project features, where applicable. The Whiskey Back Barrier Marsh Creation Project (TE-50) is funded through the CWPPRA and has been approved by the PL 101-646 Task Force (TF) in accordance with the provisions and stipulations cited herein.

Pursuant to La. R.S. 49:214.5.2(A)(1), CPRA Board represents the State of Louisiana's position in policy relative to the protection, conservation, enhancement, and restoration of the coastal area of the state through oversight of integrated coastal protection projects and programs and has the power and authority under La. R.S. 49:214.5.2(A)(7) to enter into any contract or agreement with the federal government or any federal agency or any political subdivision of the state or private individual for the study, planning, engineering, design, construction, operation, maintenance, repair, rehabilitation, or replacement of any integrated coastal protection project and to this end, may contract for the acceptance of any grant money upon the terms and conditions, including any requirement of matching grants in whole or part, which may be necessary.

Pursuant to La. R.S. 49:214.6.1, the Coastal Protection and Restoration Authority (hereinafter the "CPRA") is the implementation and enforcement arm of the Non-Federal Sponsor and is directed by the policy set by CPRA Board. La. R.S. 49:214.6.2 provides that the CPRA shall administer the programs of the CPRA Board, shall implement projects relative to the protection, conservation, enhancement, and restoration of the coastal area of the State of Louisiana through oversight of integrated coastal projects and programs consistent with the legislative intent as expressed in La. R.S. 49:214.1, and may acquire by purchase, donation, or otherwise any lands

needed for integrated coastal protection projects. Accordingly, CPRA shall administer and implement the obligations undertaken by the State through the CPRA Board pursuant to this Agreement.

II. Project Responsibility and Project Goals

EPA and CPRA Board work cooperatively in the implementation of the overall CWPPRA program and in the funding and administration of specifically funded restoration projects for which EPA has been designated lead Federal agency.

The EPA was designated the lead Federal agency for the Whiskey Back Barrier Marsh Creation Project (TE-50) on Priority Project List (PPL) 13. The TE-50 project is located on the Isles Dernieres barrier island chain in Terrebonne Parish, Louisiana.

The TE-50 project goals included:

1. To create approximately 300 acres of back barrier, intertidal marsh by the end of project construction;
2. To create a minimum of 3, 1-acre tidal ponds and approximately 5,800 feet of tidal creeks; and,
3. To increase the longevity of the natural and previously-restored portions of the island by increasing the width of the island to help retain sand volumes and elevations.

III. Purpose

The purpose of this MOA is to clarify the financial limits and coordination procedures for all Phase II operation and maintenance (O&M), monitoring, inspection, and associated administrative tasks for the Whiskey Island Marsh Back Barrier Marsh Creation Project (TE-50).

This MOA does not obligate or commit any funds, rather, establishes channels of communication and coordination for EPA review and ultimate TF (USACE) payment of eligible costs in accordance with TF standard operating procedures (SOP).

IV. Cost Limits

Because the TE-50 project was approved in PPL13, the cost share is 85% Federal and 15% State. The current ultimate fully funded authorization for the TE-50 project O&M, monitoring, inspection, and administration is estimated at \$414,074, therefore, the CPRA Board cost share is estimated to be \$62,111 after 20 years after all incremental approvals. The TF approved budget is summarized in the financial spreadsheets in Appendix A.

This project's O&M, monitoring, inspection, and administration has projected cost limits of \$225,717 for monitoring, \$84,170 for State inspection and administration, \$20,017 for US Army Corps of Engineer's administration, and \$84,170 for EPA inspection and administration. These cost limits may not be exceeded without prior TF approval. Any future funding adjustments (increases or decreases) made by the TF, including incremental approvals, are automatically

incorporated into this agreement by reference. Should the anticipated total Agreement cost exceed the authorized maximum Agreement amount, CPRA Board and EPA shall suspend all work on the Project, including the award of contracts. Work shall resume upon approval of the TF and if necessary, execution of an amendment to this Agreement.

The TF approved maximum cost for State activities tracked under this Agreement is \$309,886 which requires CPRA Board to contribute an estimated maximum of \$62,111 (20.04%) and CWPPRA to contribute an estimated maximum of \$247,775 (79.96%) of the total State O&M, monitoring, inspection, and administration expenditures. The \$104,188 difference between the total cost and the total State cost is represented by:

- \$84,170 for inspection and administrative oversight by EPA
- \$20,018 that the U.S. Army Corps of Engineers will hold in reserve for Phase I funding management

While the project's long term O&M, monitoring, inspection, and administrative budgets were previously estimated and approved, the current funding ceiling is limited to the total incremental approvals obtained from the CWPPRA TF. The first 3 years of incremental funding was approved by the TF on February 13, 2008. As future TF incremental approvals are obtained, the project's funding ceiling is automatically amended (increased) by the respective approved amounts. At no time can the total expenditures exceed the existing approved ceiling. Incremental funding will be tracked and reported on the financial spreadsheet in Appendix B.

V. Prior Agreements

The EPA and CPRA Board have entered into a previous Cooperative Agreement No. X7-96672201-0 to initiate the Phase II O&M, monitoring and inspection responsibilities but the scope of that agreement was limited to the first three (3) years of the project's funding and has since expired as of February 2015. Because cooperative agreements are limited in duration, this MOA was developed and implemented to replace that previous agreement for the duration of the project life or until it is modified or terminated by the parties. The cost limits noted in Section IV represent the total TF approved budget and any expenditures that occurred under the historical cooperative agreement result in a corresponding decrease in the cost limits for this MOA. Total expenditures will be tracked in the financial reporting spreadsheets and will include the expenditures incurred under both the cooperative agreement and this successor MOA.

VI. Scope

The O&M, monitoring, and inspection activities will include those listed in the approved "Operation, Maintenance, and Rehabilitation (OM&R) Plan" and "Monitoring Plan" for Whiskey Island Back Barrier Marsh Creation Project (TE-50). The OM&R plan and the Monitoring plan will be developed by CPRA Board and approved by EPA for implementation under this agreement. The plan(s) can be modified by agreement of both parties; however, any change in scope that increases the overall budget must be approved by the TF prior to implementation. Future activities and reports are contingent on receiving appropriate successive

funding increments from the CWPPRA TF. Any expenditure incurred prior to TF approval may be disapproved for reimbursement by USACE.

VII. Responsibilities/Procedures

CPRA Board:

CPRA Board will develop and submit a DRAFT OM&R plan and a DRAFT Monitoring plan to EPA for approval within 30 days of the execution of this agreement. CPRA Board will respond to any EPA comments to the DRAFT plans within 30 days of receipt. The plans will become final upon acceptance by both CPRA Board and EPA. If it is determined that the either plan needs to be modified, CPRA Board will coordinate any amendments or changes with EPA. Revisions to the plan(s) will be obtained through the concurrence of both EPA and CPRA Board. Once modified and accepted by both agencies, the revised plan is automatically incorporated by reference.

CPRA Board will implement the Phase II O&M, monitoring and inspection according to the OM&R Plan and the Monitoring Plan jointly approved by CPRA Board and EPA. Reports shall be developed and submitted in accordance with the schedule outlined in the approved OM&R Plan and Monitoring Plan. CPRA Board will provide draft copies of the reports for review and comment by EPA at least 45 days prior to the due date for each respective report.

CPRA Board will initiate and prepare future funding requests to ensure the incremental funding is approved by the TF prior to the respective O&M, monitoring, inspection, and administration activities. CPRA Board will coordinate the incremental funding requests with EPA prior to the Technical Committee (TC) and TF budget meetings. Incremental approvals will be recorded and reported on the Expenditure Reporting Form (Appendix B).

Within 60 days of the effective date of this agreement, CPRA Board will provide EPA with documentation of all previous expenditures covered under the scope of this agreement including all expenditures completed under the Cooperative Agreement No. X7-96672201-0. Expenditures will be summarized on the Expenditure Reporting Form (Appendix B) for accounting and tracking purposes. Expenditures/Invoices shall include appropriate documentation needed for EPA certification and approval in a format agreeable to EPA.

CPRA Board will send future invoices to EPA for certification and initial approval based on actual expenses for activities within the scope of this agreement. Invoices shall be submitted at least semi-annually. Expenditures will be summarized and reported on the Expenditure Reporting Form (Appendix B). Expenditures shall include sufficient information/documentation needed for EPA certification and approval, and, shall be in a format agreeable to EPA. If no activities or expenditures have occurred during the

previous 6 month reporting period, CPRA Board need only provide a letter stating that no activities or expenditures have occurred.

CPRA Board will provide all information and documentation necessary for the processing of invoices as required by USACE and/or EPA, and/or any other information requested by the CWPPRA TC and/or TF.

CPRA Board will coordinate with EPA staff when planning the periodic inspections as outlined in the approved OM&R Plan and Monitoring Plan. CPRA Board will make available the opportunity for EPA staff to accompany CPRA Board staff on the inspections. CPRA Board will provide transportation for the participants to and from the project site unless alternate arrangements have been made in advance.

CPRA Board is responsible for obtaining appropriate landowner permission to access the site prior to any site visit/inspection including, but not limited to, coordination with Louisiana Department of Wildlife and Fisheries.

EPA:

EPA will review and comment on the DRAFT OM&R plan and the DRAFT Monitoring plan within 30 days of receipt from CPRA Board. The plans will become final upon acceptance by both EPA and CPRA Board. If it is determined that the OM&R Plan or the Monitoring Plan need to be modified, EPA will assist CPRA Board with any amendments or changes as necessary. Any revised plans will become effective upon acceptance by both agencies.

EPA will review and comment on draft reports provided by CPRA Board within 30 days of receipt.

EPA will review CPRA Board invoices/expenditures within 30 days of receipt. If EPA determines that the information is incomplete, contains errors and/or omissions, then EPA will notify CPRA Board that a problem exists including an explanation of the information needed to correct the problem. Once EPA receives all required information, EPA will recommend approval and forward the invoices/expenditures within 30 days for subsequent reimbursement by the United States Army Corps of Engineers (USACE), and/or EPA will provide CPRA Board with an explanation as to why EPA is disapproving of the respective expenditure(s).

EPA will coordinate with CPRA Board to accompany their staff on periodic inspections. EPA participation will be dependent on the available resources and CWPPRA funding at the time of the inspection.

EPA will assist CPRA Board in preparing incremental funding requests in accordance with the CWPPRA Standard Operating Procedures (SOP) for approval by the TC and TF.

USACE:

While not a party to this agreement, it is acknowledged that the USACE acts as the banker for the entire CWPPRA program and is responsible for reimbursement of the appropriate federal cost share for invoices submitted by CPRA Board and approved by EPA in accordance with TF SOP.

VIII. Maintenance of Records

EPA and CPRA Board shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Project costs. EPA and CPRA BOARD shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, replacement, and rehabilitation of the Project and resolution of all relevant claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

IX. Government Review of Records

EPA shall have the right to conduct an audit, when appropriate, of the CPRA Board's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the non-federal share of Project costs.

X. State Review of Records

CPRA Board shall have the right to conduct an audit, when appropriate, of EPA records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the federal share of Project costs.

XI. Relationship of Parties

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

XII. Obligations of Future Appropriations

Nothing herein shall constitute, or be deemed to constitute, an obligation of future appropriations by the legislature of the State of Louisiana when obligating future appropriations would be inconsistent with the State's constitutional or statutory limitations.

XIII. Federal and State Laws

- a. In exercise of CPRA Board's rights and obligations hereunder, CPRA Board agrees to comply with all applicable Federal and State laws and regulations.
- b. EPA agrees to comply with all applicable Federal and State of Louisiana laws and/or regulations, unless state law and regulations are preempted by federal law.

XIV. Fiscal Funding

The continuation of this Agreement is contingent upon the appropriation of funds to fulfill the requirements of the Agreement by the Louisiana legislature. If the Louisiana legislature fails to appropriate sufficient monies to provide for the continuation of the Agreement, or if such appropriation is reduced by the veto of the governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Agreement, the Agreement shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

XV. Third Party Rights, Benefits, Or Liabilities

Nothing in this Agreement is intended, nor may be construed, to create any rights, confer any benefits, or relieve any liability, of any kind whatsoever in any third person not party to this Agreement.

XVI. Terms, Amendments, Modifications, and Termination

This MOA will be effective upon signature by both parties and will be in effect for the life of the Whiskey Back Barrier Marsh Creation Project (TE-50) subject to mandatory review every five (5) years. This MOA may be amended, modified, or terminated as mutually agreed upon, in writing, by the CPRA Board and EPA. This MOA will be terminated in the event of the de-authorization or closeout of the project and subsequent closeout of the books. This MOA is not intended to supersede the provisions of the CWPPRA legislation or the standard operating procedures of the CWPPRA Task Force and must conform to any changes in the law or policies set by the Task Force.


XVII. Resolutions of Disagreements

Should disagreement arise on the interpretation of the provisions of this agreement, or amendments and/or revisions thereto that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each Party and presented to the other Party for consideration. If agreement on interpretation is not achieved within 30 days, the Parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.


XVIII. Signatures

The undersigned individuals attest that they represent their respective agencies in this MOA. On behalf of their respective agencies, they have signed this MOA on the day and year appearing with the signature of each authorized representative.

EPA




William K. Honker, P.E.
Director, Water Quality Division
Environmental Protection Agency, Region 6

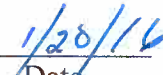


Date

Coastal Protection and Restoration Authority Board



Kyle R. "Chip" Kline, Jr., Chairman
Louisiana Coastal Protection & Restoration
Authority Board



Date

Appendix A

MOA Budget Spreadsheets

Whiskey Back Barrier Marsh Creation (TE-50) MOA Budget (20 years)									
Task	Task Name	State	Federal	Subtotal	MOA Total				
MOA	1 Monitoring	\$ 45,241	\$ 180,475	\$ 225,716	\$ 309,886				
MOA	2 O&M and Inspection	\$ 16,870	\$ 67,300	\$ 84,170				\$ 62,111	
MOA	3 EPA Admin		\$ 84,170	\$ 84,170				\$ 62,111	
MOA	4 COE PM		\$ 20,018	\$ 20,018				0.79957	
MOA Total		\$ 62,111	\$ 351,963	\$ 414,074				309,886	\$ 0.85
Overall Percentages		15.00%	85.00%					247,775	
		\$ 62,111	\$ 351,963	\$ 414,074					
	MOA Amount	\$ 62,111	\$ 247,775	\$ 309,886					
	MOA Percentages	20.04%	79.95%						

Year	FY	Eng. Monitoring	O&M & State Insp.	Corps Admin	Fed S&A & Insp
0	2011	\$12,357	\$3,557	\$824	\$3,557
-1	2012	\$0	\$3,249	\$840	\$3,249
-2	2013	\$97,138	\$6,228	\$857	\$6,228
-3	2014	\$0	\$3,380	\$874	\$3,380
-4	2015	\$101,062	\$6,480	\$892	\$6,480
-5	2016	\$15,159	\$3,972	\$910	\$3,972
-6	2017	\$0	\$3,587	\$928	\$3,587
-7	2018	\$0	\$3,659	\$946	\$3,659
-8	2019	\$0	\$3,732	\$965	\$3,732
-9	2020	\$0	\$3,807	\$985	\$3,807
-10	2021	\$0	\$3,883	\$1,004	\$3,883
-11	2022	\$0	\$3,961	\$1,024	\$3,961
-12	2023	\$0	\$4,040	\$1,045	\$4,040
-13	2024	\$0	\$4,121	\$1,066	\$4,121
-14	2025	\$0	\$4,203	\$1,087	\$4,203
-15	2026	\$0	\$4,287	\$1,109	\$4,287
-16	2027	\$0	\$4,373	\$1,131	\$4,373
-17	2028	\$0	\$4,460	\$1,154	\$4,460
-18	2029	\$0	\$4,550	\$1,177	\$4,550
-19	2030	\$0	\$4,641	\$1,200	\$4,641
Totals		\$225,716	\$84,170	\$20,018	\$84,170

Year	FY	Eng. Monitoring	O&M & State Insp.	Corps Admin	Fed S&A & Insp	Eng. Monitoring	O&M & State Insp.	Corps Admin	Fed S&A & Insp
0	2011	\$12,357	\$3,557	\$824	\$3,557	\$12,357	\$3,557	\$824	\$3,557
-1	2012	\$0	\$3,249	\$840	\$3,249	\$12,357	\$6,806	\$1,664	\$6,806
-2	2013	\$97,138	\$6,228	\$857	\$6,228	\$109,495	\$13,034	\$2,521	\$13,034
-3	2014	\$0	\$3,380	\$874	\$3,380	\$109,495	\$16,414	\$3,395	\$16,414
-4	2015	\$101,062	\$6,480	\$892	\$6,480	\$210,557	\$22,894	\$4,287	\$22,894
-5	2016	\$15,159	\$3,972	\$910	\$3,972	\$225,716	\$26,866	\$5,197	\$26,866
-6	2017	\$0	\$3,587	\$928	\$3,587	\$225,716	\$30,453	\$6,125	\$30,453
-7	2018	\$0	\$3,659	\$946	\$3,659	\$225,716	\$34,112	\$7,071	\$34,112
-8	2019	\$0	\$3,732	\$965	\$3,732	\$225,716	\$37,844	\$8,036	\$37,844
-9	2020	\$0	\$3,807	\$985	\$3,807	\$225,716	\$41,651	\$9,021	\$41,651
-10	2021	\$0	\$3,883	\$1,004	\$3,883	\$225,716	\$45,534	\$10,025	\$45,534
-11	2022	\$0	\$3,961	\$1,024	\$3,961	\$225,716	\$49,495	\$11,049	\$49,495
-12	2023	\$0	\$4,040	\$1,045	\$4,040	\$225,716	\$53,535	\$12,094	\$53,535
-13	2024	\$0	\$4,121	\$1,066	\$4,121	\$225,716	\$57,656	\$13,160	\$57,656
-14	2025	\$0	\$4,203	\$1,087	\$4,203	\$225,716	\$61,859	\$14,247	\$61,859
-15	2026	\$0	\$4,287	\$1,109	\$4,287	\$225,716	\$66,146	\$15,356	\$66,146
-16	2027	\$0	\$4,373	\$1,131	\$4,373	\$225,716	\$70,519	\$16,487	\$70,519
-17	2028	\$0	\$4,460	\$1,154	\$4,460	\$225,716	\$74,979	\$17,641	\$74,979
-18	2029	\$0	\$4,550	\$1,177	\$4,550	\$225,716	\$79,529	\$18,818	\$79,529
-19	2030	\$0	\$4,641	\$1,200	\$4,641	\$225,716	\$84,170	\$20,018	\$84,170
Totals		\$225,716	\$84,170	\$20,018	\$84,170				

February 13, 2008 TF Phase 2 Approval

Engineering Monitoring = \$109,495; O&M/Insp = \$13,034; EPA Insp = \$13,034

October 11, 2012 TF meeting Incremental Request

Whiskey Island Back Barrier Marsh Creation (TE-50), PPL 13, EPA

Incremental funding amount (FY13-15): \$13,179

Whiskey Island Back Barrier Marsh Creation (TE-50), PPL 13, EPA

Incremental funding amount (Federal S&A): \$10,360

Appendix B

Tracking and Reporting Spreadsheets

Whiskey Back Barrier Marsh Creation (TE-50) MOA Budget (20 years)

Instructions: Report each incremental O&MM approval on a separate line with TF approval date. Incremental requests will be made jointly between EPA and CPRA.

Incremental TF O&MM Approvals (100%)					
	TF Approval Date	Monitoring	O&M, Inspection	EPA S&A, Inspection	Comments
1	February 13, 2008	\$109,496	\$13,034	\$13,034	First 3 years of OMM approved with Phase II approval. Mistake made on EPA S&A request. See note. This funding request but does not correspond to FFC act.
2	October 11, 2012	\$13,179		\$10,390	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Current O&MM ceiling		\$122,674	\$13,034	\$23,394	

Instructions: For each reporting period, CPRA will summarize their expenditures on a new line. SEPARATE accounting is required for monitoring and O&M/inspection in order for EPA to report expenditures back to USACE. Any supporting information should be attached for each line item in a separate document(s).

		Monitoring		Comments
	Performance Period Date(s)	Expenditures		
1	2009 thru 2014	\$19,677.19		Total expenditures as reported under grant X7-96672201
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
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26				
27				
28				
29				
30				
31				
32				
Add additional lines as necessary				
Total Monitoring Expenditures		\$19,677.19		
Current Monitoring ceiling		\$122,674.00		
Available Monitoring Funding		\$102,996.81		
Total 20 Yr Monitoring Budget		\$225,716.00		
Total Remaining 20 Yr Budget		\$206,038.81		

*Estimated Federal Share based on Cost Share Ratio as calculated on the Budget Spreadsheet for the MOA

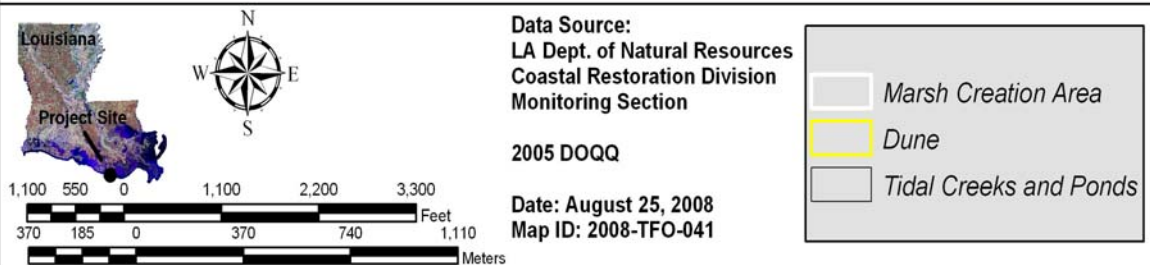
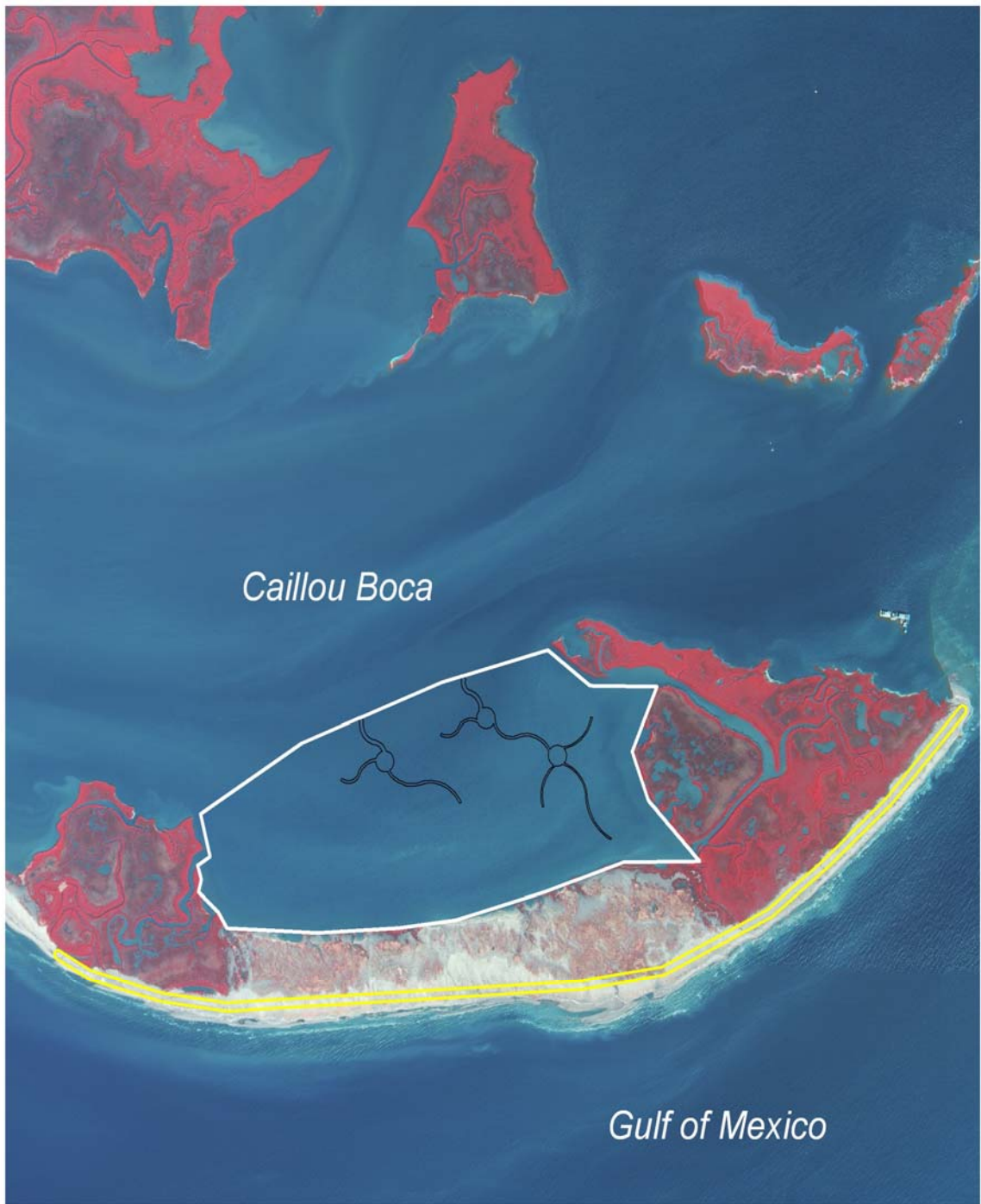
		O&M/Inspection		Comments
	Performance Period Date(s)	Expenditures		
1	2009 thru 2014	\$10,435.23		Total expenditures as reported under grant X7-96672201
2				
3				
4				
5				
6				
7				
8				
9				
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32				
Add additional lines as necessary				
Total O&M/Inspection Expenditures		\$10,435.23		
Current O&M/Inspection ceiling		\$13,034.00		
Available O&M/Inspection Funding		\$2,598.77		
Total 20 Yr O&M/Inspection Budget		\$84,170.00		
Total Remaining 20 Yr Budget		\$73,734.77		

*Estimated Federal Share based on Cost Share Ratio as calculated on the Budget Spreadsheet for the MOA

ATTACHMENT II

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

PROJECT FEATURES



ATTACHMENT III

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

PROJECT COMPLETION REPORT



**WHISKEY ISLAND BACK BARRIER MARSH
CREATION PROJECT
STATE PROJECT NO. TE-50**

PROJECT COMPLETION REPORT

March, 2010



**Prepared for:
Coastal Protection and Restoration
Authority of Louisiana**



Prepared By:

**T. Baker Smith, Inc.
412 South Van Avenue
Houma, LA 70363**



PROJECT COMPLETION REPORT

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APPENDICES:

- A Change Orders and Field Orders
- B Preconstruction Conference Report
- C As-built Volume Calculations
- D As-built Drawings

PROJECT COMPLETION REPORT

PROJECT NAME: Whiskey Island Back Barrier Marsh Creation Project
CWPPRA/STATE PROJECT NO. TE-50

Report Date: December 2009 **By:** T. Baker Smith, Inc.

1. Project Managers/Contracting Officer:

OCPR Construction Project Manager	Daniel Dearmond, P.E.	Telephone	985-449-5103
OCPR Project Manager	Brad Miller	Telephone	225-342-4122
Federal Agency Project Manager	Brad Crawford (EPA)	Telephone	214-665-7255
Construction Administrator/Inspection	Philip Chauvin, Jr. (TBS)	Telephone	985-868-1050

2. Location and Description of Projects as Approved for Construction by Task Force.

The Whiskey Island Marsh Back Barrier Marsh Creation Project (TE-50) is located on the Isles Dernieres barrier island chain in Terrebonne Parish, Louisiana. The site of work associated with the base and alternate bid is located on the east end of Whiskey Island. The borrow area for the project is located in Ship Shoal Block 43 and Block 67. The total bid quantity of hydraulic dredging for marsh fill is 2,300,000 C.Y. (in-place) and 225,000 C.Y. for Dune Fill.

The project consisted of a Base Bid and Additive Alternate No. 1. The Base Bid included all work associated with construction of the proposed marsh platform on the bay side of Whiskey Island. Additive Alternate No. 1 included all work associated with construction of a dune feature on the gulf side of Whiskey Island and installation of sand fencing and seeding.

The purpose of the project is to restore and nourish the shoreline on the east end of Whiskey Island and create a marsh platform on the bay side using dredged sediment from nearshore sand and sediment sources. The marsh creation platform will aid in bird habitat for coastal shore birds and the dune feature will aid in erosion protection on the gulf face of Whiskey Island. The project is sponsored by the United States Environmental Protection Agency (EPA) and the Coastal Protection and Restoration Authority of Louisiana (CPRA).

3. Final, As-Built Features, Boundaries and Resulting Acreage (use attachments if necessary).

The project was constructed as described above. For additional information see attached Appendix C, Pre and Post Construction Plan View and Appendix D, As-Built Drawings.

This project created approx. 319 acres of marsh platform, 4,967 L.F. of primary dikes, 11,800 L.F. of secondary dikes and nourished approximately 95 acres of beach / island area. The total quantity of material placed on the island was computed to be approx. 2,300,000 CYs of marsh fill and 236,784 CYs of dune fill based on the final as-built surveys. As part of the marsh platform, two tidal ponds and associated tidal creeks were pre-dredged in order to accelerate settlement and formation of an inter tidal estuary. Two opening in the primary dike were designed and during construction, a third opening was added on the west end of the project to aid in dewatering of the new marsh platform.

4. Key Project Cost Elements**

	CWPPRA Project Report Estimates Data	Cost Incurred as of December 27, 2010 **
Construction	\$27,245,123.00	\$23,496,199.00
E & D	\$2,735,428.00	\$1,560,552.00
Land rights	\$19,461.00	\$491.00
O & M and Monitoring	\$414,071.00	\$11,468.00
Total	\$30,414,083.00	\$25,117,352.00

**Cost Incurred does not include Federal Sponsor Administrative costs.

5. Items of Work

Schedule of Items										
Item No.	Work	Est. Quantity*	Unit	Estimated Unit Price	Estimated Amount	Bid Quant.	Bid Unit Price	Bid Amount	As-Built Quant.	As-Built Amount
Base Bid										
1	Mobilization and Demobilization	1	LS	\$2,500,000.00	\$2,500,000.00	1	\$2,750,000.00	\$2,750,000.00	1	\$2,750,000.00
2	Pre- & Post-Construction Surveys	1	LS	\$110,000.00	\$110,000.00	1	\$275,000.00	\$275,000.00	1	\$275,000.00
3	Hydraulic Dredging (In place)(Marsh Fill)	2,300,000	CY	\$5.20	\$11,960,000.00	2,300,000	\$7.05	\$16,215,000.00	2,300,000	\$16,215,000.00
4a.	Primary Containment Dikes (20' Crest)	5,000	LF	\$100.00	\$500,000.00	5,000	\$70.00	\$350,000.00	4,967	\$347,690.00
4b.	Primary Containment Dikes (20' Crest)	12,000	LF	\$31.00	\$372,000.00	12,000	\$30.00	\$360,000.00	11,800	\$354,000.00
5	Creek & Pond Excavation	49,000	CY	\$5.00	\$245,000.00	49,000	\$5.00	\$245,000.00	46,267	\$231,335.00
6	Settlement Plates	8	EA	\$2,500.00	\$200,00.00	8	\$3,500.00	\$28,000.00	8	\$28,000.00
11	Timber Dock Removal (Change Order No. 1)	1	LS	\$0.00	0	0	\$48,237.20	\$0.00	1	\$48,237.20
CPRA Estimated Base Bid Amount:					\$15,607,000.00	Original Base Bid Amount:		\$20,223,000.00		\$20,249,262.20
7	Pre- & Post-Construction Surveys	1	LS	\$40,000.00	\$40,000.00	1	\$25,000.00	25000	1	\$25,000.00
8	Hydraulic Dredging (In Place)(Dune Fill)	225,000	CY	\$8.90	2,002,500.00	225000	\$11.50	2587500	236,784	\$2,723,016.00
9	Sand Fencing	13,000	LF	\$11.00	\$143,000.00	13000	\$15.50	\$201,500.00	13,000	\$201,500.00
10	Seeding	95	AC	\$700.00	\$66,500.00	95	\$600.00	\$57,000.00	95	\$57,000.00
CPRA Estimated Additive Alternate Bid Amount:					\$2,252,000.00	Additive Alternate Bid Amount:		\$2,871,000.00	\$3,006,516.00	
CPRA Estimated Total Bid Amount					\$17,859,000.00	Total Bid Amount		\$23,094,000.00	Total As Built Amount	\$23,255,778.20

* - The As-Built Quantity indicated for Item No. 5 in the table is the volume approved for final payment. The actual As-Built Quantity for Hydraulic Dredging (In-place) was 1,001,274 C.Y. based on the Contractor's As-Built Survey.

6. Construction and Construction Oversight

Prime Construction Contractor	Weeks Marine, Inc.
Subcontractor – Survey	HydroTerra Technologies, LLC
Subcontractor – Sand Fencing and Seeding	Erosion Control Services, Inc.
Original Construction Contract	\$23,094,000.00
Change Orders	\$ 161,778.20
Final Construction Contract	\$23,255,778.20

Construction Oversight Contractor: T. Baker Smith, Inc.

Construction Oversight Amount: \$281,547.40

7. Major Equipment Used

- 1 Ea – Tug Boat – M/V “J. C Love”
- 1 Ea – Tug Boat – M/V “Richard B.”
- 1 Ea – Tug Boat – M/V “Delta Doe”
- 1 Ea – Tug Boat – M/V “Delta Clipper”
- 1 Ea – Tug Boat - M/V “Delta Fox”
- 1 Ea – Tug Boat - M/V “Delta Sparrow”
- 1 Ea – Tug Boat - M/V “Candace”
- 1 Ea – Tug Boat - M/V “Elle Marie”
- 1 Ea – Tug Boat - M/V “Candace”
- 1 Ea – Tug Boat - M/V “L. Marie”
- 1 Ea – Tug Boat - M/V “Babin”
- 1 Ea - Survey Vessel – M/V “Sabine”
- 1 Ea – Crew Boat – M/V “Cheyenne”
- 1 Ea – Crew Boat – M/V “Te-Brud”
- 2 Ea – Anchor Barges
- 4 Ea – Miscellaneous Supply / Deck Barges
- 1 Ea - 30” Cutter head Dredge “E.W. Ellefsen”
- 1 Ea - Weeks 542 Bucket Dredge
- 1 Ea – Weeks 646 Bucket Dredge
- 1 Ea - BT-213 Quarters Barge
- 1 Ea - Cat 966 Loader
- 2 Ea - Cat D6R LGP Dozers

1 Ea – Crane Barge 229
1 Ea – Crane Barge 108
4 Ea - CAT 325A Marsh Buggy Excavators
1 Ea. - 24' Survey Barge (HydroTerra Technologies)
1 Ea - 21' Aluminum Workboat (Inspector's vessel)
1 Ea – Air Boat
2 Ea – Honda Foreman All Terrain Vehicle
2 Ea – Kubota All Terrain Vehicle

8. Discuss Construction Sequences and Activities, Problems Encountered, Solutions to Problems, etc.

- November 12, 2008: Mandatory Pre-Bid Meeting
- November 23, 2008: Addendum No. (1) Issued.
- November 25, 2009: Addendum No. (2) Issued.
- November 26, 2008: Addendum No. 3 issued.
- December 2, 2009: Addendum No. 4 issued.
- December 9, 2009: (2) Bids received, Weeks Marine, Inc. low responsive bidder.
- February 11, 2009: Notice to Proceed issued to Weeks Marine, Inc.
- February 24, Sub-Contractor, HydroTerra Technologies, LLC begin Pre-Construction surveys.
- March 2, 2009: All parties met at T. Baker Smith Office for Pre-Construction meeting.
- March 9, 2009: Sub-Contractor, HydroTerra Technologies, LLC continuing pre-construction surveys and layout of dikes.
- March 12, 2009: Weeks Marine Dredge Barge 542 arrives onsite and starts excavating access channel and floatation channel
- March 16, 2009: Weeks Marine Dredge Barge 542 continues to excavate floatation channel and construction containment dikes and excavation on tidal creeks.
- March 23, 2009: Weeks Marine submitted Marsh Fill Before Dredge Survey data.
- March 24, 2009: Weeks Marine requests contract modification for new access point on western end of project.
- March 25, 2009: Weeks Marine Dredge Barge 542 continues to excavate floatation channel and construct containment dikes and excavation on tidal creeks and ponds.

- March 31, 2009: OCPR/TBS onsite meeting with Louisiana Department of Wildlife and Fisheries to discuss nesting birds and trans-located brown pelicans.
- April 2, 2009: Weeks Marine Dredge Barge 542 continues to excavate floatation channel and construct containment dikes and excavation on tidal creeks and ponds.
- April 9, 2009: Weeks Marine Dredge Barge 542 continues to excavate floatation channel and construct containment dikes and excavation on tidal creeks and ponds. Presently working on third lift of primary containment dike.
- April 16, 2009: Weeks Marine Dredge Barge 542 continues to excavate floatation channel and construct containment dikes and excavation on tidal creeks and ponds. Presently working on first lift for secondary containment dike.
- April 20, 2009: Weeks Marine submitted Dune Fill before dredge survey data.
- April 23, 2009: OCPR/TBS site visit.
- April 23, 2009: Field Order No. 1 issued
- April 23, 2009: Field Order No. 2 issued
- April 24, 2009: Weeks Marine Dredge Barge 542 relocated to excavate access channel on west end of project.
- April 27, 2009: Weeks Marine Dredge Barge 542 completed excavation on access channel on west end of project and relocated to continue excavation of floatation channels and construction of containment dikes.
- April 28, 2009: Contractor requested to submit pricing to remove existing timber structure in Whiskey Pass.
- April 29, 2009: Weeks Marine Crane Barge 108 and (2) CAT 325A long reach marsh buggy excavators arrived onsite today.
- May 3, 2009: Weeks Marine Crane Barge 108 set (2) settlement plates, numbers 2 & 3. Excavation of floatation channels and construction of containment dikes ongoing.
- May 7, 2009: Weeks Marine notified T. Baker Smith of the presents of a pod of Atlantic Bottlenose Dolphins swimming in and out of the marsh fill area.
- May 11, 2009: Executed Field Order Nos. 1 and 2 returned to Weeks Marine.
- May 15, 2009: Weeks Marine Dredge Barge 542 set (4) spill boxes on east end of project between stations 20+30 and 23+70.

- May 19, 2009: Magnetometer survey submittal and pre-construction surveys of dune feature forwarded to OCPR.
- May 22, 2009: Weeks Marine Crane Barge set (2) settlement plates, numbers 7 & 8. Excavation of floatation channels and construction of containment dikes ongoing.
- May 23, 2009: Weeks Marine Crane Barge set (2) settlement plates, numbers 9 & 10. Excavation of floatation channels and construction of containment dikes ongoing.
- May 27, 2009: Dredge pipe started arriving onsite.
- May 28, 2009: Weeks Marine Dredge Barge 542 completing construction of containment dike system. Once temporary access point was closed, it became apparent that five (5) Atlantic Bottlenose Dolphins were trapped inside of the containment area. Weeks Marine field personnel notified T. Baker Smith and OCPR staff of the situation.
- May 28, 2009: Weeks Marine submitted Before Dredge Survey data.
- May 29, 2009: Notice to Mariners issued to United States Coast Guard.
- May 29, 2009: Weeks Marine Dredge “E.W. Ellefsen” and Quarters Barge BT213 arrived onsite today along with support equipment and submerged and shore pipeline materials.
- May 31, 2009: Dredge “E.W. Ellefsen” crew started installed submerged pipeline.
- June 2, 2009: Bi-Weekly Progress meeting no. 1 held onsite today.
- June 2, 2009: (2) additional marsh buggy excavators arrived onsite today.
- June 4, 2009: Federal agencies contacted and action plan agreed on to release trapped dolphins from containment area.
- June 6, 2009: Weeks Marine directed to breach secondary containment in northwest corner and breach made. NMFS and DNR personnel onsite for observation.
- June 10, 2009: No dolphins observed in disposal area and NMFS and DNR personnel authorized WMI to close breach in northwest corner containment dike. Installation of submerged and onshore pipeline ongoing.
- June 14, 2009: Weeks Marine Dredge “E.W. Ellefsen” towed onto location of disposal area, south end of Cut #2.
- June 16, 2009: Weeks Marine Dredge “E.W. Ellefsen” completed installation discharge piping, excavation of dredge material started at 7:00 am, cutter head digging to a depth of 23.5
- June 18, 2009: Bi-Weekly Progress meeting no. 2 held onsite today.

- June 23, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 303,322 CY of dredge spoils in the last 6 day period. Dredged materials presently being placed in marsh fill area.
- June 26, 2009: Weeks Marine submitted cost proposal to remove timber structure in Whiskey Pass for consideration.
- June 30, 2009: Bi-Weekly Progress meeting no. 3 held onsite today.
- June 30, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 275,102 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- July 3, 2009: Weeks Marine issued direction to avoid restricted area between the surf zone and the bay. Nesting brown pelicans are being trans-located by Wildlife and Fisheries.
- July 7, 2009: Weeks Marine Cost Proposal to remove timber structure in Whiskey Pass forwarded to OCPR.
- July 7, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 218,444 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- July 10, 2009: Weeks Marine Dredge Barge 542 and Crew Boat – M/V “Te-Brud” demobilized project.
- July 14, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 305,327 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- July 16, 2009: Bi-Weekly Progress meeting no. 4 held onsite today.
- July 21, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 321,644 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- July 28, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 264,305 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- July 29, 2009: Bi-Weekly Progress meeting no. 5 held onsite today.
- July 30, 2009: Weeks Marine Dredge “E.W. Ellefsen” relocated to Whiskey Pass due to rough seas.
- July 31, 2009: Weeks Marine Dredge “E.W. Ellefsen” returned to borrow area for dredging operations.
- August 4, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 213,028 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- August 8, 2009: Weeks Marine Dredge “E.W. Ellefsen” experienced mechanical problems with cutter bearing and ladder wire.

- August 8, 2009: Stake out of dune feature started today
- August 11, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 211,609 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- August 11, 2009: Weeks Marine Dredge “E.W. Ellefsen” relocated to Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing
- August 12, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 213,028 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- August 12, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 12, 2009: Bi-Weekly Progress meeting no. 6 held onsite today.
- August 12, 2009: Centerline of Dune Feature staked out, final alignment of Dune Feature Alignment adjusted in the field.
- August 13, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 14, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 15, 2009: Weeks Marine Dredge “E.W. Ellefsen” returned to borrow area for dredging operations after repairs were completed on the under water pump thrust bearing.
- August 16, 2009: Weeks Marine Dredge “E.W. Ellefsen” continuing to experience problems associated with the thrust bearing on the under water pump.
- August 18, 2009: Weeks Marine Dredge “E.W. Ellefsen” down due to mechanical problems with the flange on the thrust bearing hub.
- August 18, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 98,063 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in marsh fill area.
- August 19, 2009: Weeks Marine Dredge “E.W. Ellefsen” down due to mechanical problems with the flange on the thrust bearing hub.
- August 21, 2009: Before Dredge surveys ongoing on dune feature section of project.
- August 23, 2009: Weeks Marine Dredge “E.W. Ellefsen” completed dredging operations for fill material being placed in marsh fill area, 30 day dewatering period to start as of this day. Cut volume place in marsh fill area 2,409,040 CYs.

- August 24, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 25, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 25, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 117,293 CY of dredge spoils in the last 7 day period. 89,515 CY of dredged materials placed in marsh fill area and 27,778 CY of dredged spoils place on dune feature.
- August 26, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump thrust bearing.
- August 27, 2009: Weeks Marine Dredge “E.W. Ellefsen” returned to borrow area for dredging operations after repairs were completed on the under water pump thrust bearing.
- August 27, 2009: Bi-Weekly Progress meeting no. 7 held onsite today.
- August 27, 2009: Revised dune alignment drawings forwarded to Weeks Marine.
- September 1, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 108,204 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in dune feature area. Surveys of beach fill ongoing.
- September 8, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 90,065 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in dune feature area. Surveys of beach fill ongoing.
- September 9, 2009: Weeks Marine Dredge “E.W. Ellefsen” down due to mechanical problems associated with the under water pump thrust bearing.
- September 10, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump repairs.
- September 10, 2009: Bi-Weekly Progress meeting no. 8 held onsite today.
- September 10, 2009: Sand fence materials onsite.
- September 11, 2009: Weeks Marine Dredge “E.W. Ellefsen” located in Whiskey Pass due to mechanical problems associated with the under water pump repairs and rough seas.
- September 12, 2009: Weeks Marine Dredge “E.W. Ellefsen” returned to borrow area for dredging operations after repairs were completed on the under water pump and rough seas dissipated.

- September 13, 2009: Weeks Marine Dredge “E.W. Ellefsen” down for short period of time due to rough seas.
- September 15, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 37,856 CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in dune feature area. Surveys of beach fill ongoing.
- September 15, 2009: Change Order No. 2 issued to Weeks Marine.
- September 21, 2009: Weeks Marine Dredge “E.W. Ellefsen” completed dredging activities, removal of submerged pipeline activities started today.
- September 21, 2009: Degrading of containment dikes started.
- September 22, 2009: Quarters Barge BT213 relocated to Caillou Boca to allow for load out of shore piping. Submerged pipeline removed and moored in Caillou Boca for preparation for demobilizing.
- September 22, 2009: Weeks Marine Dredge “E.W. Ellefsen” yielded approximately 26,250CY of dredge spoils in the last 7 day period. Dredged materials presently being placed in dune feature area. Surveys of beach fill ongoing.
- September 23, 2009: Sub-contractor Dupre Brothers Construction Company, Inc. onsite and removed existing timber structure in Whiskey Pass.
- September 23, 2009: Sub-contractor HydroTerra Technologies, LLC onsite to begin final survey of marsh fill area.
- September 24, 2009: Bi-Weekly Progress meeting no. 9 held onsite today.
- September 25, 2009: Sub-contractor HydroTerra Technologies, LLC completed final survey of borrow area.
- September 25, 2009: Weeks Marine continuing final dressing of dune feature.
- September 25, 2009: Executed Change Order No. 2 returned to Weeks Marine.,
- September 26, 2009: Sub-contractor HydroTerra Technologies, LLC completed final survey of marsh fill area.
- September 27, 2009: Sub-contractor HydroTerra Technologies, LLC started final surveys of dune feature.
- September 28, 2009: Sub-contractor Erosion Control onsite to start sand fence installation.
- September 29, 2009: Weeks Marine Dredge “E.W. Ellefsen” demobilized from site.

- September 30, 2009: Weeks Marine directed to degrade tide creek openings to elevation of new marsh platform in lieu of elevation shown on contract drawings. Weeks Marine also directed to excavate third tidal creek opening on western end of primary dike.
- October 3, 2009: Survey of dune feature complete.
- October 6, 2009: Sub-contractor Erosion Control started seeding installation, sand fence installation ongoing.
- October 8, 2009: Bi-Weekly Progress Meeting No. 10.
- October 8, 2009: Weeks Marine directed to degrade secondary containment dikes to elevation of new marsh platform and to leave primary dikes in place as constructed. The primary dikes are to remain in place to aid in preventing winter storm wave action from eroding new marsh platform. Weeks Marine also directed to degrade tidal openings to an elevation to match existing elevation of the new marsh platform. Weeks Marine also directed to add third tidal opening on western side of primary dike.
- October 8, 2009: Sub-contractor Erosion Control completed seeding and sand fence installation.
- October 20, 2009: Degrading of containment dikes complete.
- October 22, 2009: Final Inspection held. Final inspection held prior to final acceptance in order to take advantage of contractor equipment onsite.
- October 22, 2009: Weeks Marine Quarters Barge 213 demobilized from site.
- November 8, 2009: Contract time ends.
- November 20, 2009: Weeks Marine 646 Dredge Barge onsite to backfill west access channel.
- November 23, 2009: Weeks Marine 646 Dredge Barge completed backfill operations and demobilized site.
- November 24, 2009: Final Inspection completed by T. Baker Smith, Inc. and Louisiana Department of Natural Resources.
- December 3, 2009: Weeks Marine requests additional contract days due to adverse weather delays for month of November 2009.
- December 15, 2009: T. Baker Smith recommends final acceptance of project to OCPR.
- December 17, 2009: Change Order No. 3 issued to Weeks Marine for a decrease in contract value of \$81,959.00.
- December 30, 2009: Change Order No. 3 forwarded to OCPR for approval.

9. Construction Change Orders and Field Changes.

- Change Order No. 1 (August 26, 2009):

Bid Item No. 11, Removal of Existing Timber Structure, was added to the project scope. The timber structure was installed as part of a previous restoration project on the back side of the East end of Whiskey Island. Due to erosion and movement of Whiskey Island, the timber structures location put it inside of Whiskey Pass and the Gulf of Mexico. The timber structure, due to its location, was deemed a hazard to maritime activities and a liability to public safety.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
11	Removal of Existing Timber Structure	LS	1	\$0.00	\$0.00	1	\$48,237.20	\$48,237.20
TOTAL:							\$48,237.20	

- Change Order No. 2 (September 15, 2009):

The quantity for Bid Item No. 8, Hydraulic Dredging (In Place) (Dune Fill) exceeded the original contract quantity by an estimated quantity of 17,000 cubic yards based on pre-construction survey data provided by the contractor. Due to erosion and northward movement of Whiskey Island, the alignment of the dune feature was revised and relocated to minimize the quantity increase necessary to construct dune feature.

ITEM NO.	ITEM	UNIT	ORIGINAL QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
8	Hydraulic Dredging (In Place)(Dune Fill)	CY	225,000	\$11.50	\$2,587,500.00	17,000	\$195,500.00	\$2,783,000.00
TOTAL:							\$195,500.00	

- Change Order No. 3 (December 17, 2009):

The contract quantities for Bid Item No. 4a, Primary Containment Dikes (20' Crest), Bid Item No. 4b, Secondary Containment Dikes (10' Crest), Bid Item No. 5, Creek & Pond Excavation and Bid Item No. 8 were under the contract quantity and the contract quantity required adjustment. In addition, the project extended past the allotted contract time by 15 days. The contractor was delayed in back filling the access channel on the west end of the project due to adverse weather conditions caused by Tropical Storm Ida. As a result, 15 calendar days were added to contract time.

ITEM NO.	ITEM	UNIT	ORIGINAL / REVISED QUANTITY	UNIT COST	ORIGINAL BID AMOUNT	ADDITIONAL QUANTITY	ADDITIONAL AMOUNT	BID ITEM TOTAL \$ AMOUNT
4a	Primary Containment Dikes (20' Crest)	LF	5,000	\$70.00	\$350,000	(33)	(\$2,310.00)	\$347,690.00
4b	Secondary Containment Dikes (10' Crest)	LF	12,000	\$30.00	\$360,000.00	(200)	(\$6,000.00)	\$354,000.00
5	Creek & Pond Excavation	CY	49,000	\$5.00	\$245,000.00	(2,733)	(\$13,665.00)	\$231,335.00
8	Hydraulic Dredging (In Place)(Dune Fill)	CY	242,000	\$11.50	\$2,783,500.00	(5,216)	(\$59,984.00)	\$2,723,016.00
TOTAL:							\$(81,959.00)	

- Field Order No. 1 (April 23, 2009):

The Owner has received a permit modification include an access channel from Caillou Bay to the primary containment dike. The approved access channel is oriented perpendicular to the primary containment dike, with the intersection of the center of the access channel and primary containment dike being located at Point No. 28 as shown on Plan Sheet 5 of 22 of the contract documents and on sheets 3 of 13 and 9 of 13 of the Department of the Army project permit.

- Field Order No. 2 (April 23, 2009):

On request by the contractor, the Owner has submitted and received a permit modification include allowable access and temporary channel from Caillou Bay on the West end of the project as shown and described on sheet 3 of 13 and 9 of 13 of the Department of the Army project permit.

10. Pipeline and Other Utility Crossings.

There were no pipeline or utility crossings associated with the Whiskey Island Marsh Creation Project.

11. Safety and Accidents.

There were no accidents reported during the Whiskey Island Back Barrier Marsh Restoration Project.

12. Additional Comments Pertaining to Construction, Completed Projects, Lessons Learned, etc.

- Entrapment of marine mammals: Five (5) Atlantic Bottle Nose Dolphins were trapped inside the marsh platform impoundment during construction of the containment dikes. Weeks Marine, Inc. field personnel notified T. Baker Smith, Inc. on May 8, 2009 that a pod of Atlantic Bottlenose Dolphins were

moving in and out of the proposed marsh platform area during the construction of the containment dikes. Louisiana Wildlife and Fisheries Refuge Division was contacted by T. Baker Smith for recommendations to stop the movement of the dolphin(s) in and out of the containment area. Visual inspections were done on a daily basis by both the contractor and project representative to track movement in and out of the fill area. On May 28, 2009, after visual inspection did not locate any dolphins inside the containment area, the containment dike access point was closed. The same day (5) dolphins were spotted trapped on the inside of the containment area. On June 4, 2009, federal agencies notified of the entrapment of the dolphins and an action plan was agreed to for release of entrapped dolphins. On June 5, 2009, NOAA personnel onsite to assess the situation. On June 6, 2009, Weeks Marine directed to breach the secondary containment dike on the west end of the project. On June 10, 2009, no dolphins were present and Weeks Marine directed to close the opening in the containment dike. The issue of marine mammals being trapped within containment areas on future projects is always a possibility due to the nature of said work.

- Construction of southern most containment dikes: Comments were received post construction that the containment dikes along the island on the bay side could be omitted and that the existing shoreline could have been used for the southern most containment. This comment is valid and the possibility of implementation could be used in future designs.

13. Significant Construction Dates: To be filled out by DNR Construction Project Manager or Contracting Officer for construction for Agency responsible for construction.

ACTION	Date
Bid Opening	December 9, 2008
Construction Contract	January 27, 2009
Preconstruction Conference	March 2, 2009
Notice to Proceed	February 11, 2009
Mobilization	March 12, 2009
Construction Start	March 12, 2009
Construction Completion	November 23, 2009
Final Acceptance	November 24, 2009

If different bids are taken, repeat this table to individually reflect each bid and attach tables.
Other significant Project Dates

	Date
Project Implementation closeout**	
Start of Preconstruction Monitoring***	
Preconstruction Aerial Photography Acquisition***	
Monitoring Plan Completion***	

** Final implementation closeout is made by either the DNR Project Manager or the Federal Agency Contracting Officer depending on which organization had lead role for construction of project.

*** To be completed by CPRA Project Manager.

ATTACHMENT IV

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

AS-BUILT DRAWINGS

PROJECT NO.	ENGINEERING CONTRACT NO.	PARISH	SHEET NO.
TE-50	2511-06-04	TERREBONNE	1

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

INDEX TO SHEETS

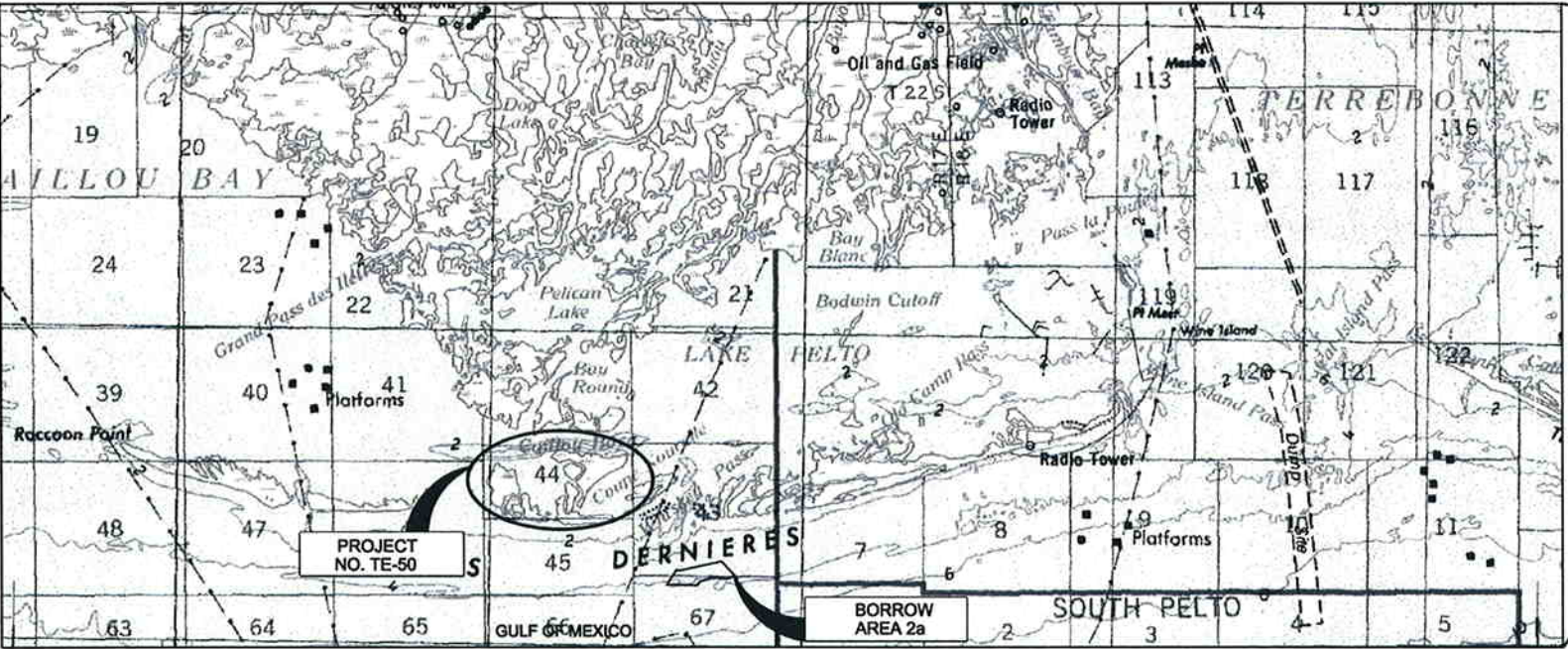
SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	SUMMARY OF ESTIMATED QUANTITIES & GENERAL NOTES
3	LOCATION MAP
4	PROJECT LAYOUT
5	PLAN VIEW - TIDAL CREEKS AND PONDS
6-7	TYPICAL CROSS SECTIONS
8	DREDGE PLAN - SUBAREA 2a
9	DREDGE PLAN - SUBAREA 2a CROSS SECTIONS
10	PROJECT COORDINATE TABLES
10a	REVISED PROJECT COORDINATE TABLES
10b	DUNE PROFILE
11-20	PROJECT CROSS SECTIONS
20A	MARSH CREATION AS-BUILTS ELEV'S
21	SAND FENCE DETAILS
22	SETTLEMENT PLATE AND GRADE STAKE DETAILS

PLANS OF PROPOSED

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

SEPTEMBER 2008

TERREBONNE PARISH



VICINITY MAP



FEDERAL
PROJECT

STATE
PROJECT

AS-BUILT

BENCHMARK: "TE-14-SM-01"
N: 199,323.20
E: 3,438,609.45
ELEV.: +2.29' NAVD
DATUM USED: VERTICAL - NAVD88, GEOID 03 MODEL, U.S. SURVEY FEET
HORIZONTAL - NAD83, LOUISIANA SOUTH ZONE, U.S. SURVEY FEET

RECOMMENDED FOR APPROVAL

LDNR C.E.D. DIRECTOR

DATE

RECOMMENDED FOR APPROVAL

LDNR C.E.D. ENGINEER MANAGER

DATE

RECOMMENDED FOR APPROVAL

LDNR C.E.D. PROJECT ENGINEER

DATE

REV	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

TITLE PAGE

DATE: SEPTEMBER 2008

SHEET 1 OF 22

GENERAL NOTES

- 1) ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83), LOUISIANA STATE PLANE, SOUTH ZONE, U.S. SURVEY FEET. HORIZONTAL AND VERTICAL DATUM INFORMATION IS BASED ON POINT, "TE-14-SM-01", X = 3,438,609.45; Y = 199,323.20; ELEVATION = 2.29' (NAVD 88).
- 2) MEAN LOW WATER (MLW) EQUALS 0.0 FT. NAVD88, MEAN SEA LEVEL(MSL) EQUALS 0.86 FT. NAVD88, AND MEAN HIGH WATER(MHW) EQUALS 1.6 FT. NAVD88. TIDAL DATUMS ARE BASED ON RELATIONSHIP DEVELOPED AS PART OF THE SHIP SHOAL: WHISKY ISLAND WEST FLANK RESTORATIONS (TE-47) STUDY.
- 3) AERIALS IMAGES USED FOR PROJECT DRAWING BACKGROUNDS ARE EITHER 2005 DOQQ IMAGES OR 2006 AERIALS FLOWN FOR THIS PROJECT. SOURCE OF AERIAL IS NOTED ON EACH DRAWING.
- 4) OYSTER LEASES ARE IN THE VICINITY OF THE WORK. HOWEVER IT IS NOT ANTICIPATED THAT ANY WILL BE DIRECTLY AFFECTED BY THE WORK. THE CONTRACTOR SHALL NOT DREDGE OR DISTURB SEABEDS WITHIN THE LIMIT OF OYSTER LEASES SHOWN ON THE DRAWING AND NOT DIRECTLY AFFECTED BY THE WORK.
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING SAFE ACCESS TO THE PROJECT AREA AND FOR NAVIGATING WITHIN THE AREA THROUGHOUT THE ENTIRE CONSTRUCTION PHASE. THE ENGINEER OR HIS REPRESENTATIVE WILL MONITOR THE PROJECT AREA AND ACCESS LOCATIONS DURING CONSTRUCTION.
- 6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE OPERATORS FIVE (5) WORKING DAYS IN ADVANCE OF THE WORK. ALL PIPELINES SHALL BE INITIALLY MARKED WITH BUOYS BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN BUOYS DURING CONSTRUCTION AND SHALL HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. PIPELINE OPERATORS KNOWN TO HAVE PIPELINES IN THE VICINITY ARE SHOWN ON SHEET 3 OF THE DRAWINGS. THE CONTRACTOR SHALL CALL LOUISIANA-ONE-CALL AND PIPELINE SAFETY (225) 342-3417, FIVE (5) WORKING DAYS PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL NOT PERFORM ANY OPERATIONS WITHIN 1,000' OF A PIPELINE.
- 7) THE RECOMMENDED BORROW AREAS ARE SHOWN ON SHEETS 8-9 OF THE DRAWINGS. BORROW SOURCE INFORMATION TAKEN FROM A 2006 SURVEY DONE BY OCEAN SURVEYS, INC. THE LOCATION OF ALL VIBRACORES AND SAND VERIFICATION CORES ARE AVAILABLE UPON REQUEST. BASED ON THE INFORMATION GIVEN IN THESE DRAWINGS, THE CONTRACTOR SHALL DEVELOP A DREDGING PLAN TO BE APPROVED BY THE ENGINEER. IN NO CASE SHALL THE CONTRACTOR DREDGE BELOW OR OUTSIDE THE LIMITS STATED ON SHEETS 8-9 OF THE PLANS OR IN THE SPECIFICATIONS WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ENGINEER.
- 8) VOLUMES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED FROM MARCH 2006 TO JUNE 2006. FOR THE PROJECT AREAS (MARSH FILL AND DUNE FILL), BEFORE AND AFTER DREDGING, CROSS SECTIONS OF THE FILL AREAS SHALL BE SURVEYED BY THE CONTRACTOR FOR MEASUREMENT AND PAYMENT PURPOSES. THE CONTRACTOR SHALL ALSO SURVEY THE BORROW AREA PRIOR TO BEGINNING DREDGING FOR THE MARSH FILL, PRIOR TO BEGINNING DREDGING FOR THE DUNE FILL, IF AWARDED, AND AFTER ALL DREDGING IS COMPLETE. ALL SURVEY WORK PERFORMED BY THE CONTRACTOR FOR MEASUREMENT AND PAYMENT WILL BE MONITORED BY THE ENGINEER OR HIS REPRESENTATIVE. THE ENGINEER SHALL REVIEW ALL BEFORE AND AFTER SURVEY CROSS-SECTIONS AND MEASUREMENTS AND PAYMENT CALCULATIONS. IF A DISCREPANCY CANNOT BE RESOLVED THE ENGINEER SHALL PERFORM A CROSS-SECTION SURVEY TO VERIFY THE CONTRACTORS WORK.
- 9) CONTRACTOR SHALL SUBMIT DESIGN DRAWINGS OF THE EFFLUENT STRUCTURES TO THE ENGINEER FOR APPROVAL.
- 10) MAXIMUM VERTICAL TOLERANCE FOR MARSH AND DUNE FILL PLACEMENT IS 0.5 FT. BELOW AND ABOVE THE TYPICAL DESIGN TEMPLATE SHOWN ON SHEET 6 AND 7 OF THE PROJECT PLANS.
- 11) THE CONTRACTOR IS REQUIRED TO PROVIDE CONTINUAL MAINTENANCE OF THE PRIMARY AND SECONDARY DIKES SO THAT THEY PERFORM THEIR INTENDED FUNCTION DURING THE CONSTRUCTION PERIOD FOR WHICH THEY ARE NEEDED. THE CROWN SECTION OF ALL CONTAINMENT DIKES WILL BE DEGRADED, I.E. THE CREST ELEVATION LOWERED, PRIOR TO DEMOBILIZATION. THE SECONDARY DIKES SHALL BE DEGRADED SO THAT THERE IS A SMOOTH TRANSITION BETWEEN THE DIKE AND THE NEWLY CONSTRUCTED MARSH PLATFORM AT THE TIME THE WORK IS BEING PERFORMED. THE ENGINEER AND OWNER WILL EVALUATE THE MARSH PLATFORM ELEVATION AND STABILITY PRIOR TO DEGRADING THE PRIMARY CONTAINMENT DIKES TO RECOMMEND A FINISHED ELEVATION OF THE PRIMARY DIKE AFTER DEGRADING. IN ANY CASE, THE FINISHED ELEVATION OF THE PRIMARY DIKE WILL NOT BE LOWER THAN THE MARSH PLATFORM ELEVATION NOR WILL THE ELEVATION BE HIGHER THAN 0.6' ABOVE THE MARSH PLATFORM ELEVATION. THE FILL REMOVED FROM ALL DIKES SHALL BE SPREAD EVENLY TO FORM A SMOOTH TRANSITION WITH THE MARSH FILL AREA. THE PRIMARY DIKE SHALL ALSO BE BREACHED TO A DEPTH ~~1.0' NAVD AT ITS INTERSECTION WITH THE TWO CREEKS. OF EQUAL TO THE NEW MARSH FULL ELEVATION AT IT'S INTERSECTION WITH THE TWO CREEKS AND THIRD ADDED OPENING.~~
- 12) THE CONTRACTOR SHALL NOT TRAVEL AND/OR STORE MATERIALS/EQUIPMENT AND/OR CONDUCT CONSTRUCTION ACTIVITIES ON EXISTING VEGETATED DUNES AND MARSHES UNLESS AUTHORIZED BY THE ENGINEER.
- 13) THE ENVIRONMENTAL ASSESSMENT (EA) FOR THIS PROJECT HAS IDENTIFIED THE PIPING PLOVER AND THE BROWN PELICAN AS THREATENED AND ENDANGERED SPECIES WHICH HAVE THE POTENTIAL FOR EXISTING WITHIN THE PROJECT SITE. NO CONSTRUCTION ACTIVITIES WILL BE ALLOWED WITHIN 1500 FEET OF NESTING BIRDS UNLESS APPROVED BY LDNR AND LDWF REPRESENTATIVES. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ANY OTHER RESTRICTIONS OF THE EA, AND ALL PERMITS REGARDING NESTING BIRDS.
- 14) NOT MORE THAN 20% BY WEIGHT OF SILT AND/OR CLAY (GRAIN SIZE < 0.075mm) WILL BE ALLOWED IN EACH CUBIC YARD OF SAND MATERIAL PLACED IN THE DUNE TEMPLATE SECTION.
- 15) PRE-CONSTRUCTION SURVEYS, PERFORMED BY THE CONTRACTOR, WILL BE USED BY THE ENGINEER TO UPDATE THESE CONSTRUCTION PLANS. THE ENGINEER WILL USE THESE UPDATED CROSS SECTIONS OF THE DUNE AND MARSH FILL AREAS AS FINAL BASELINE CONDITIONS OF THE FILL AREAS IN THE PLANS PRIOR TO CONSTRUCTION.
- 16) THE CONTRACTOR WILL BE ALLOWED A MAXIMUM OF THREE (3) CORRIDORS FOR DISCHARGE PIPING ACROSS THE EXISTING PORTIONS OF WHISKEY ISLAND. THE LOCATIONS OF THE CORRIDOR SHALL BE PROPOSED BY THE CONTRACTOR. THE CORRIDORS SHALL HAVE A MAXIMUM WIDTH OF 100 FEET. THE CORRIDORS SHALL NOT BE LOCATED ACROSS ANY EXISTING MARSH HABITAT. THE CONTRACTOR SHALL LOCATE THE CORRIDORS ACROSS EXISTING BEACH AND DUNE PORTIONS OF THE ISLAND TO MINIMIZE IMPACTS TO EXISTING VEGETATION. THE CORRIDOR LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- 17) ONCE THE MARSH FILL AREA HAS BEEN CONSTRUCTED AND ACCEPTED AND PRIOR TO THE DUNE CONSTRUCTION (IF AWARDED), BORROW AREA SEDIMENTS DESIGNATED FOR MARSH FILL THAT WERE NOT NEEDED FOR MARSH FILL CONSTRUCTION MAY BE STRIPPED AND PUMPED INTO APPROVED PREVIOUSLY DREDGED SECTIONS OF THE BORROW AREA IF NECESSARY TO ACCESS UNDERLYING SEDIMENTS DESIGNATED FOR DUNE FILL. THE DISPOSAL OF THE EXCESS MARSH FILL SEDIMENTS WILL BE AT NO DIRECT PAY TO THE CONTRACTOR.


SUMMARY OF ESTIMATED QUANTITIES

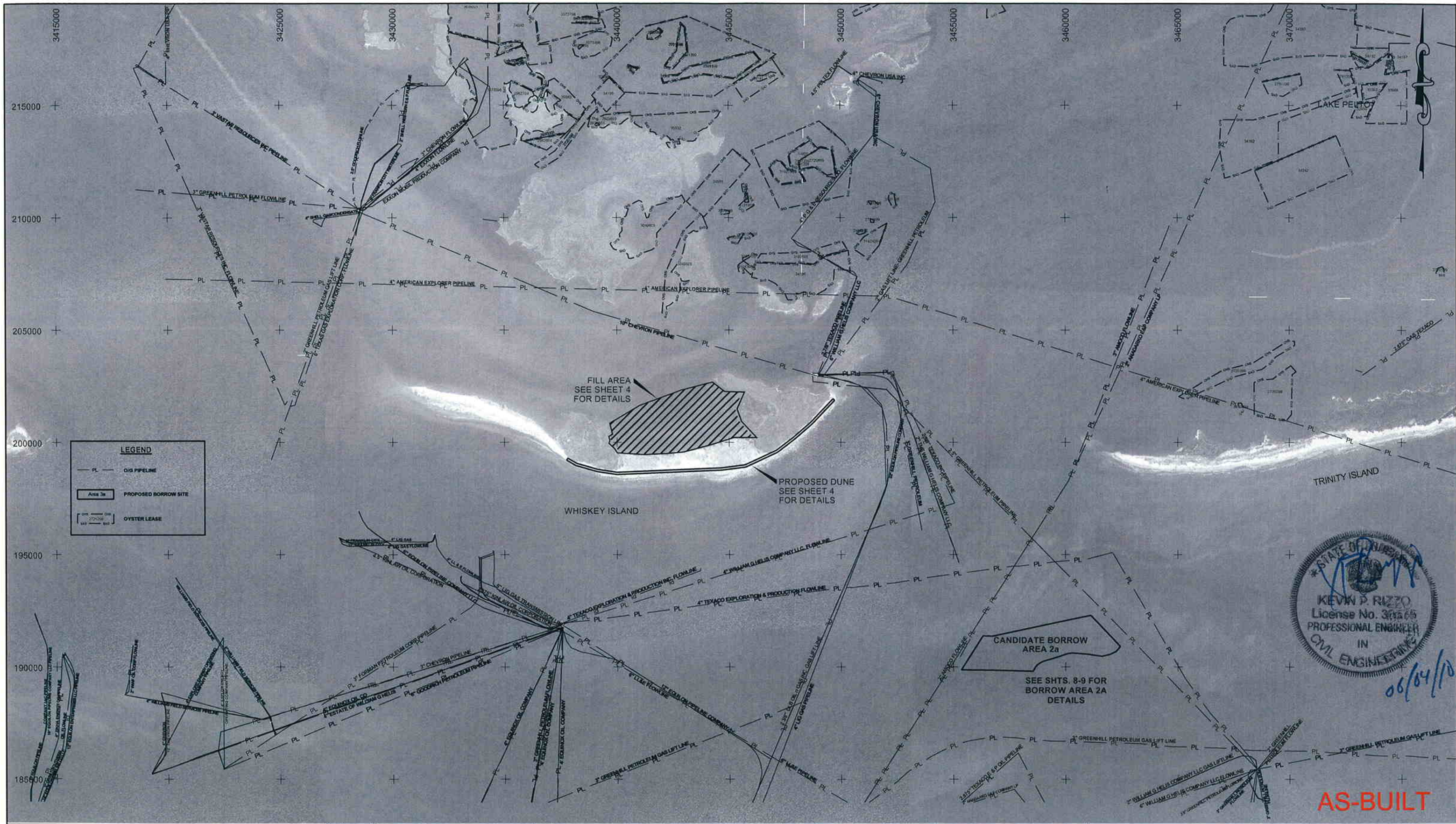
BASE BID				
ITEM No.	DESCRIPTION	UNIT	DESIGN QUANTITY	AS-BUILT QUANTITY
1	MOBILIZATION & DEMOBILIZATION	LUMP	1	1
2	PRE & POST CONSTRUCTION SURVEYS	LUMP	1	1
3	HYDRAULIC DREDGING (IN PLACE)(MARSH FILL)	CU. YDS.	2,300,000	2,822,066
4a	PRIMARY CONTAINMENT DIKES (20' CREST)	LIN. FT.	4,967	4,967
4b	SECONDARY CONTAINMENT DIKES (10' CREST)	LIN. FT.	11,800	11,800
5	CREEK & POND EXCAVATION	CU. YDS.	46,267	46,267
6	SETTLEMENT PLATES	EA.	8	8
11	TIMBER DOCK REMOVAL (CHANGE ORDER NO. 1)	LUMP	0	1

ADDITIVE ALTERNATE BID				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT QUANTITY
7	PRE & POST CONSTRUCTION SURVEYS	LUMP	1	1
8	HYDRAULIC DREDGING (IN PLACE)(DUNE FILL)	CU. YDS.	225,000	236,784
9	SAND FENCING	LIN. FT.	13,000	13,000
10	SEEDING	ACRE	95	95



AS-BUILT

				 T. BAKER SMITH PROFESSIONAL CONSULTANTS SINCE 1913 (985) 868-1050 www.tbsmith.com	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)		SUMMARY OF ESTIMATED QUANTITIES & NOTES
							STATE PROJECT NUMBER: 2511-05-09		
							FEDERAL PROJECT NUMBER: TE-50		
1	2-2-10	AS-BUILT	KMB				APPROVED BY: KPR		DATE: SEPTEMBER 2008
REV	DATE	DESCRIPTION	BY	DRAWN BY: KSP		DESIGNED BY: KPR		APPROVED BY: KPR	SHEET 2 OF 22



STATE OF LOUISIANA
KEVIN P. RIZZO
License No. 37565
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
06/04/10

AS-BUILT



NOTES:
1) 2005 DOQQ AERIAL PHOTOGRAPHY
2) COORDINATES REFERENCE NAD83, LA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE U.S. SURVEY FEET. ALL ELEVATIONS REFERENCE NAVD83, U.S. SURVEY FEET.
3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNERS OF ALL OIL & GAS FACILITIES IN THE PROJECT AREA FOR ACCESS ROUTES, PIPE LAYING, OR CROSSING IN ADVANCE OF PERFORMING ANY WORK.

REV	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802
DRAWN BY: KSP
DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)
STATE PROJECT NUMBER: 2511-05-09
FEDERAL PROJECT NUMBER: TE-50
APPROVED BY: KPR

LOCATION MAP
DATE: SEPTEMBER 2008
SHEET 3 OF 22



AS-BUILT

1000 500 0' 1000 2000

1	2-2-10	AS-BUILT	KMB
REV	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

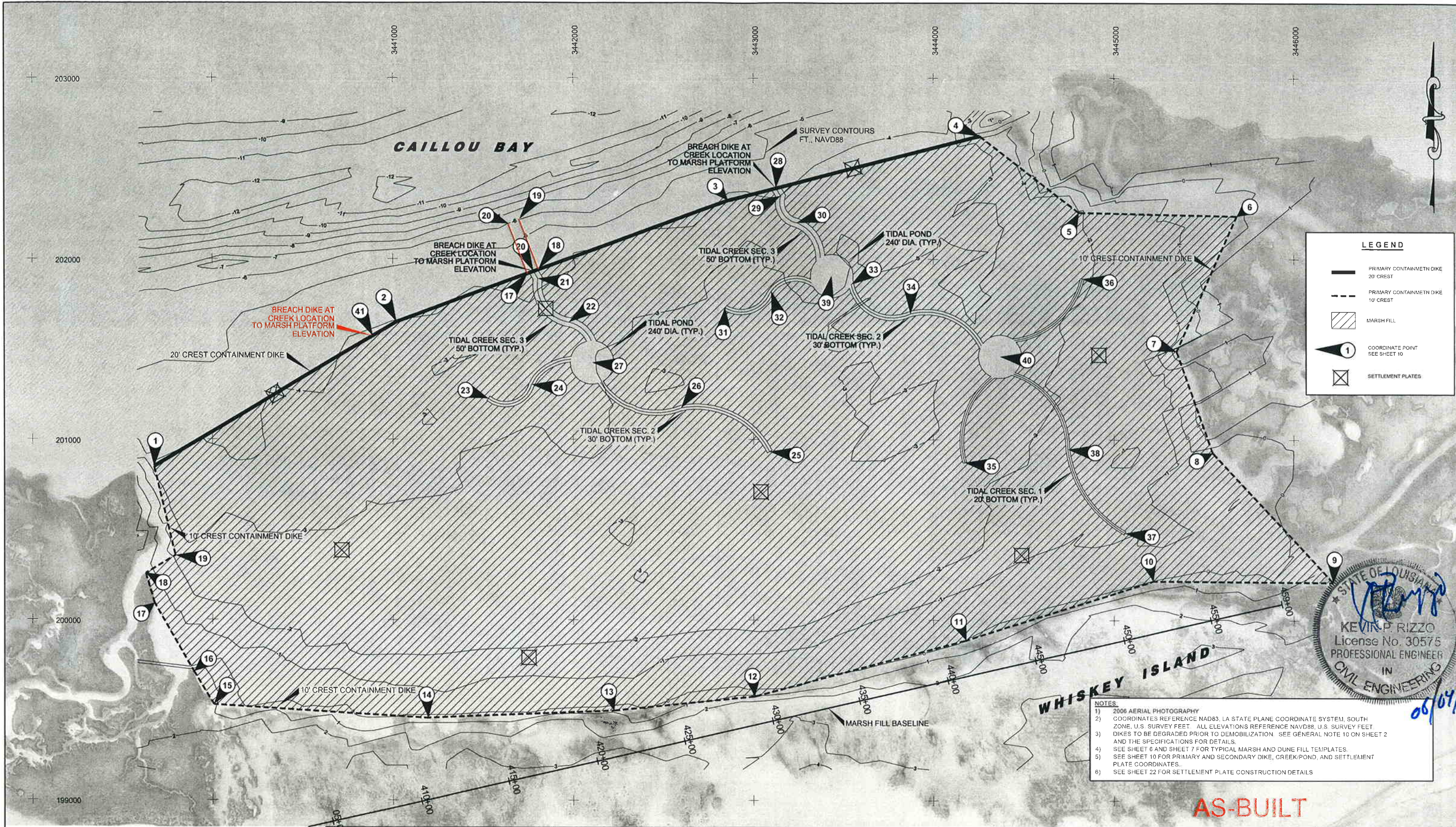
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APPROVED BY: KPR

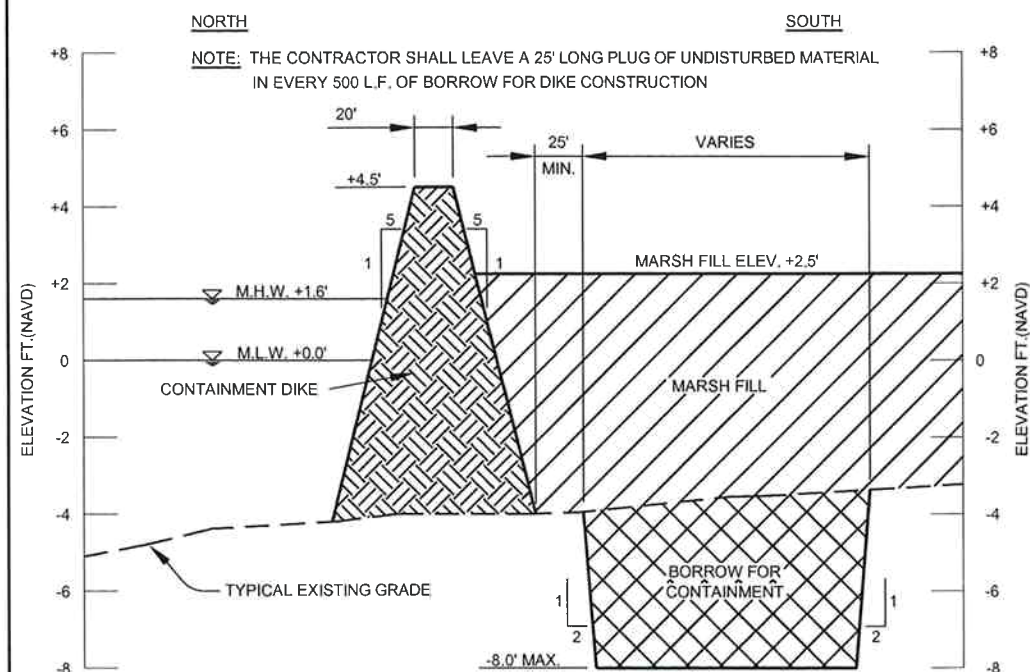
PROJECT LAYOUT

DATE: SEPTEMBER 2008

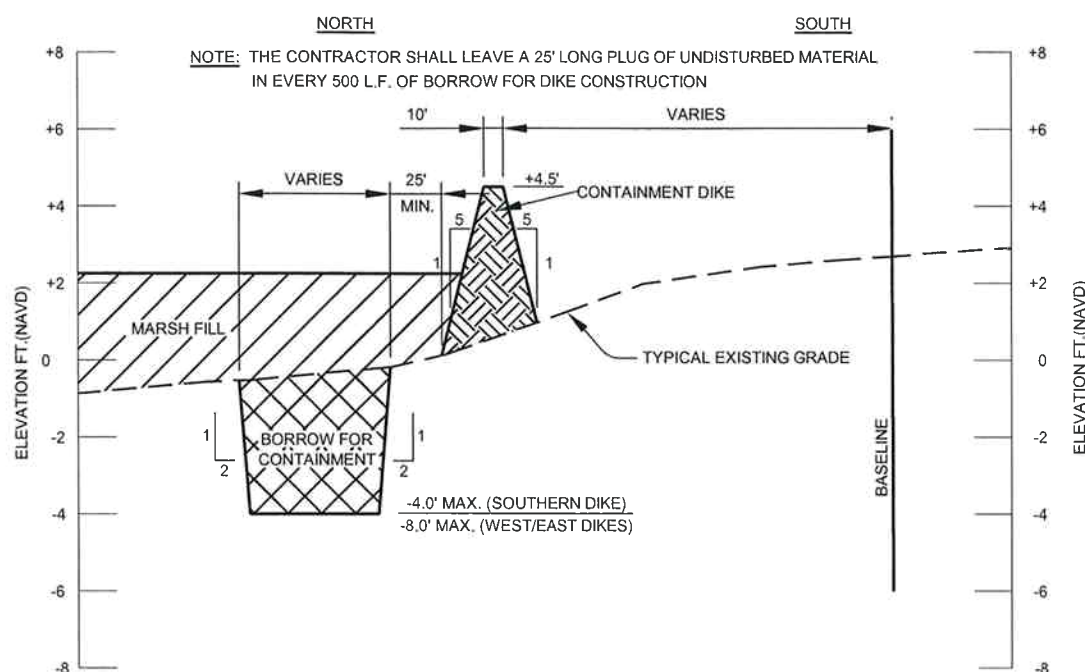
SHEET 4 OF 22



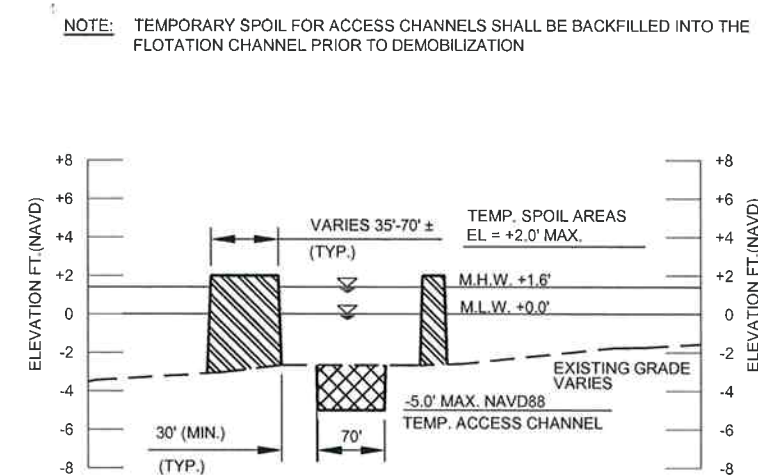
<div>5002500'5001000</div> <div>051176P03</div>				<div><div>TBS</div><div>T. BAKER SMITH</div><div>PROFESSIONAL CONSULTANTS SINCE 1913</div><div>(985) 868-1050www.tbsmith.com</div></div> <div><table><tr><td>1</td><td>2-2-10</td><td>AS-BUILT</td><td>KMB</td></tr><tr><td>REV</td><td>DATE</td><td>DESCRIPTION</td><td>BY</td></tr></table></div>				1	2-2-10	AS-BUILT	KMB	REV	DATE	DESCRIPTION	BY	<div>LOUISIANA DEPARTMENT OF NATURAL RESOURCES</div> <div>COASTAL ENGINEERING DIVISION</div> <div>617 NORTH 3RD STREET</div> <div>BATON ROUGE, LOUISIANA 70802</div> <div>DRAWN BY: KSP</div> <div>DESIGNED BY: KPR</div>				<div>WHISKEY ISLAND BACK BARRIER</div> <div>MARSH CREATION (TE-50)</div> <div>STATE PROJECT NUMBER: 2511-05-09</div> <div>FEDERAL PROJECT NUMBER: TE-50</div> <div>APPROVED BY: KPR</div>		<div>PLAN VIEW</div> <div>TIDAL CREEKS & PONDS</div> <div>DATE: SEPTEMBER 2008</div> <div>SHEET 5 OF 22</div>	
1	2-2-10	AS-BUILT	KMB																				
REV	DATE	DESCRIPTION	BY																				



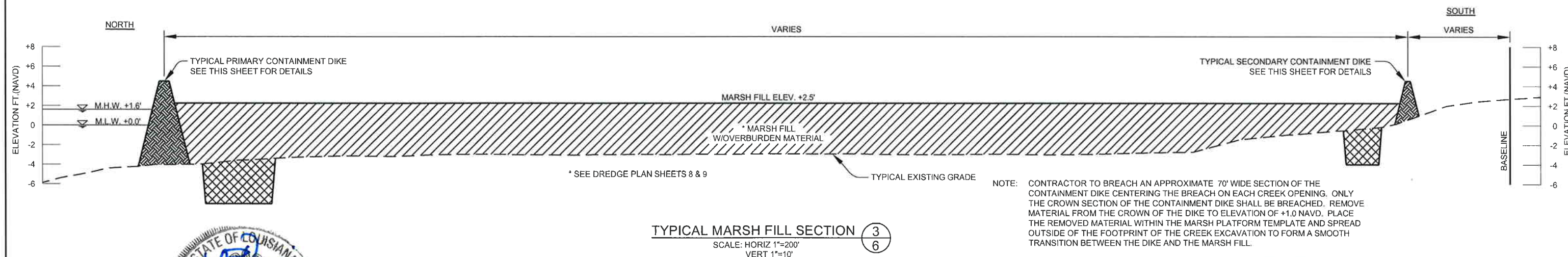
TYPICAL PRIMARY CONTAINMENT DIKE SECTION 1
SCALE: HORIZ 1"=100'
VERT 1"=5'



TYPICAL SECONDARY CONTAINMENT DIKE SECTION 2
SCALE: HORIZ 1"=100'
VERT 1"=5'



PRIMARY ACCESS CHANNEL 4
SCALE: HORIZ 1"=200'
VERT 1"=10'



TYPICAL MARSH FILL SECTION 3
SCALE: HORIZ 1"=200'
VERT 1"=10'

AS-BUILT



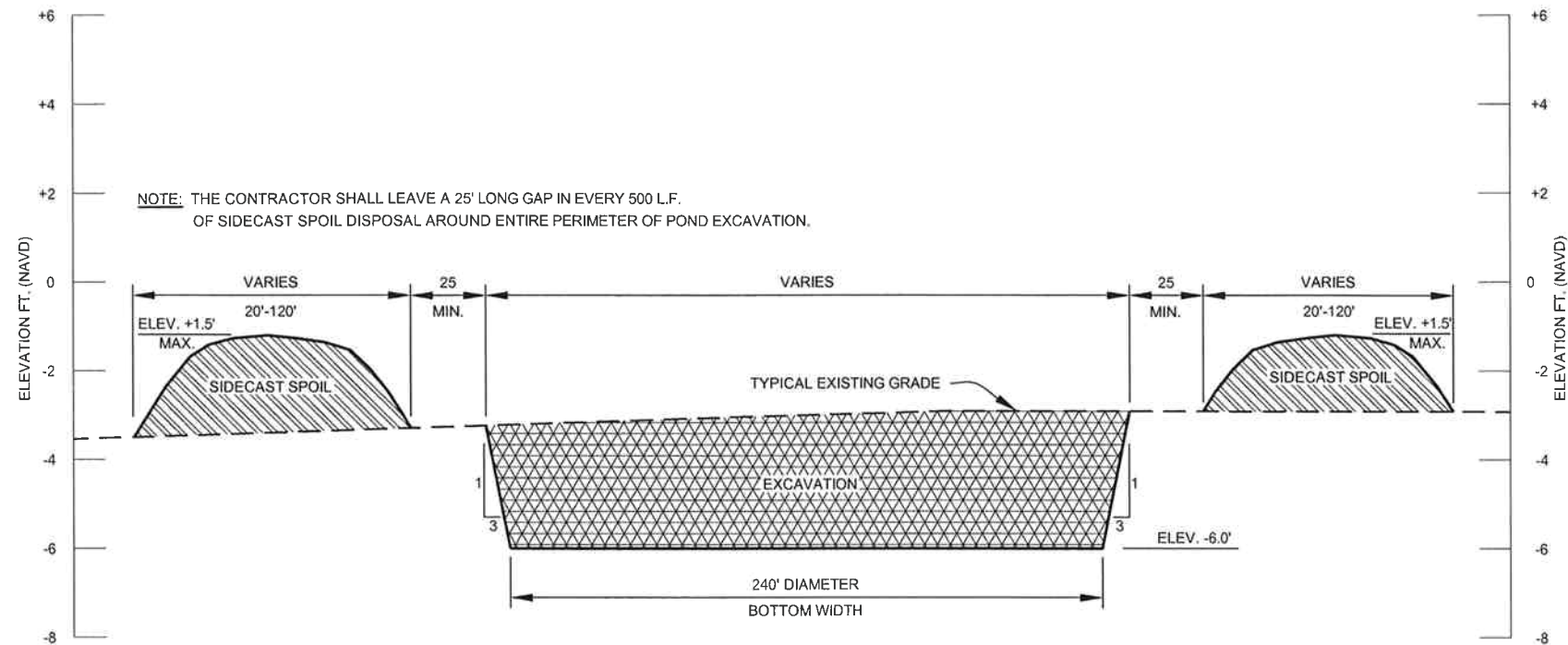
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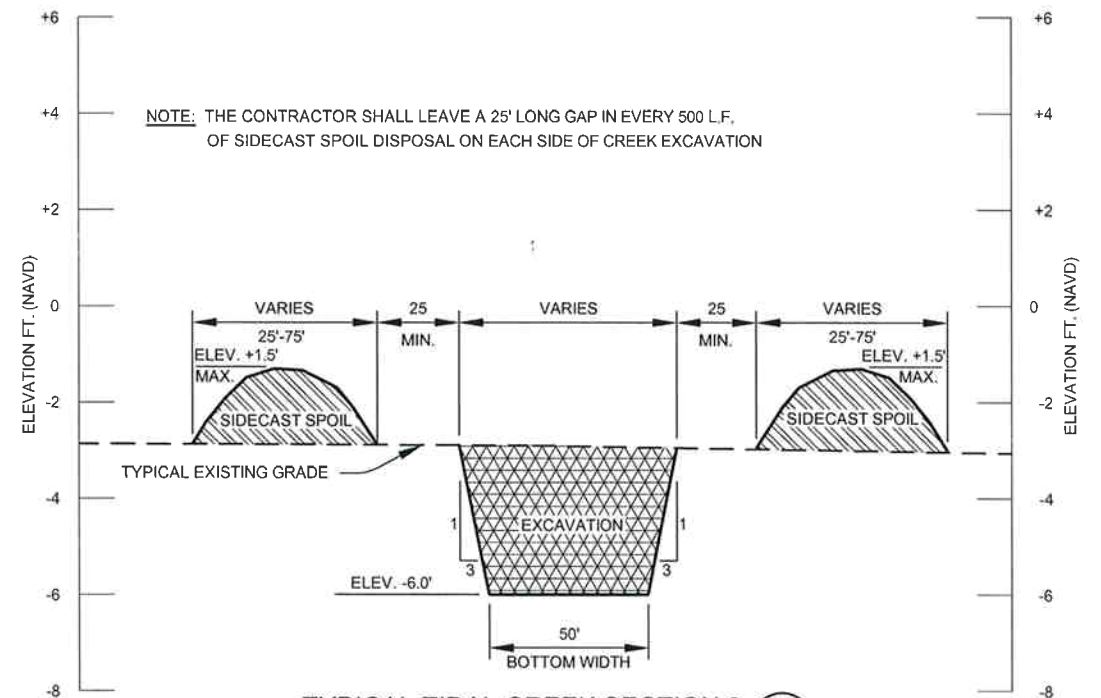
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COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)
STATE PROJECT NUMBER: 2511-05-09
FEDERAL PROJECT NUMBER: TE-50
APPROVED BY: KPR

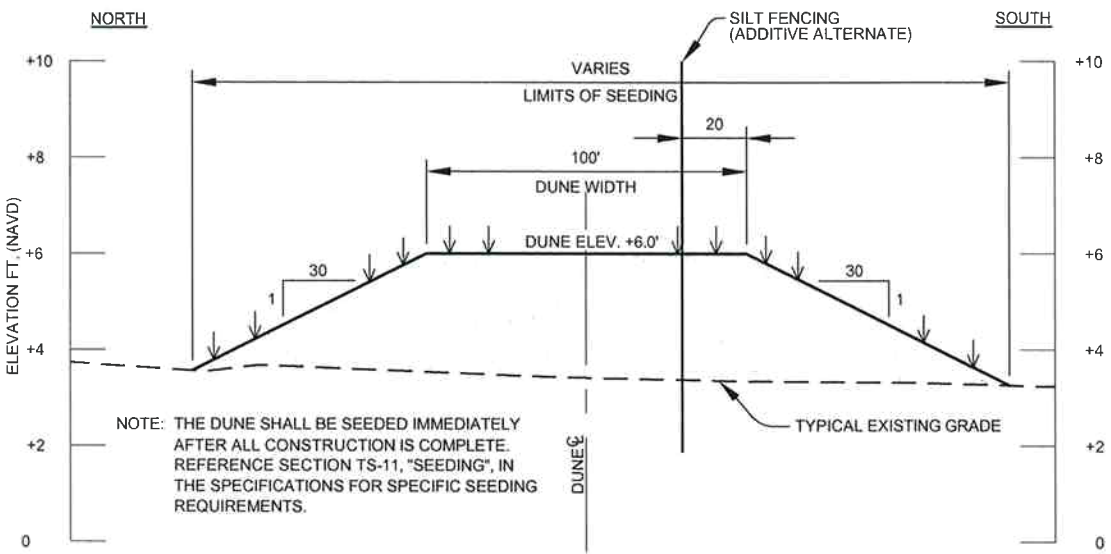
TYPICAL CROSS SECTIONS
SHEET 1 OF 2
DATE: SEPTEMBER 2008
SHEET 6 OF 22



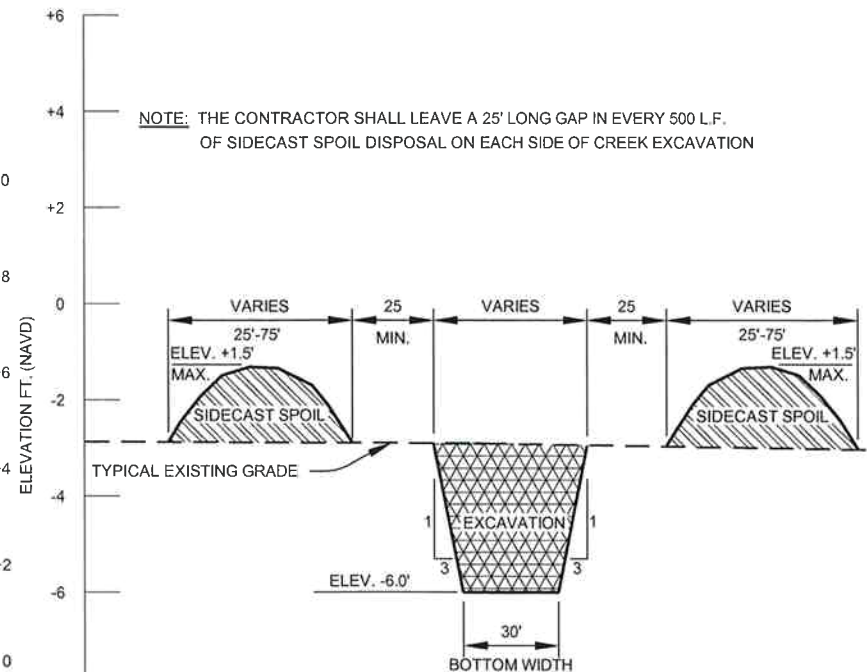
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SCALE: HORIZ 1"=30'
VERT 1"=2'



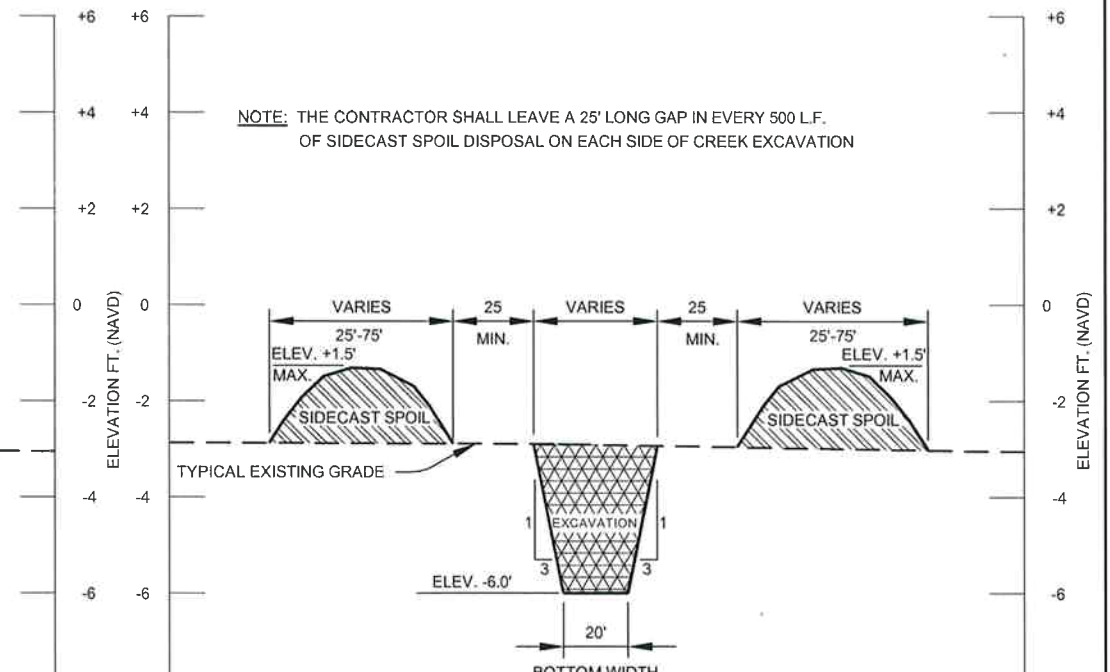
TYPICAL TIDAL CREEK SECTION 3
SCALE: HORIZ 1"=30'
VERT 1"=2'



TYPICAL DUNE SECTION (ADDITIVE ALTERNATE) 5
SCALE: HORIZ 1"=30'
VERT 1"=2'

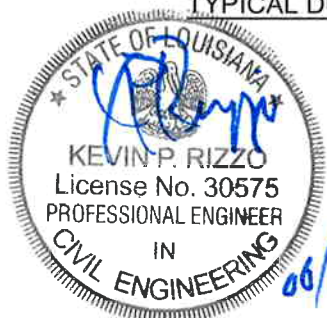


TYPICAL TIDAL CREEK SECTION 2
SCALE: HORIZ 1"=30'
VERT 1"=2'



TYPICAL TIDAL CREEK SECTION 1
SCALE: HORIZ 1"=30'
VERT 1"=2'

AS-BUILT



REV	DATE	DESCRIPTION	BY

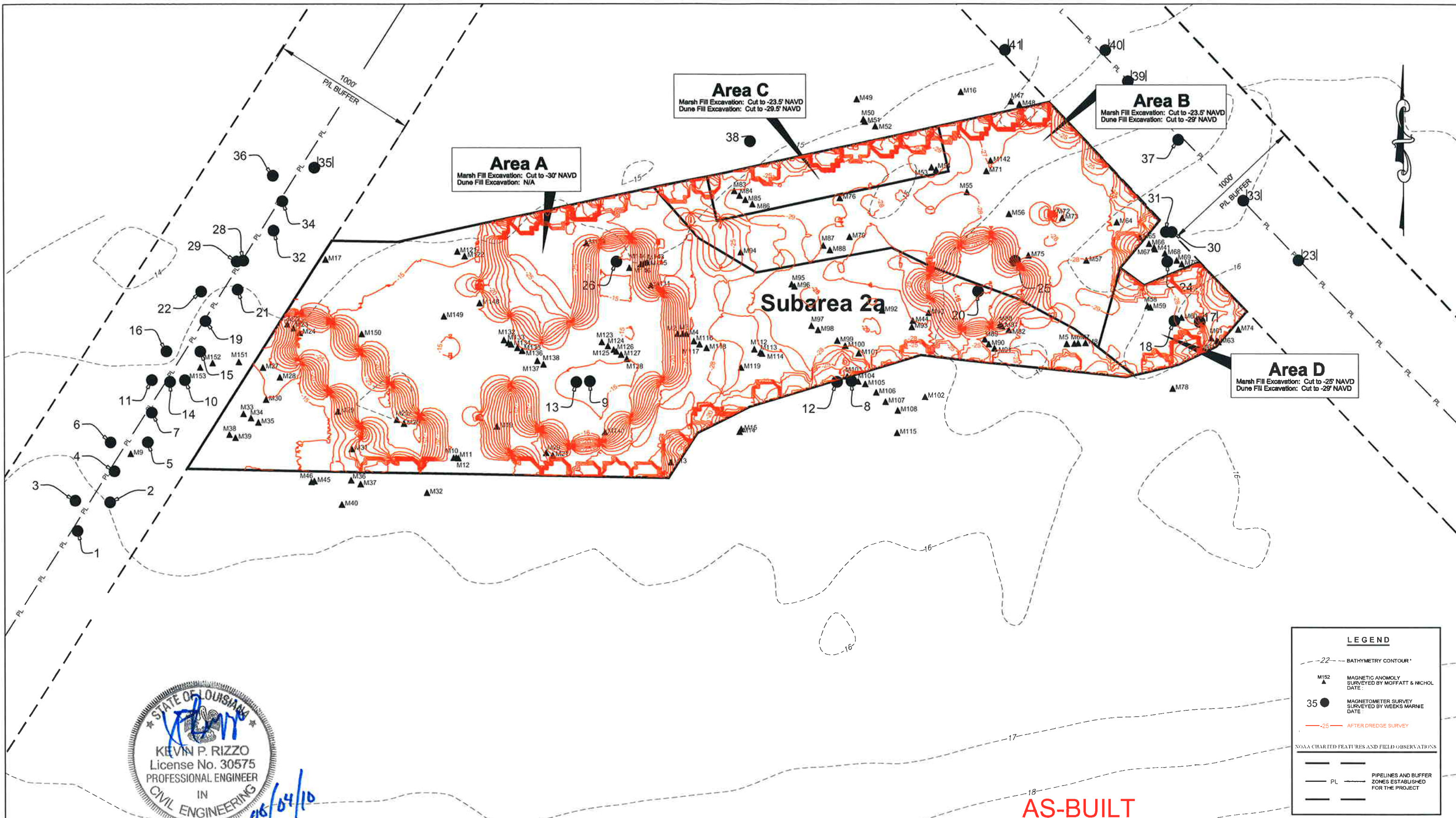


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WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)
STATE PROJECT NUMBER: 2511-05-09
FEDERAL PROJECT NUMBER: TE-50
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TYPICAL CROSS SECTIONS
SHEET 2 OF 2
DATE: SEPTEMBER 2008
SHEET 7 OF 22

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STATE OF LOUISIANA
KEVIN P. RIZZO
License No. 30575
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
05/04/10

LEGEND

- 22 --- BATHYMETRY CONTOUR *
- M152 ▲ MAGNETIC ANOMOLY SURVEYED BY MOFFATT & NICHOL DATE:
- 35 ● MAGNETOMETER SURVEY SURVEYED BY WEEKS MARINE DATE
- 25 --- AFTER DREDGE SURVEY
- NOAA CHARTED FEATURES AND FIELD OBSERVATIONS
- PL --- PIPELINES AND BUFFER ZONES ESTABLISHED FOR THE PROJECT

AS-BUILT



REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB

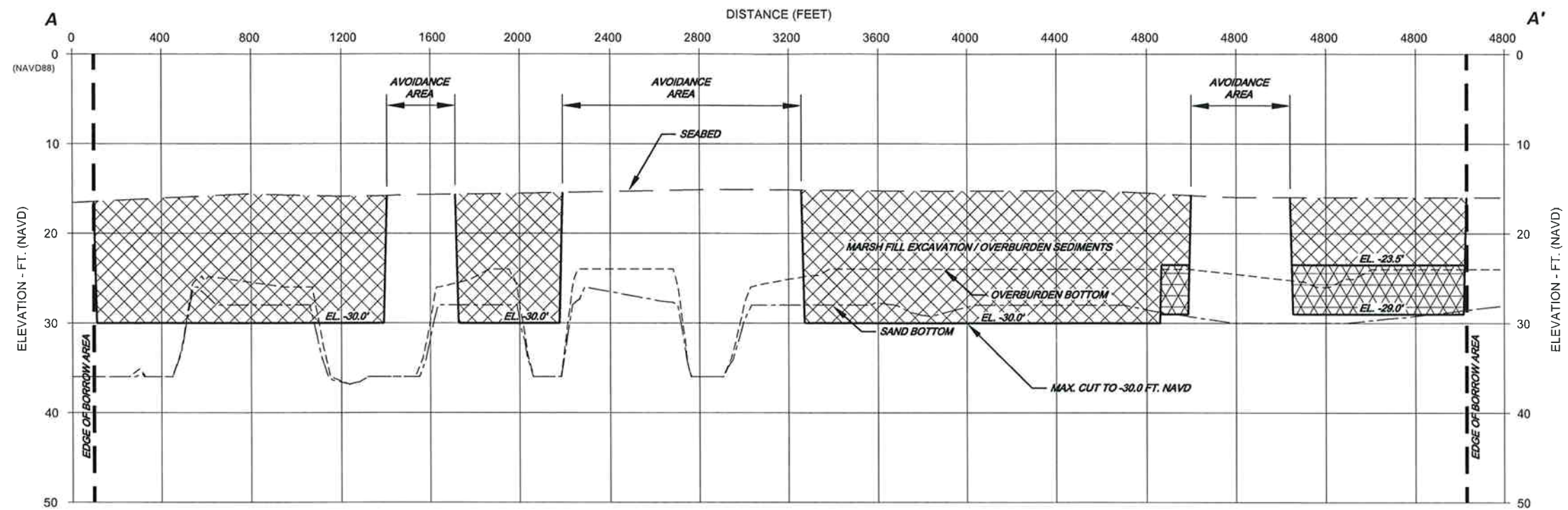
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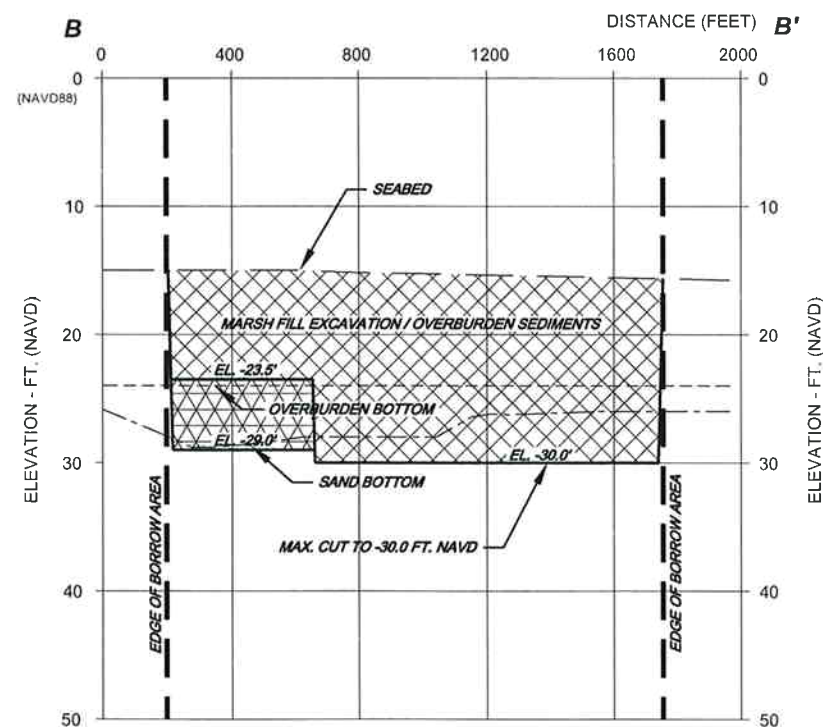
DRAWN BY: KSP
DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)
STATE PROJECT NUMBER: 2511-05-09
FEDERAL PROJECT NUMBER: TE-50
APPROVED BY: KPR

DREDGE PLAN
SUBAREA 2a
DATE: SEPTEMBER 2008
SHEET 8 OF 22



SECTION A-A'
SCALE: HORIZ 1"=300'
VERT 1"=10'



SECTION B-B'
SCALE: HORIZ 1"=300'
VERT 1"=10'

AS-BUILT



REV	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

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WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

DREDGE PLAN-SUBAREA 2a
CROSS SECTIONS

DATE: SEPTEMBER 2008

SHEET 9 OF 22

MARSH FILL BASELINE COORDINATES (NAD83)				
POINT #	X	Y	STATION	BEARING TO NEXT PT.
11	3440183.304	198768.710	400+00.00	N 77°02'43" E
12	3445933.135	200091.377	459+00.00	N/A

MARSH PAY PROFILE LINE COORDINATES (NAD83)				
PROFILE #	X AT BASELINE	Y AT BASELINE	STATION	BEARING
1	3440183.30	198768.70	400+00	N 12°57'17" W
2	3440426.94	198824.75	402+50	N 12°57'17" W
3	3440670.57	198880.80	405+00	N 12°57'17" W
4	3440914.21	198936.84	407+50	N 12°57'17" W
5	3441157.85	198992.89	410+00	N 12°57'17" W
6	3441401.48	199048.93	412+50	N 12°57'17" W
7	3441645.12	199104.98	415+00	N 12°57'17" W
8	3441888.76	199161.02	417+50	N 12°57'17" W
9	3442132.39	199217.07	420+00	N 12°57'17" W
10	3442376.03	199273.11	422+50	N 12°57'17" W
11	3442619.67	199329.16	425+00	N 12°57'17" W
12	3442863.30	199385.20	427+50	N 12°57'17" W
13	3443106.94	199441.25	430+00	N 12°57'17" W
14	3443350.58	199497.29	432+50	N 12°57'17" W
15	3443594.22	199553.34	435+00	N 12°57'17" W
16	3443837.85	199609.38	437+50	N 12°57'17" W
17	3444081.49	199665.43	440+00	N 12°57'17" W
18	3444325.13	199721.47	442+50	N 12°57'17" W
19	3444568.76	199777.52	445+00	N 12°57'17" W
20	3444812.40	199833.56	447+50	N 12°57'17" W
21	3445056.04	199889.61	450+00	N 12°57'17" W
22	3445299.67	199945.65	452+50	N 12°57'17" W
23	3445543.31	200001.70	455+00	N 12°57'17" W
24	3445786.95	200057.74	457+50	N 12°57'17" W
25	3445933.13	200091.37	459+00	N 12°57'17" W

CONTAINMENT DIKE POINTS (NAD83)		
POINT #	X	Y
1	3439677.136	200848.959
2	3441019.939	201651.320
3	3442859.651	202324.095
4	3444258.786	202681.321
5	3444806.532	202258.604
6	3445686.168	202239.227
7	3445351.028	201490.532
8	3445552.662	200928.272
9	3446219.076	200210.496
10	3445219.373	200216.644
11	3444182.915	199888.519
12	3443005.831	199576.019
13	3442224.581	199497.894
14	3441193.331	199456.227
15	3440006.737	199530.005
16	3439897.495	199712.012
17	3439680.343	200089.778
18	3439631.525	200256.506
19	3439795.486	200355.204



1	2-2-10	AS-BUILT	KMB
REV.	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

PROJECT COORDINATE
TABLES

DATE: SEPTEMBER 2008

SHEET 10 OF 22

BORROW AREA 2a UNIDENTIFIED MAGNETIC ANOMALY TABLE

REF NO.	AMP.	CAT.	X	Y	REMARKS	REF NO.	AMP.	CAT.	X	Y	REMARKS
1	17	mc	3458325	190776	Unknown	81	5	m	3460786	190813	Unknown, possible noise
2	20	m	3459622	190762	Unknown, possible noise	82	24	mc	3460830	190788	Unknown, possible noise
3	29	m	3458658	190762	Unknown, possible noise	83	8	m	3459000	191712	Unknown, possible noise
4	8	m	3458681	190762	Unknown, possible noise	84	21	m	3459035	191681	Unknown, possible noise
5	25	m	3461211	190696	Unknown, possible noise	85	23	m	3459074	191653	Unknown, possible noise
6	22	m	3461261	190698	Unknown, possible noise	86	19	mc	3459121	191624	Unknown, possible noise
7	30	m	3461286	190700	Unknown, possible noise	87	24	mc	3459598	191349	Unknown, possible noise
8	14	mc	3461335	190702	Unknown, possible noise	88	31	m	3459642	191319	Unknown, possible noise
9	1730	m	3454980	189966	Pipeline, TGP Co. 26-in Gas (Seg. 3562)	89	5	m	3460672	190726	Unknown, possible noise
10	8	m	3457132	189938	Unknown, possible noise	90	23	mc	3460698	190694	Unknown, possible noise
11	5	m	3457149	189939	Unknown, possible noise	91	18	mc	3460736	190666	Unknown, possible noise
12	11	mc	3457163	189936	Unknown, short duration	92	30	m	3459985	190918	Unknown, short duration
13	5	m	3459576	189908	Unknown, short duration	93	30	m	3460184	190808	Unknown, short duration
14	6	m	3459031	190111	Unknown, short duration	94	16	m	3459042	191305	Unknown, short duration
15	8	m	3459042	190129	Unknown, short duration	95	15	m	3459383	191092	Unknown, short duration
16	6	m	3460515	192369	Unknown, start of line	96	22	m	3459402	191078	Unknown, short duration
17	47	mc	3456283	191257	Unknown, possible pipeline lobe or debris	97	16	mc	3459516	190816	Unknown, short duration
18	213	d	3457036	190376	Unknown	98	22	mc	3459561	190788	Unknown, short duration
19	49	dc	3457419	190146	Unknown, short duration	99	20	m	3459689	190717	Unknown, short duration
20	18	m	3457743	189971	Unknown, short duration	100	22	m	3459741	190683	Unknown, short duration
21	14	m	3457787	189955	Unknown, short duration	101	10	m	3459830	190633	Unknown, short duration
22	13	m	3456029	190827	Unknown, short duration	102	8	dc	3460271	190343	Unknown
23	24	m	3456070	190800	Unknown, short duration	103	12	m	3459754	190479	Unknown, possible noise
24	20	m	3456111	190770	Unknown, short duration	104	5	m	3459826	190446	Unknown, possible noise
25	29	m	3456750	190192	Unknown, short duration	105	6	m	3459873	190429	Unknown, possible noise
26	20	m	3456798	190166	Unknown, short duration	106	5	mc	3459945	190373	Unknown, possible noise
27	21	mc	3455865	190539	Unknown, short duration	107	8	mc	3460007	190311	Unknown, possible noise
28	27	m	3455978	190474	Unknown, short duration	108	7	mc	3460089	190253	Unknown, possible noise
29	7	m	3456362	190247	Unknown, short duration	109	30	m	3458015	191365	Unknown, short duration
30	6	m	3455885	190326	Unknown, short duration	110	42	m	3458259	191213	Unknown, Same as 110/147
31	7	m	3456451	189998	Unknown, short duration	111	26	m	3458447	191086	Unknown, short duration
32	11	dc	3456951	189706	Unknown	112	30	mc	3459131	190659	Unknown, Cluster 1 (short duration)
33	16	m	3455734	190231	Unknown, possible noise	113	6	m	3459171	190637	Unknown, Cluster 1 (short duration)
34	29	mc	3455784	190203	Unknown, possible noise	114	24	m	3459183	190631	Unknown, Cluster 1 (short duration)
35	25	m	3455833	190174	Unknown, possible noise	115	6	m	3460084	190104	Unknown, short duration
36	7	d	3456446	189790	Unknown, short duration	116	24	mc	3458730	190713	Unknown, possible noise
37	5	mc	3456508	189764	Unknown, short duration	117	21	m	3458767	190692	Unknown, possible noise
38	22	mc	3455640	190093	Unknown, possible noise	118	18	mc	3458813	190668	Unknown, possible noise
39	21	m	3455680	190072	Unknown, possible noise	119	14	m	3459042	190538	Unknown, possible noise
40	8	dc	3456385	189628	Unknown	120	25	dc	3458337	190768	Unknown
41	22	m	3461801	191326	Unknown, oil & gas debris (Same as 41/67)	121	32	m	3457161	191309	Unknown, possible noise
42	6	m	3460575	190994	Unknown, Cluster 5	122	19	mc	3457210	191278	Unknown, possible noise
43	9	mc	3460296	190902	Unknown, short duration	123	19	mc	3458117	190708	Unknown, possible noise
44	8	m	3460191	190850	Unknown, possible noise	124	25	mc	3458158	190681	Unknown, possible noise
45	7	m	3456205	189784	Unknown, possible noise	125	11	m	3458197	190657	Unknown, possible noise
46	5	dc	3456186	189779	Unknown, short duration	126	30	m	3458215	190645	Unknown, possible noise
47	19	mc	3460848	192307	Unknown, short duration	127	32	m	3458247	190624	Unknown, possible noise
48	10	mc	3460904	192287	Unknown, short duration	128	11	m	3458285	190596	Unknown, possible noise
49	7	m	3459821	192322	Unknown, possible noise	129	56	m	3458038	190552	Unknown, Cluster 4
50	8	m	3459865	192187	Unknown, possible noise	130	69	mc	3458111	190510	Unknown, Cluster 4
51	9	m	3459874	192173	Unknown, possible noise	131	19	m	3458140	190493	Unknown, Cluster 4
52	6	m	3459943	192142	Unknown, possible noise	132	13	mc	3457467	190720	Unknown, possible noise (Rerun)
53	8	m	3460318	191868	Unknown, possible noise	133	8	mc	3457496	190701	Unknown, possible noise (Rerun)
54	5	dc	3460349	191852	Unknown, possible noise	134	13	m	3457513	190692	Unknown, possible noise (Rerun)
55	5	m	3460555	191705	Unknown, possible noise	135	15	m	3457555	190668	Unknown, possible noise (Rerun)
56	5	m	3460833	191559	Unknown, possible noise	136	20	mc	3457588	190649	Unknown, possible noise (Rerun)
57	7	dc	3461342	191251	Unknown, possible noise	137	23	m	3457686	190583	Unknown, possible noise (Rerun)
58	5	m	3461751	190948	Unknown, possible noise	138	17	m	3457727	190559	Unknown, short duration
59	5	m	3461770	190939	Unknown, possible noise	139	28	mc	3457958	190423	Unknown, Same as 139/141
60	363	m	3461979	190871	Unknown, oil & gas debris	140	23	mc	3458136	190108	Unknown, short duration
61	6	m	3462175	190734	Unknown, possible noise	141	25	mc	3457953	190426	Unknown, Same as 139/141
62	6	m	3462213	190716	Unknown, possible noise	142	5	d	3460713	191913	Unknown, short duration
63	7	m	3462222	190709	Unknown, possible noise	143	11	m	3458421	191239	Unknown, possible noise
64	33	m	3461546	191595	Unknown, short duration	144	6	m	3458405	191235	Unknown, possible noise
65	13	m	3461701	191404	Unknown, short duration	145	7	m	3458380	191225	Unknown, possible noise
66	12	m	3461762	191362	Unknown, short duration	146	10	m	3458304	191201	Unknown, possible noise
67	89	mc	3461796	191337	Unknown, oil & gas debris (Same as 41/67)	147	6	dc	3458286	191199	Unknown, Same as 110/147
68	5	m	3461869	191298	Unknown, short duration	148	18	m	3457308	190966	Unknown, short duration
69	12	m	3461948	191251	Unknown, short duration	149	7	m	3457069	190879	Unknown, short duration
70	16	m	3461982	191227	Unknown, short duration	150	5	m	3456518	190762	Unknown, short duration
71	6	m	3460685	191844	Unknown, possible noise	151	5	m	3455704	190576	Unknown, short duration
72	21	m	3461129	191567	Unknown, possible noise	152	6	m	3455528	190569	Unknown, short duration, related to 153
73	22	m	3461184	191533	Unknown, possible noise	153	29	m	3455445	190540	Pipeline, TGP Co. 26-in Gas (Seg. 3562)
74	110	mc	3462354	190792	Unknown, oil & gas debris	1) Magnetic anomaly reference numbers are preceded by the letter M on the project drawings (i.e. 241 = M241).					
75	19	mc	3460981	191284	Unknown, short duration	2) Anomaly categories (m = monopole, d = dipole, c = complex).					
76	27	m	3459708	191665	Unknown, short duration	3) Coordinates reference NAD83, Louisiana State Plane Coordinate System, South Zone, U.S. Survey Feet					
77	8	m	3460605	191106	Unknown, Cluster 5	4) Possible noise in comment column suggests that the magnetometer anomaly detected may be related to sensing fluctuations in the magnetic background related to sea conditions and/or closeness of sensor to seabed and not related to the detection of a ferrous metal source.					
78	7	dc	3461919	190399	Unknown						
79	31	m	3459771	191407	Unknown, possible noise						
80	5	d	3460771	190822	Unknown, short duration						

CREEK AND POND COORDINATES (NAD83)					
POINT #	X (BEGIN)	Y (BEGIN)	CHORD BEARING TO NEXT PT.	CHORD LENGTH	RADIUS (FEET)
20	3441782.44	201932.09	S 30°39'41" E	48.6	TANGENT
21	3441807.24	201890.25	S 35°06'30" E	295.3	208.3
22	3441977.06	201648.70	S 50°04'00" E	160.2	174.1
23	3441532.26	201225.27	N 72°00'05" E	252.2	151.2
24	3441772.08	201303.18	N 56°48'41" E	255.5	266.7
25	3443089.38	200933.85	N 63°50'08" W	544.6	453.4
26	3442600.57	201173.99	N 72°27'13" W	470.4	367.2
27	3442104.59	201425.99	N/A	N/A	120.0
28	3443125.49	202393.31	S 32°26'13" E	51.6	TANGENT
29	3443153.19	202349.74	S 30°49'06" E	172.4	115.5
30	3443241.55	202201.61	S 34°51'40" E	233.9	207.4
31	3442844.79	201728.99	N 69°50'59" E	270.5	179.9
32	3443098.77	201822.19	N 78°15'08" E	230.5	172.1
33	3443547.97	201859.12	S 63°47'17" E	365.0	232.0
34	3443875.45	201697.90	S 65°44'55" E	430.2	349.6
35	3444174.42	200873.31	N 18°20'53" E	500.0	446.8
36	3444824.89	201892.93	S 47°33'58" W	506.6	445.9
37	3445060.69	200483.88	N 34°12'25" W	560.9	625.1
38	3444745.39	200947.70	N 35°43'09" W	515.1	429.3
39	3443438.13	201907.44	N/A	N/A	120.0
40	3444371.63	201461.14	N/A	N/A	120.0
41	3444371.6	201461.1	N/A	N/A	N/A

SETTLEMENT PLATE LOCATIONS (NAD83)				
PLATE #	X	Y	Z	DATE
1	3440949	201260		
1	3440356.873	201242.009	9.148'	9-30-09
2	3440550	202503		
2	3443556.415	202498.351	11.084'	9-30-09
3	3441850	201729		
3	3441854.685	201717.483	7.245'	9-30-09
4	3440720	200395		
4	3440720.703	200382.387	7.528'	9-30-09
5	3443940	200740		
5	3443039.234	200705.982	7.392'	9-30-09
6	3444915	201470		
6	3444917.043	201471.021	8.581'	9-30-09
7	3441755	199790		
7	3441751.225	199788.030	7.827'	9-30-09
8	3444490	200360		
8	3444490.000	200360.000	8.319'	9-30-09
9	3443800	199066		
10	3440000	200785		

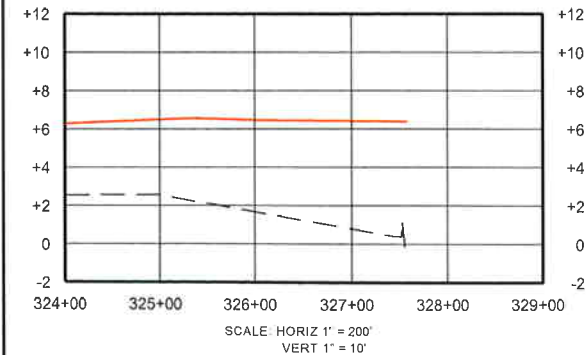
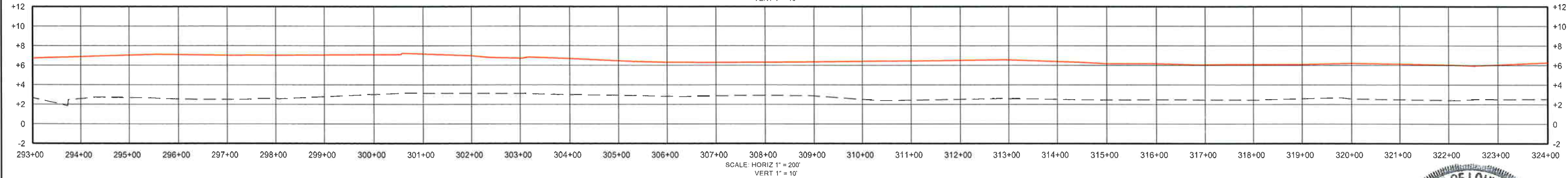
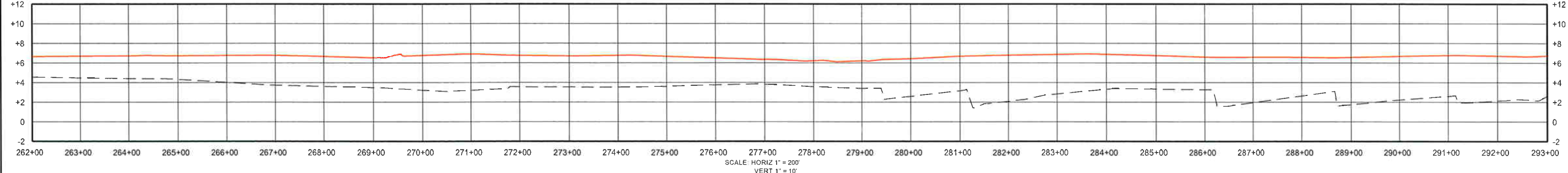
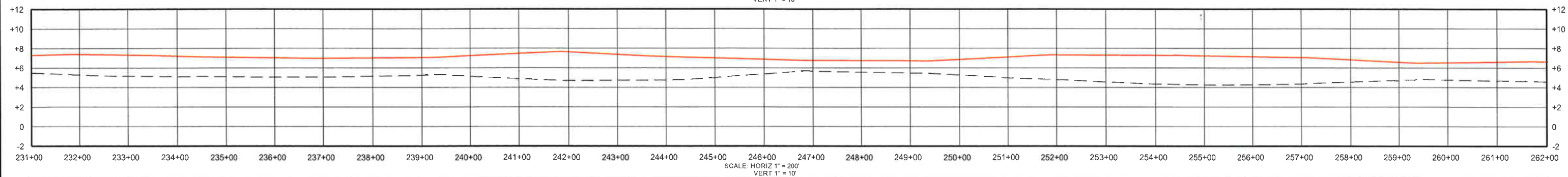
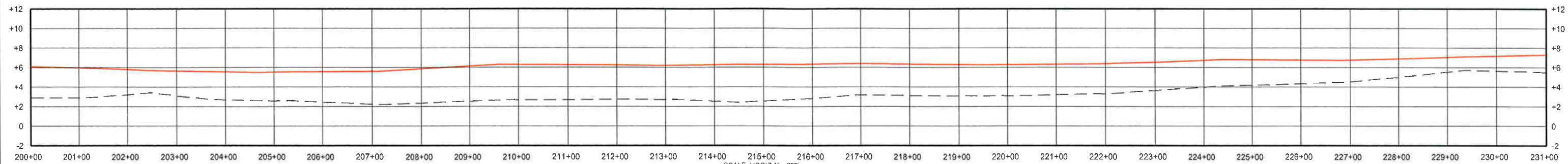
DUNE FILL BASELINE COORDINATES (NAD83)				
POINT #	X	Y	STATION	BEARING TO NEXT PT.
1	3437704.726	199252.126	200+00.00	S 59°37'57" E
1	3437852.28	199350.98	200+00	S 63°25'38" E
2	3438292.665	199011.400	204+70.17	S 79°53'52" E
2	3438261.80	199146.15	204+58	S 71°18'46" E
3	3439136.822	198741.000	214+47.64	S 81°40'46" E
3	3439198.28	198829.40	214+46	S 80°13'12" E
4	3440000.172	198617.037	229+10.96	N 87°59'21" E
4	3439948.40	198700.10	222+08	N 87°26'36" E
5	3441662.380	198807.026	209+70.10	N 82°20'43" E
5	3441656.10	198910.30	269+20	N 76°33'37" E
6	3446721.453	198951.632	200+55.70	N 65°13'02" E
6	3445443.53	199098.47	277+30	N 65°7'44" E
7	3447132.613	199603.161	226+10.99	N 63°06'48" E
7	3446810.52	199732.17	292+36	N 54°13'5" E
8	3447888.645	200170.530	305+55.34	N 40°25'67" E
8	3447228.48	200035.10	297+53	N 48°14'4" E
9	3448723.156	200884.072	310+63.90	N 43°26'10" E
9	3448129.07	200837.26	309+59	N 47°32" E
10	3449691.026	201007.172	330+61.61	N/A
10	3449446.16	202063.30	327+28	N/A

ACCESS ROUTE & TEMP. CHANNEL (NAD83)		
POINT #	X	Y
13	3450937.58	202493.97
14	3449992.51	202167.09
15	3450015.40	202100.94
16	3450960.46	202427.82
17	3441750.50	201918.48
18	3441816.25	201942.53
19	3441705.32	202218.50
20	3441649.05	202195.91
21	3436995.02	200312.69
22	3437051.93	200271.11
23	3438270.53	201904.42
24	3438206.40	201938.08



				LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)		REVISED PROJECT COORDINATE TABLES
					STATE PROJECT NUMBER: 2511-05-09		
					FEDERAL PROJECT NUMBER: TE-50		DATE: SEPTEMBER 2008
REV.	DATE	DESCRIPTION	BY				
				DRAWN BY: KSP	DESIGNED BY: KPR	APPROVED BY: KPR	SHEET 10a OF 22

AS-BUILT



LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - AUGUST 2009 SURVEY

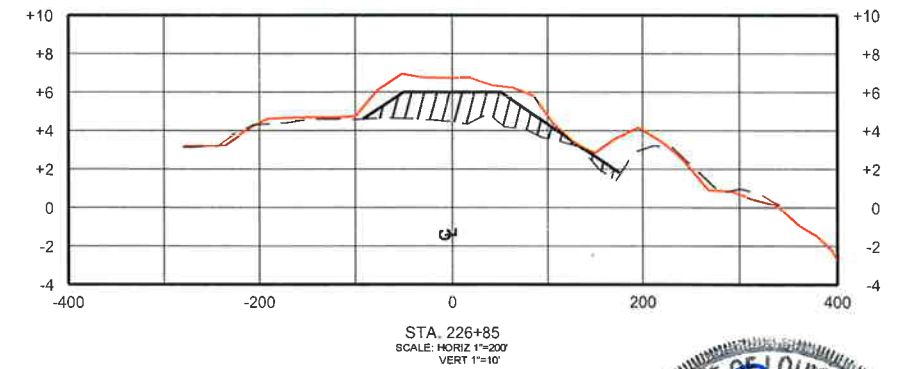
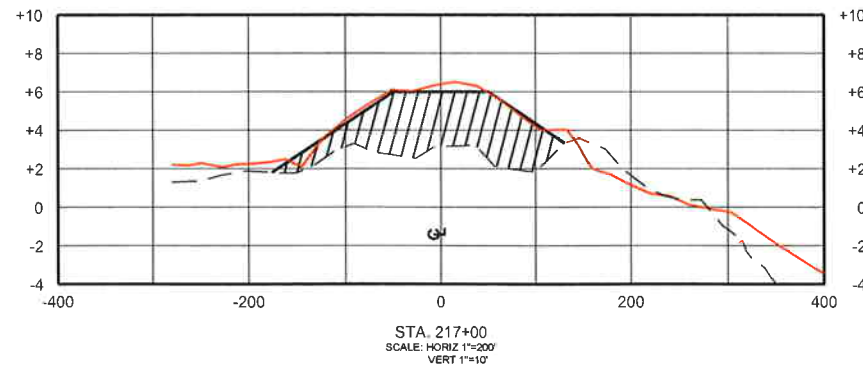
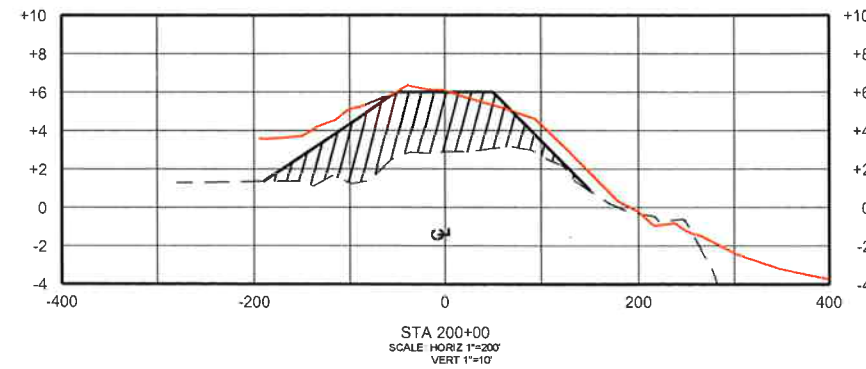
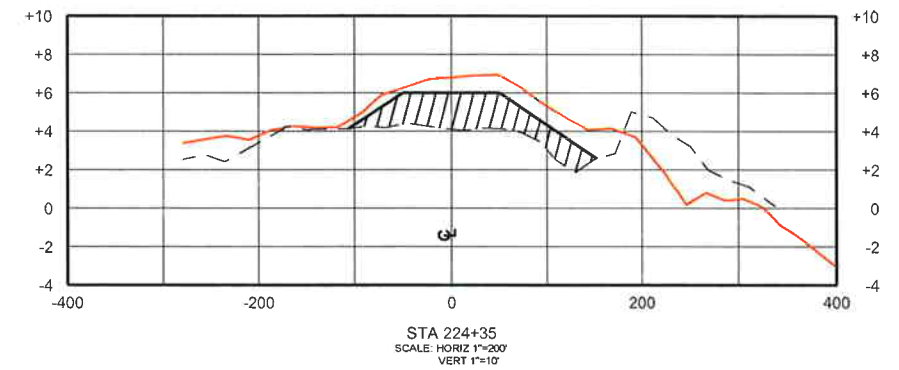
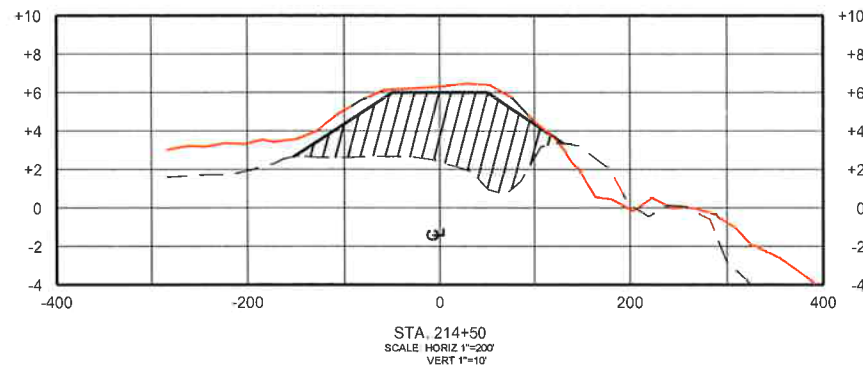
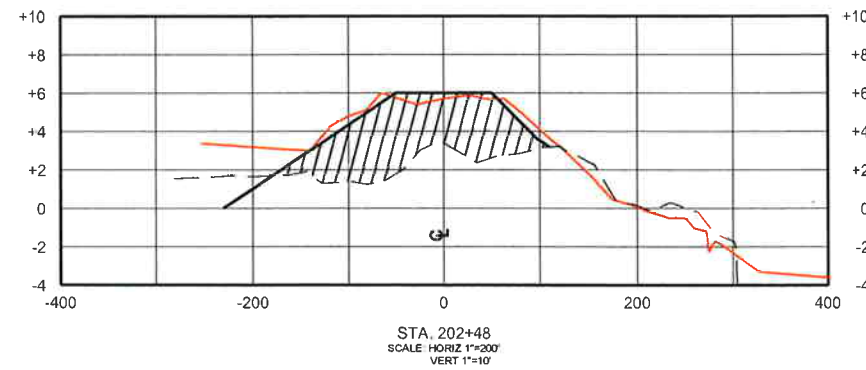
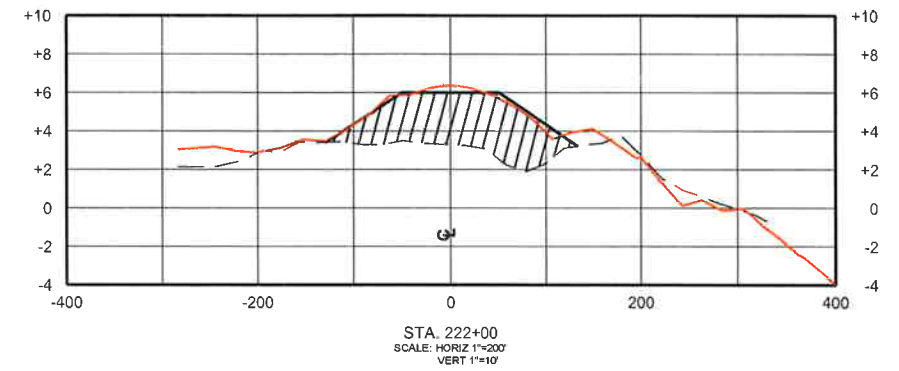
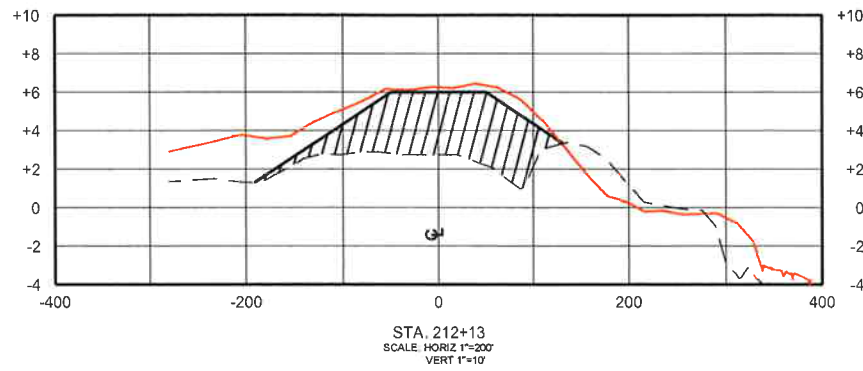
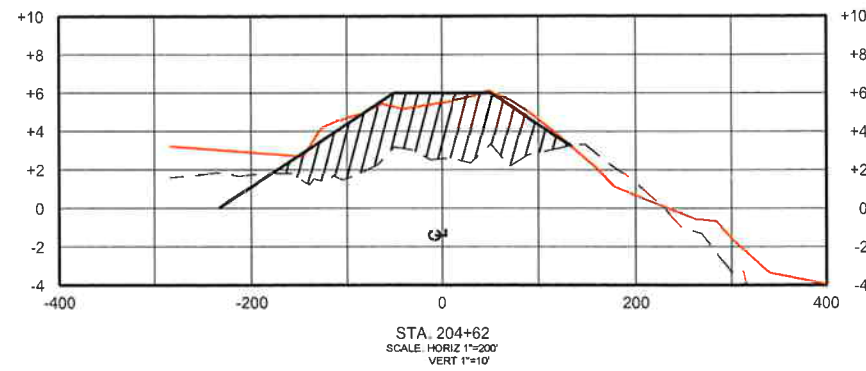
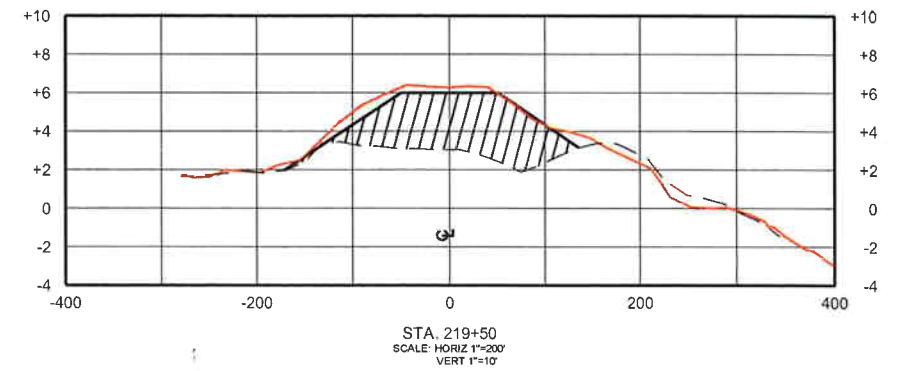
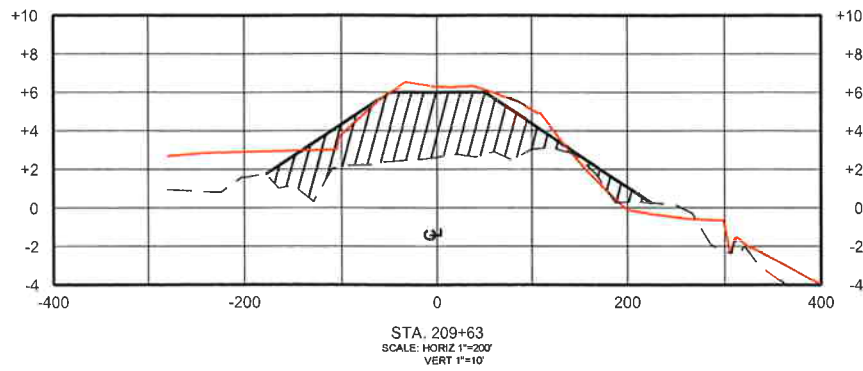
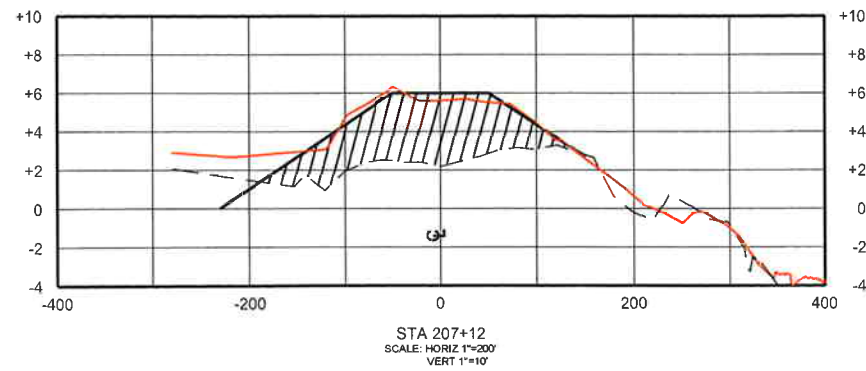
REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)		DUNE PROFILE SHEET 1 OF 1
		STATE PROJECT NUMBER: 2511-05-09	FEDERAL PROJECT NUMBER: TE-50	
DRAWN BY: KSP		DESIGNED BY: KPR		DATE: SEPTEMBER 2008
		APPROVED BY: KPR		SHEET 106 OF 22



AS-BUILT



NOTES:

- 1) MAXIMUM TOLERANCE FOR DUNE FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE
- 2) THE DUNE SHALL BE SEEDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - AUGUST 2009 SURVEY
	DESIGN TEMPLATE
	DUNE FILL

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

AS-BUILT

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

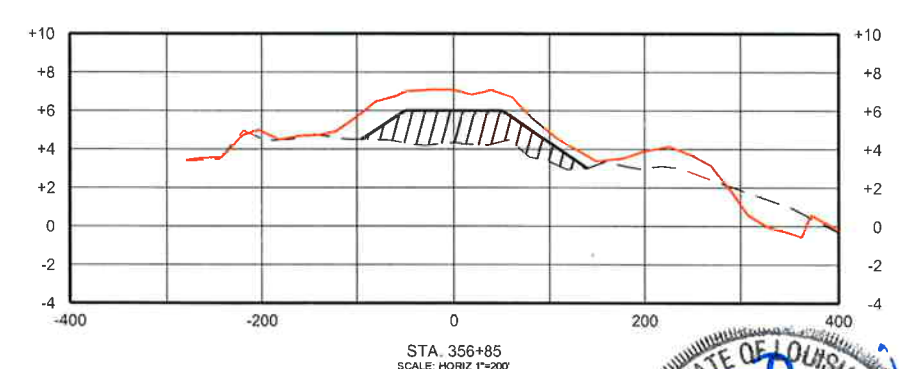
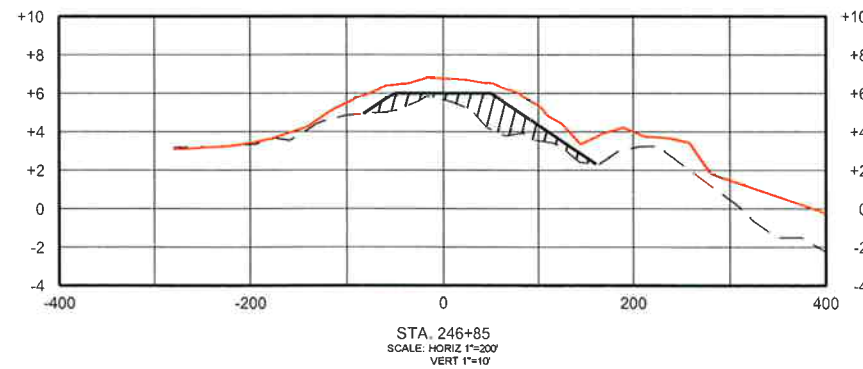
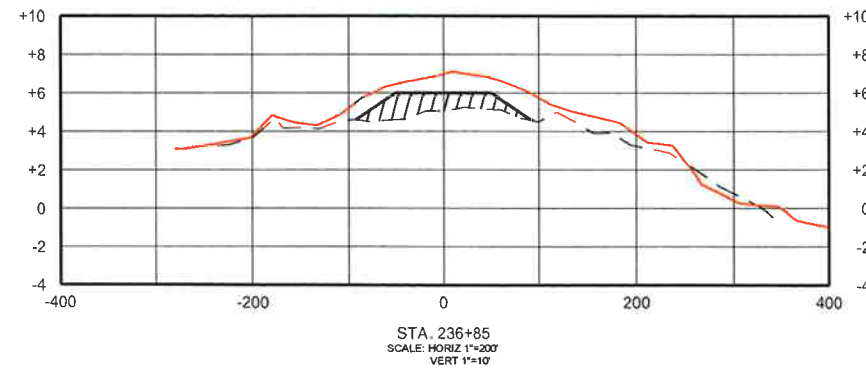
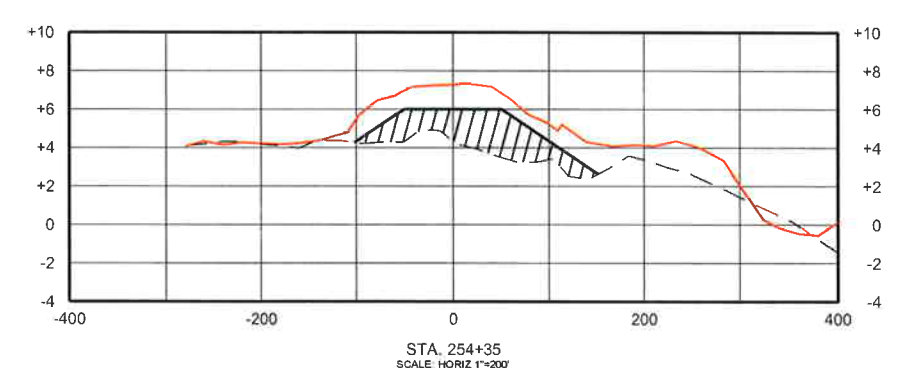
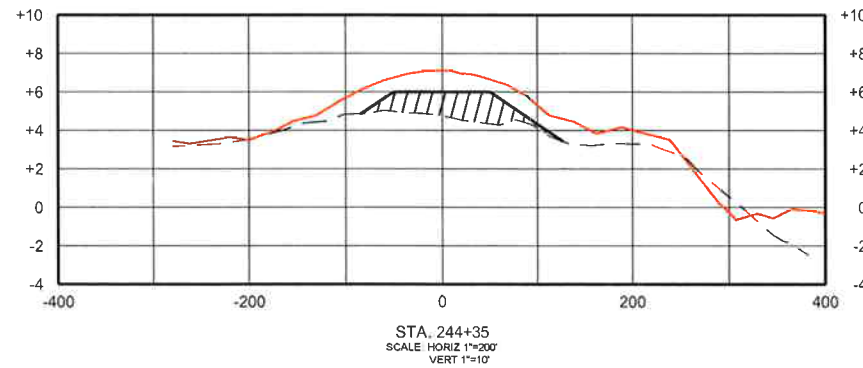
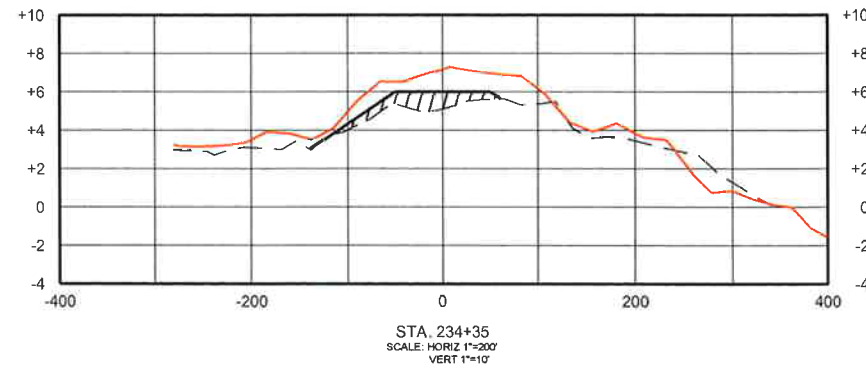
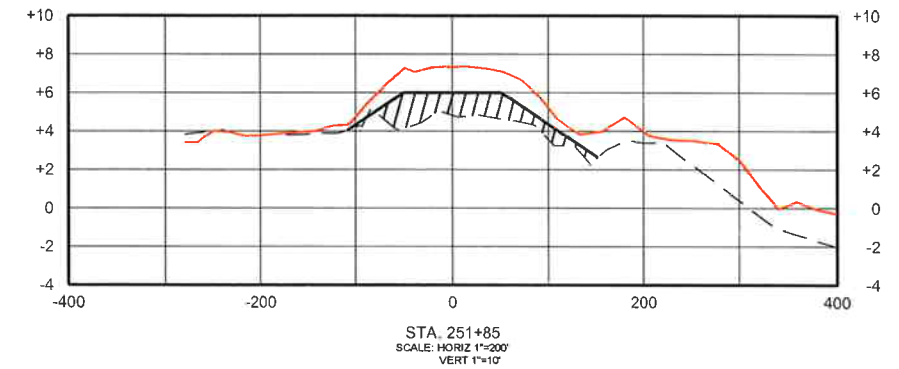
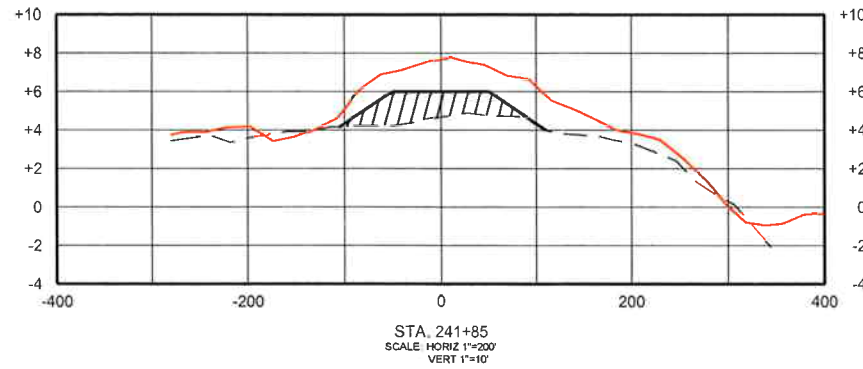
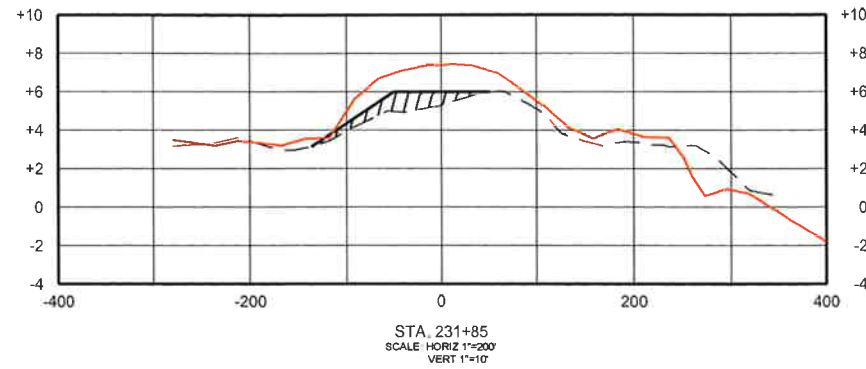
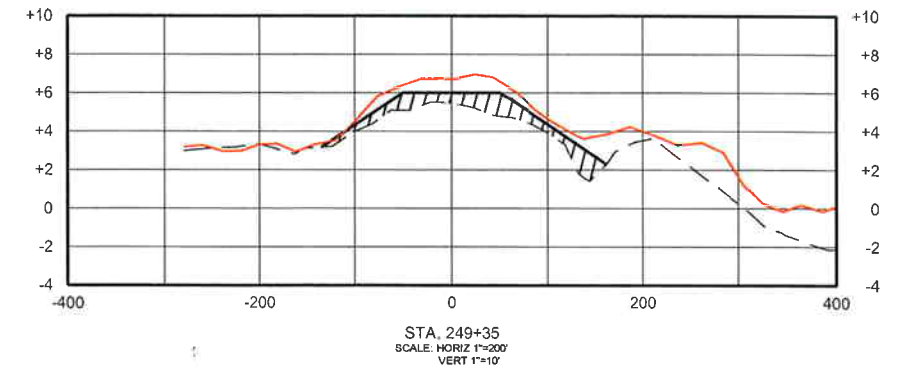
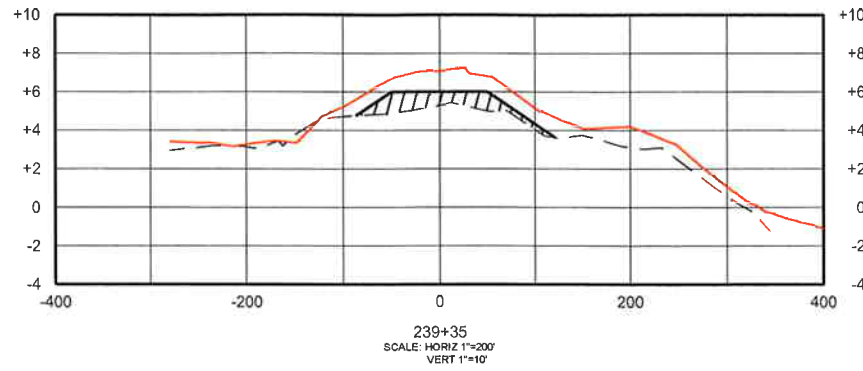
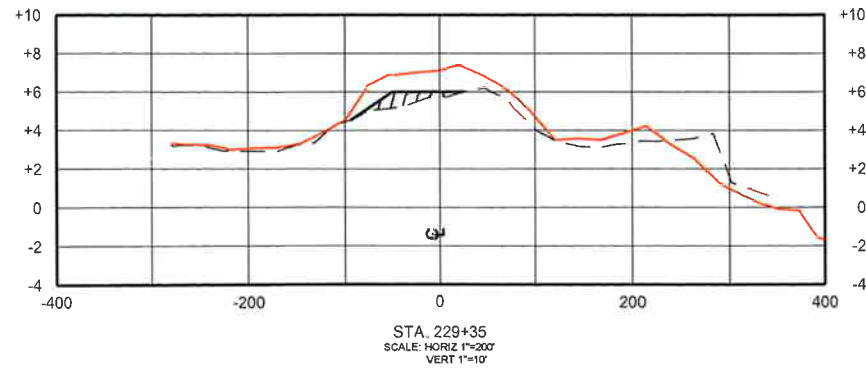
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR



SHEET 11 OF 22



NOTES:

- 1) MAXIMUM TOLERANCE FOR DUNE FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE.
- 2) THE DUNE SHALL BE SEEDDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

LEGEND	
—	AS-BUILT - OCTOBER 2009 SURVEY
- - -	EXISTING PROFILE - AUGUST 2009 SURVEY
—	DESIGN TEMPLATE
	DUNE FILL

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

AS-BUILT

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

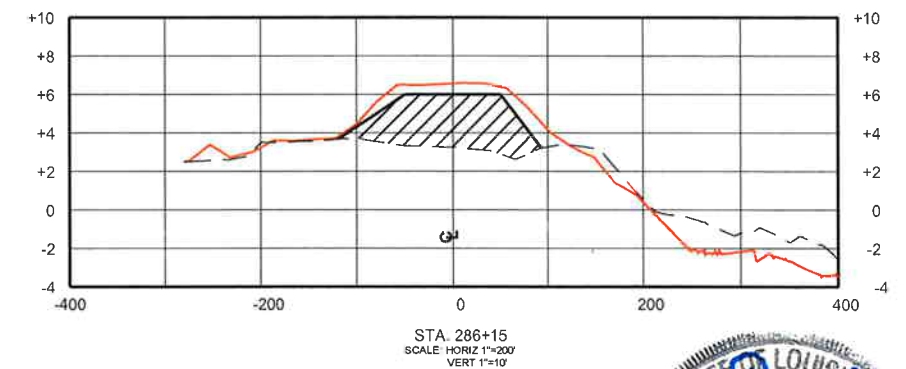
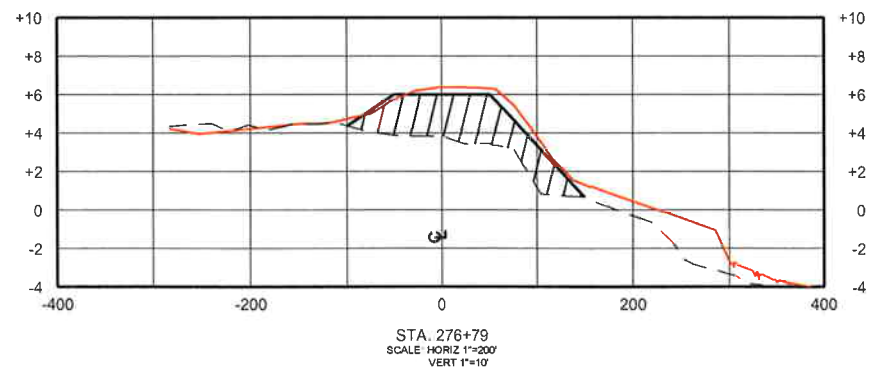
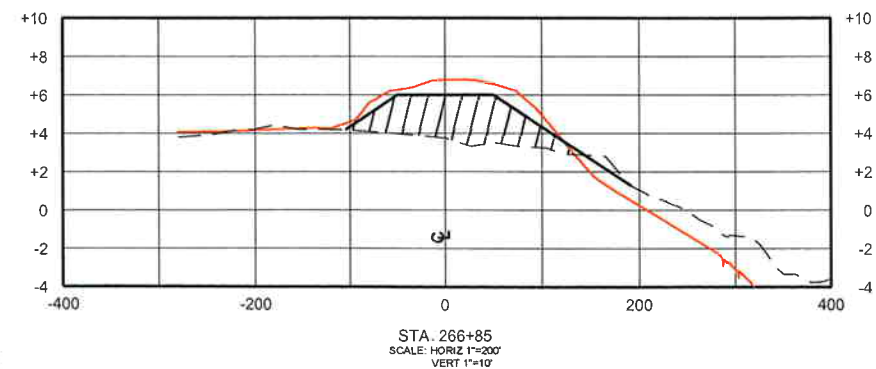
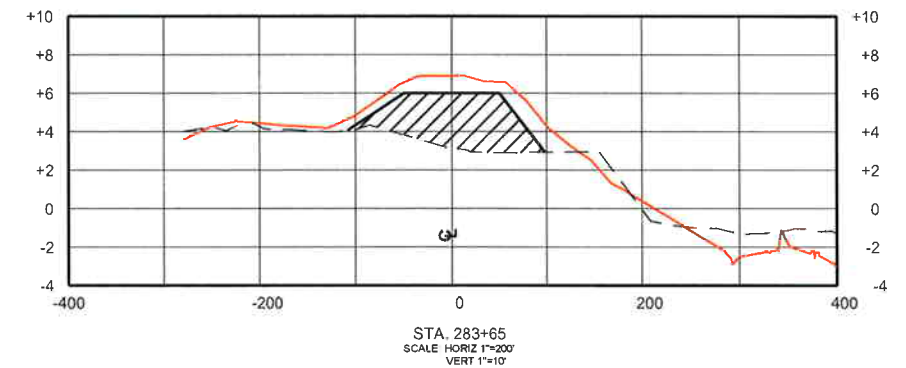
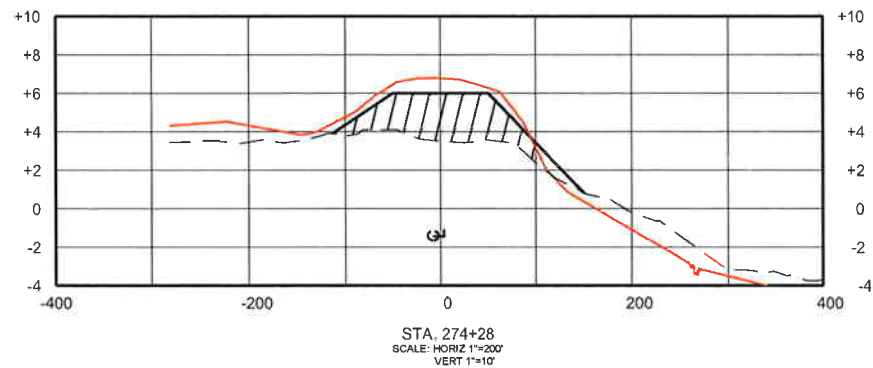
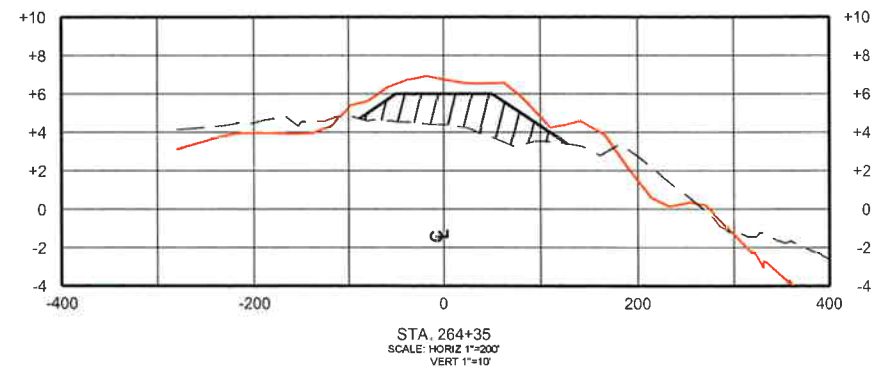
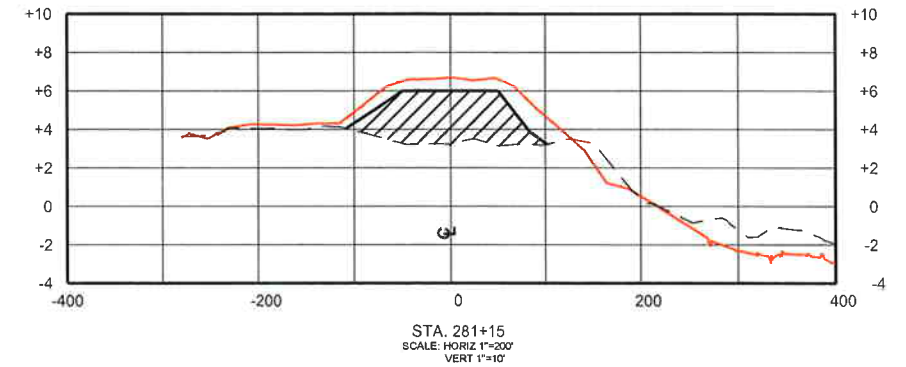
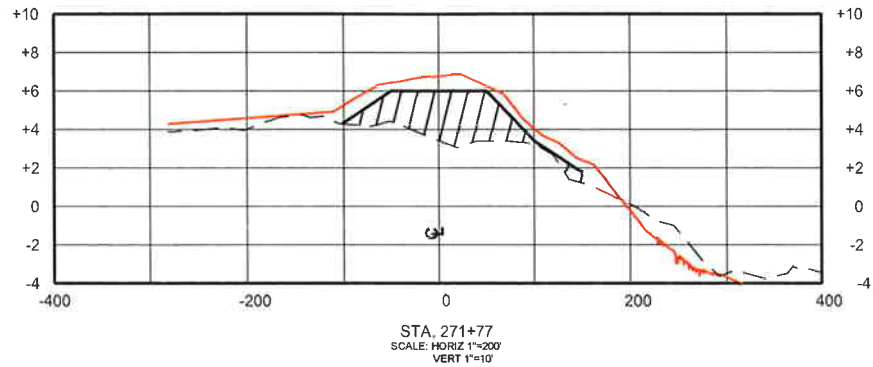
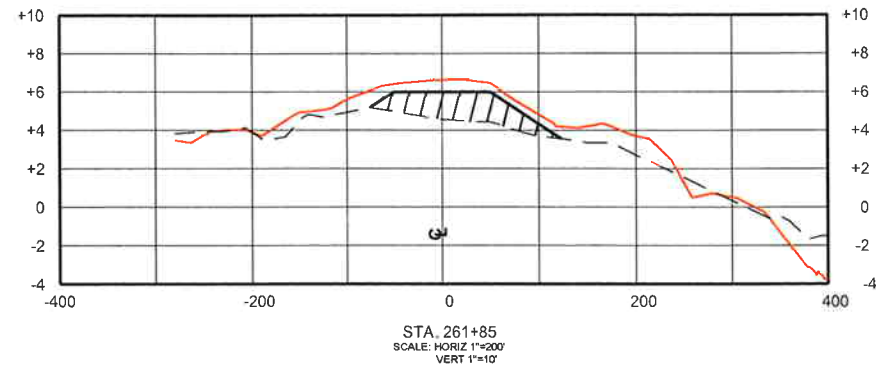
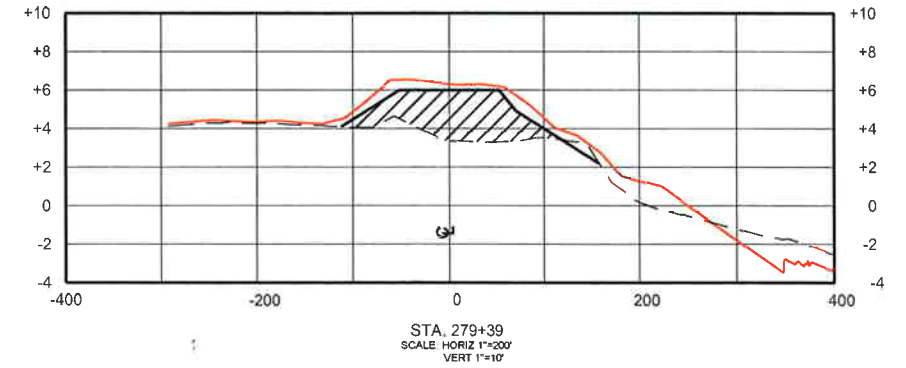
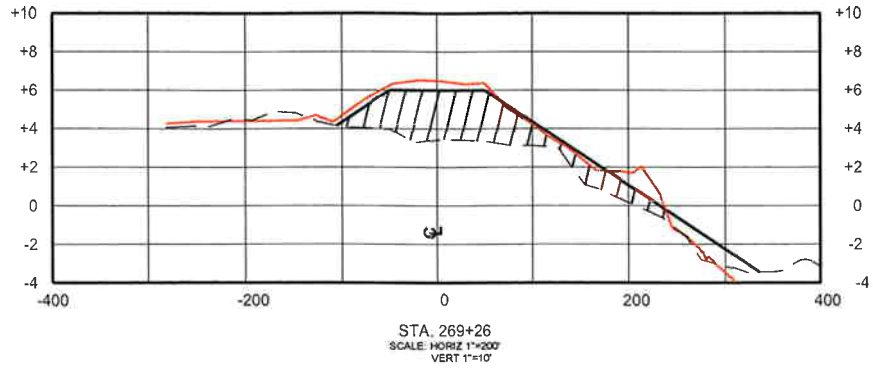
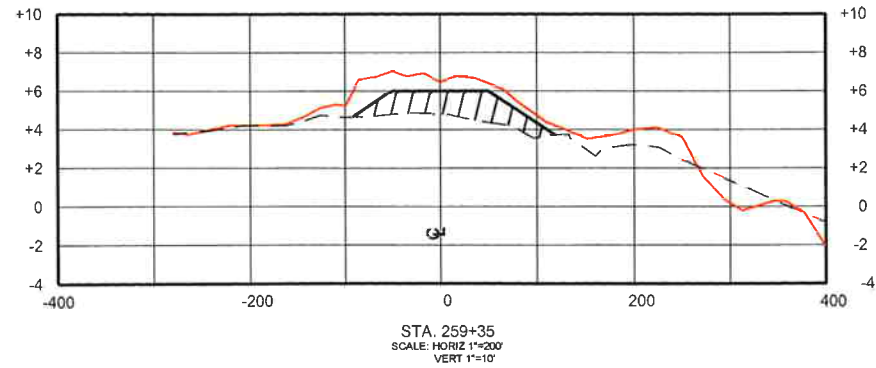
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR



SHEET 12 OF 22



NOTES:

- 1) MAXIMUM TOLERANCE FOR DUNE FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE
- 2) THE DUNE SHALL BE SEED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - AUGUST 2009 SURVEY
	DESIGN TEMPLATE
	DUNE FILL

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

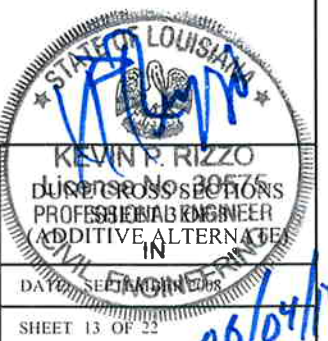
AS-BUILT

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

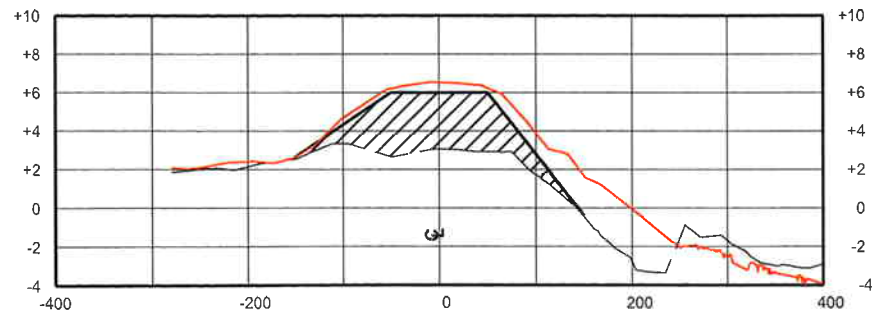
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

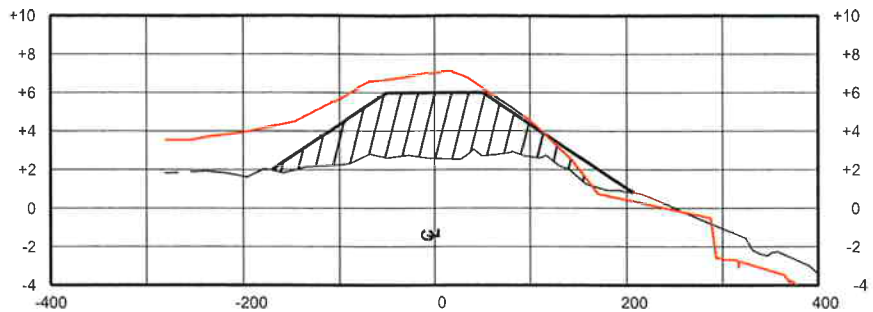
APPROVED BY: KPR



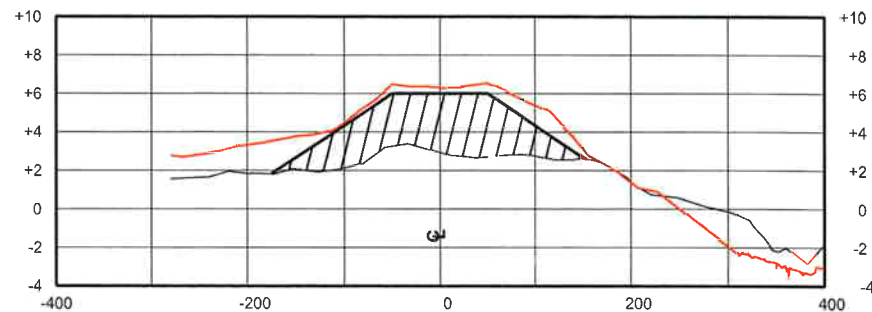
SHEET 13 OF 22



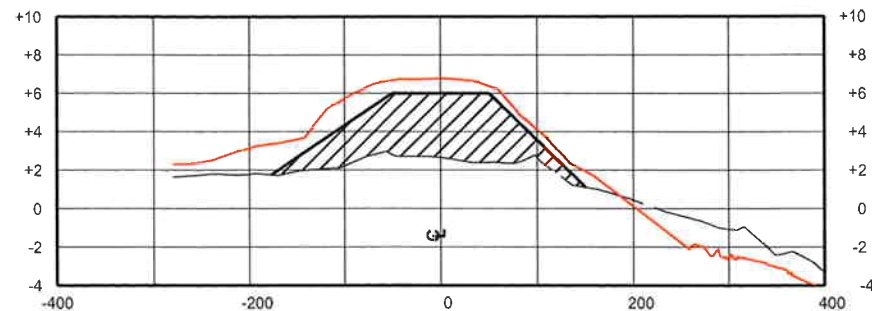
STA. 288+65
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VERT 1"=10'



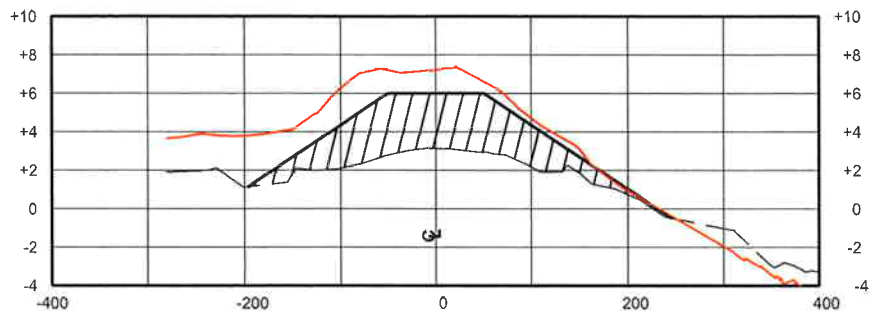
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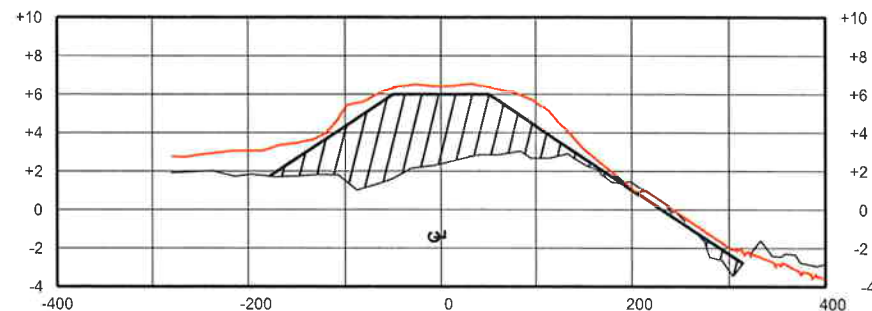
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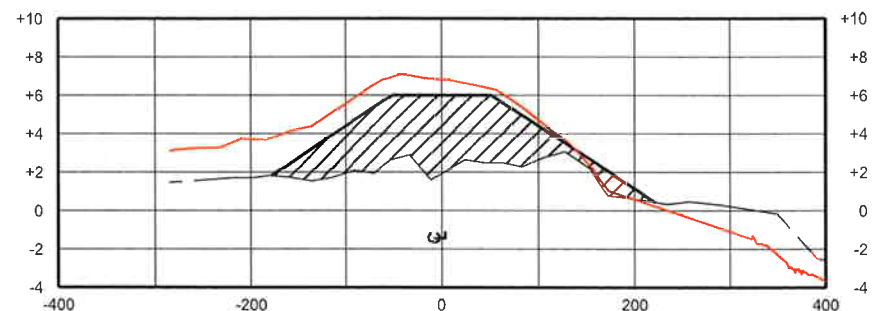
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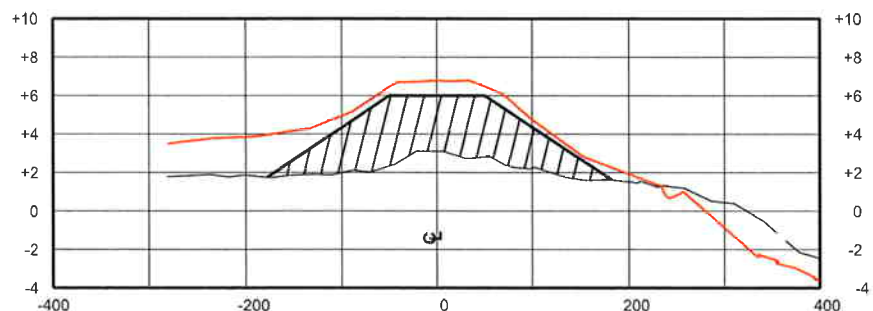
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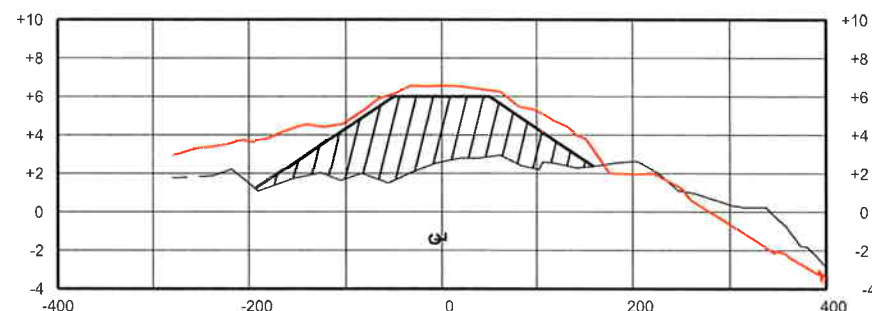
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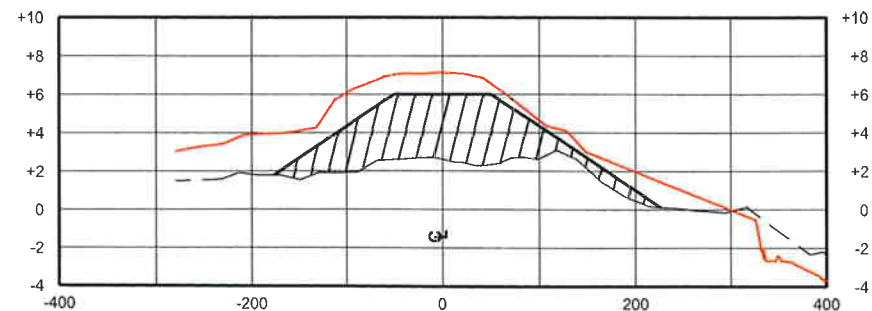
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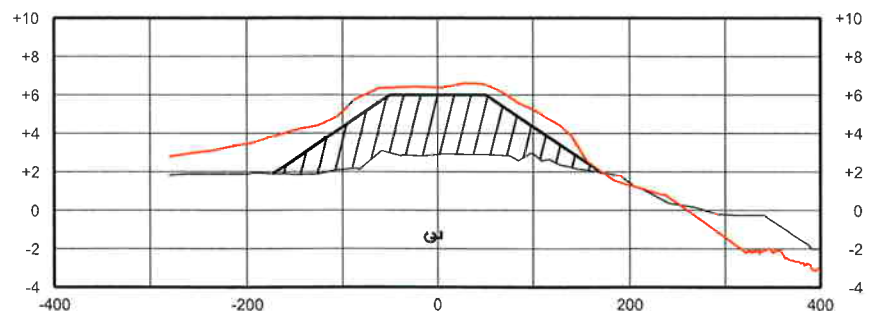
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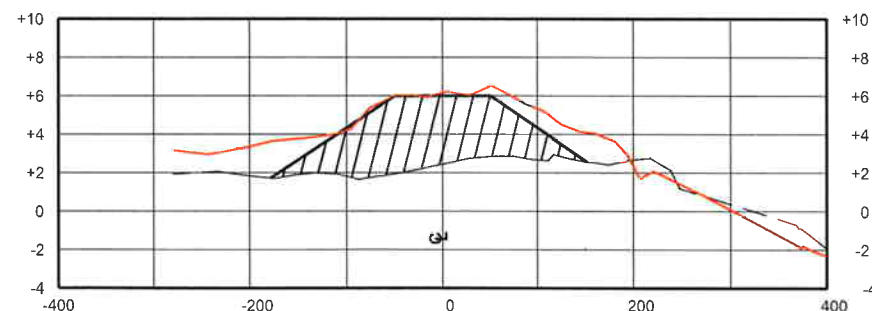
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VERT 1"=10'



STA. 295+57
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 305+37
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 314+99
SCALE: HORIZ 1"=200'
VERT 1"=10'

NOTES

- 1) MAXIMUM TOLERANCE FOR DUNE FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE.
- 2) THE DUNE SHALL BE SEEDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

LEGEND

- AS-BUILT - OCTOBER 2009 SURVEY
- EXISTING PROFILE - AUGUST 2009 SURVEY
- DESIGN TEMPLATE
- DUNE FILL

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

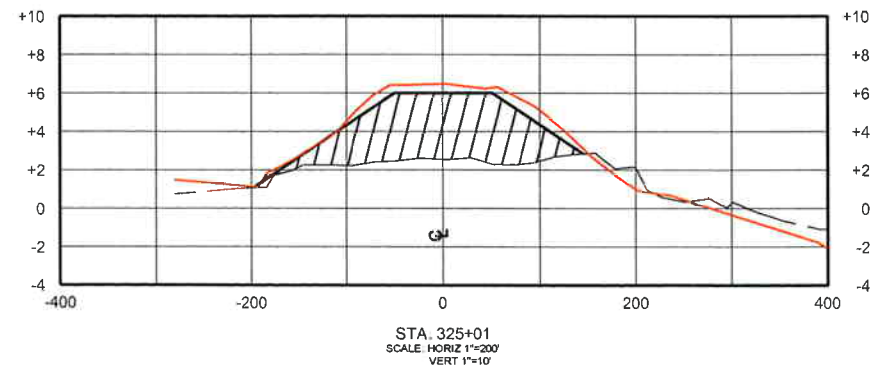
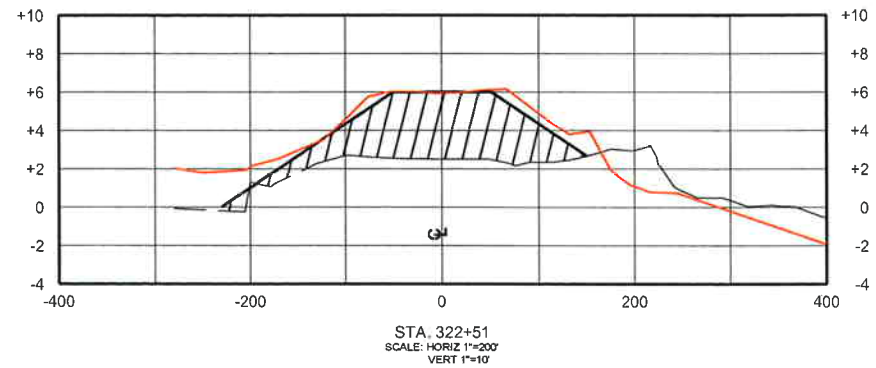
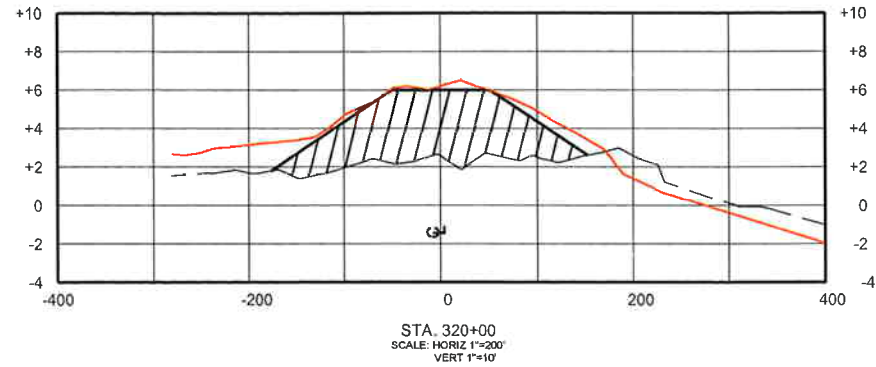
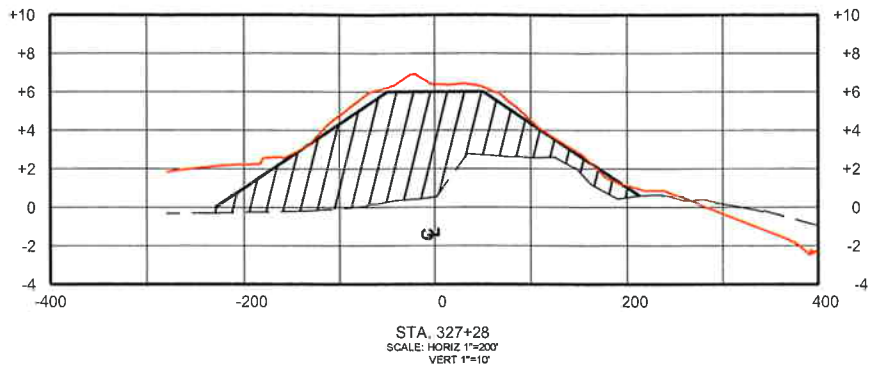
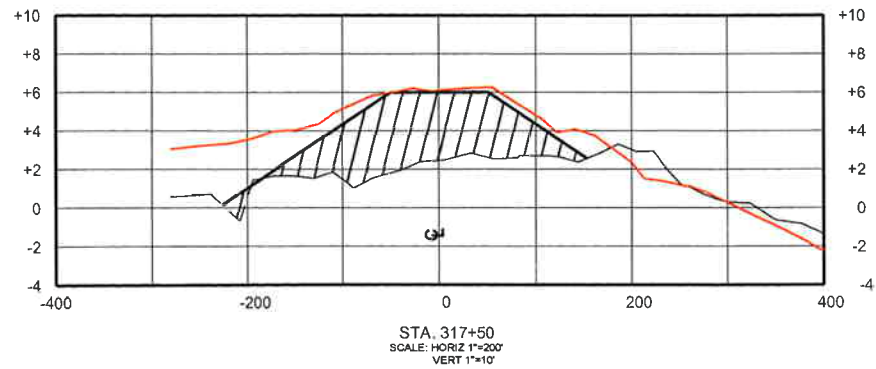
FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR



DATE: SEPTEMBER 2010

SHEET 13a OF 22



NOTES:

- 1) MAXIMUM TOLERANCE FOR DUNE FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE.
- 2) THE DUNE SHALL BE SEEDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

LEGEND	
	AS-BUILTS - OCTOBER 2009 SURVEY
	EXISTING PROFILE - AUGUST 2009 SURVEY
	DESIGN TEMPLATE
	DUNE FILL

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

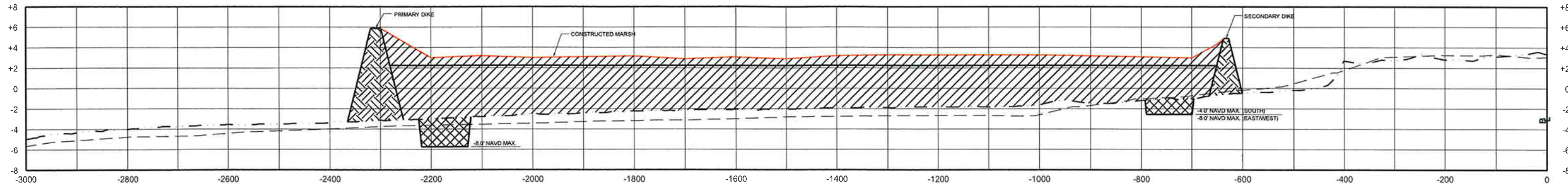
DUNE CROSS SECTIONS
SHEET 3 OF 3
(ADDITIVE ALTERNATE)

DATE: SEPTEMBER 2008

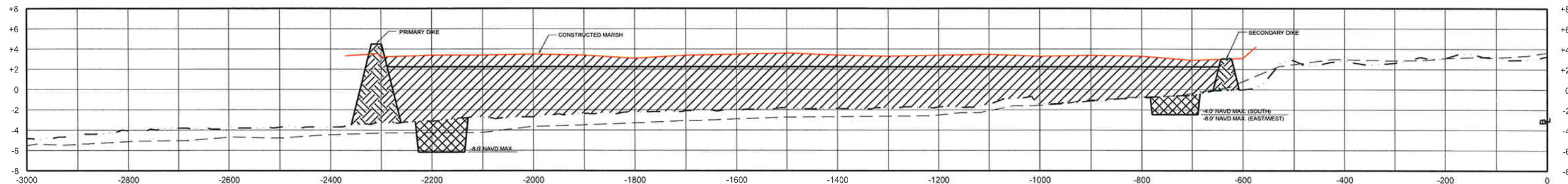
SHEET 13b OF 22



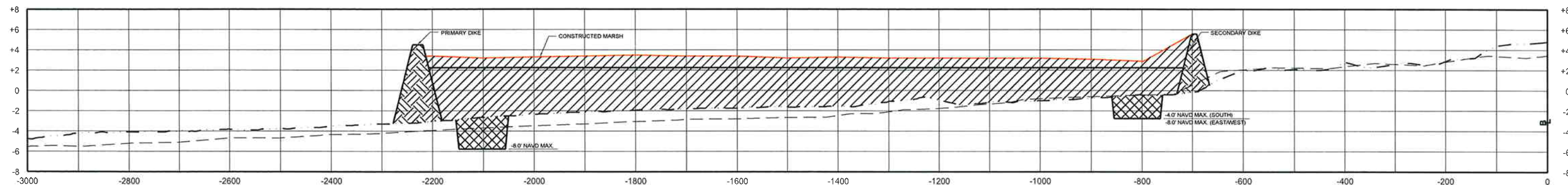
AS-BUILT



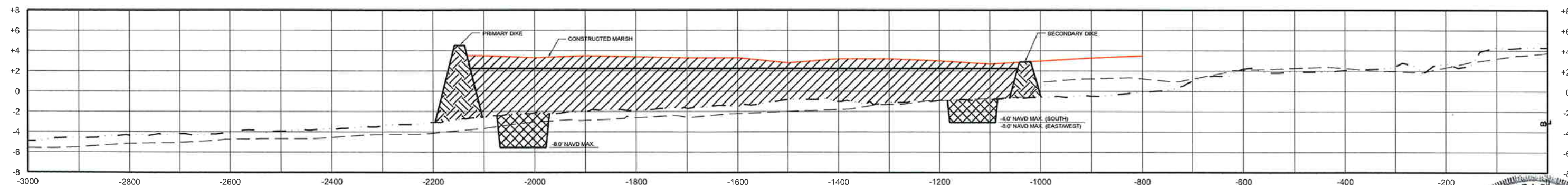
STA. 407+50
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VERT 1"=10'



STA. 405+00
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 402+50
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 400+00
SCALE: HORIZ 1"=200'
VERT 1"=10'

NOTES:
1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE

LEGEND

AS-BUILT - OCTOBER 2009 SURVEY

EXISTING PROFILE - MARCH 2009 SURVEY

EXISTING PROFILE - JUNE 2006 SURVEY

DESIGN TEMPLATE

MARSH FILL

CONTAINMENT DIKE

EXCAVATION FOR CONTAINMENT DIKE

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB

TBS

T. BAKER SMITH

PROFESSIONAL CONSULTANTS SINCE 1913

(985) 868-1050 www.tbsmith.com

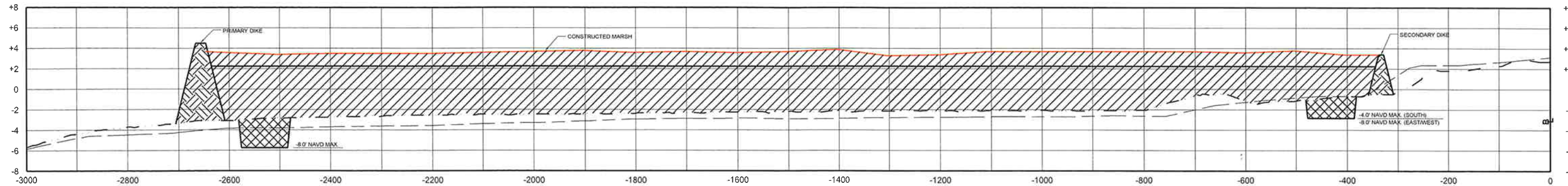
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP
DESIGNED BY: KPR
APPROVED BY: KPR

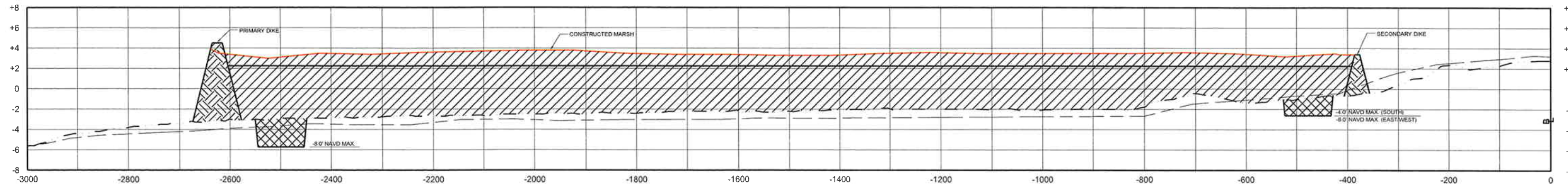
WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)
STATE PROJECT NUMBER: 2511-05-09
FEDERAL PROJECT NUMBER: TE-50

KEVIN P. RIZZO
MARSH PLATFORM
LICENSED SECTION 15
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
DATE: 06/04/10
SHEET 14 OF 22

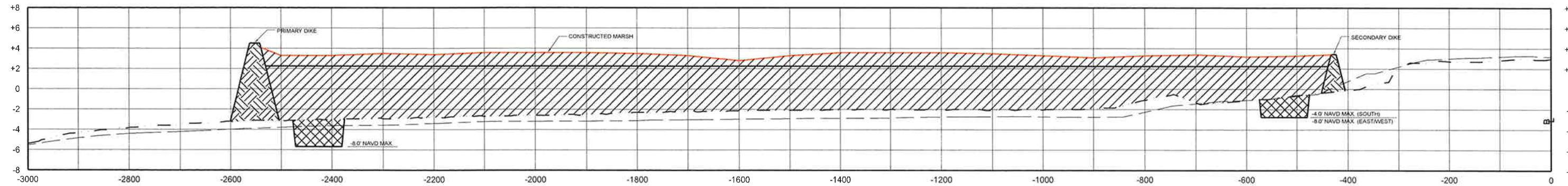
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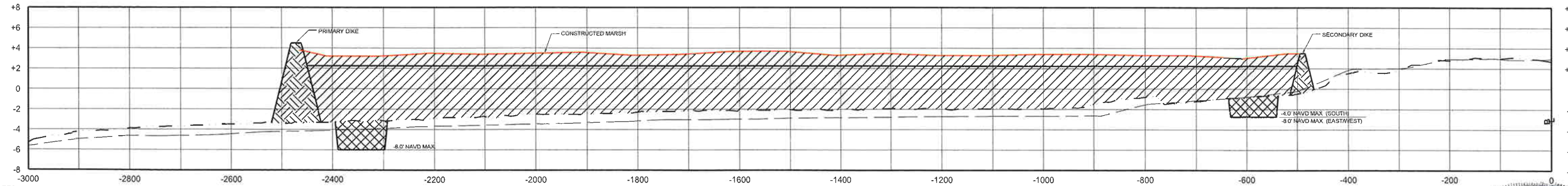
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VERT 1"=5'



STA. 415+00
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VERT 1"=5'



STA. 412+50
SCALE: HORIZ 1"=100'
VERT 1"=5'



STA. 410+00
SCALE: HORIZ 1"=100'
VERT 1"=5'

NOTES:
1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - MARCH 2009 SURVEY
	EXISTING PROFILE - JUNE 2006 SURVEY
	DESIGN TEMPLATE
	MARSH FILL
	CONTAINMENT DIKE
	EXCAVATION FOR CONTAINMENT DIKE

REV.	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

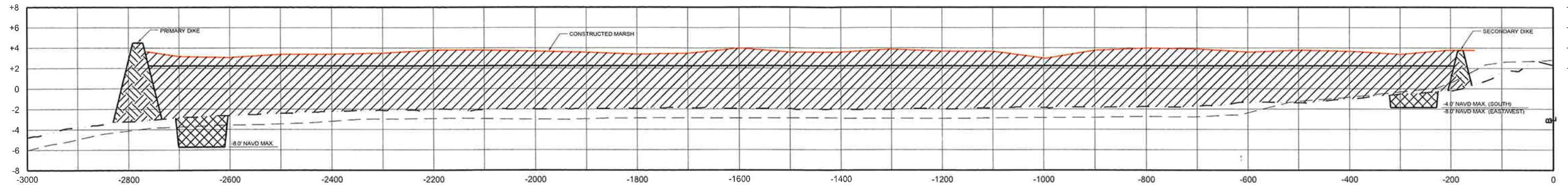
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

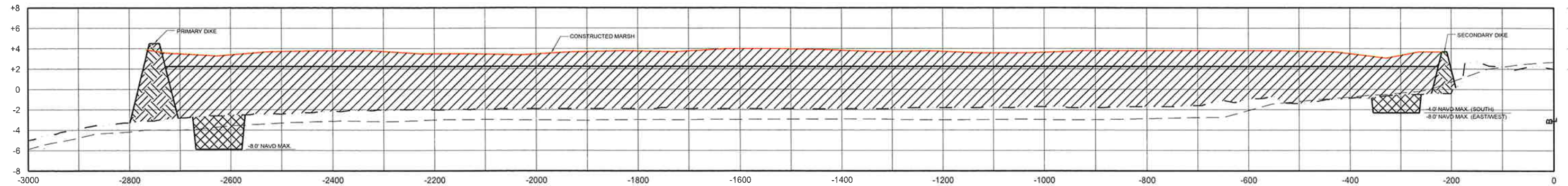
APPROVED BY: KPR



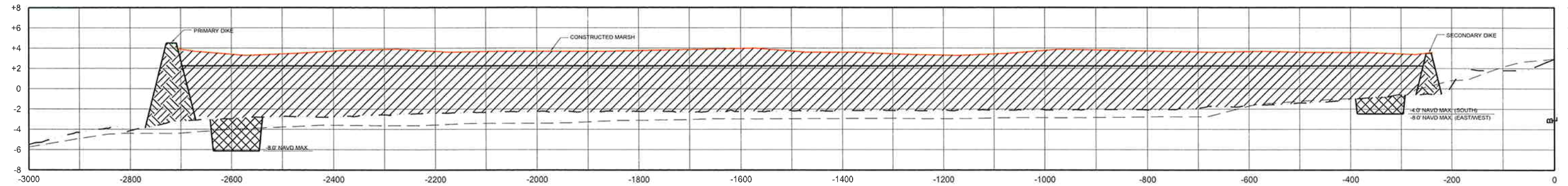
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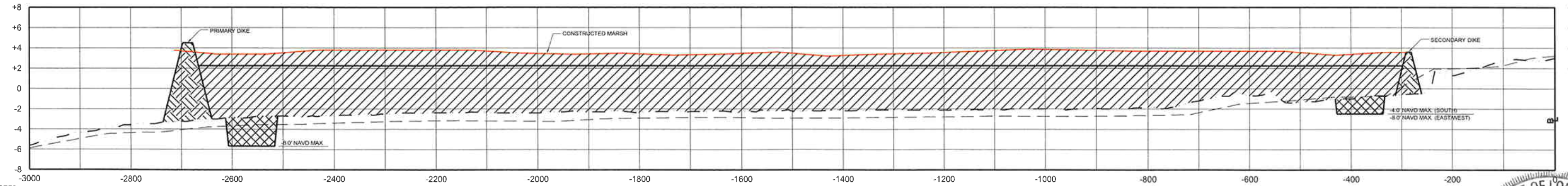
STA. 427+50
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VERT 1"=10'



STA. 425+00
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VERT 1"=10'



STA. 422+50
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 420+00
SCALE: HORIZ 1"=200'
VERT 1"=10'

NOTES:
1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE

LEGEND

— AS-BUILT - OCTOBER 2009 SURVEY
- - - EXISTING PROFILE - MARCH 2009 SURVEY
- - - EXISTING PROFILE - JUNE 2006 SURVEY
— DESIGN TEMPLATE

MARSH FILL
 CONTAINMENT DIKE
 EXCAVATION FOR CONTAINMENT DIKE

1	2-2-10	AS-BUILT	KMB
REV.	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

AS-BUILT

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

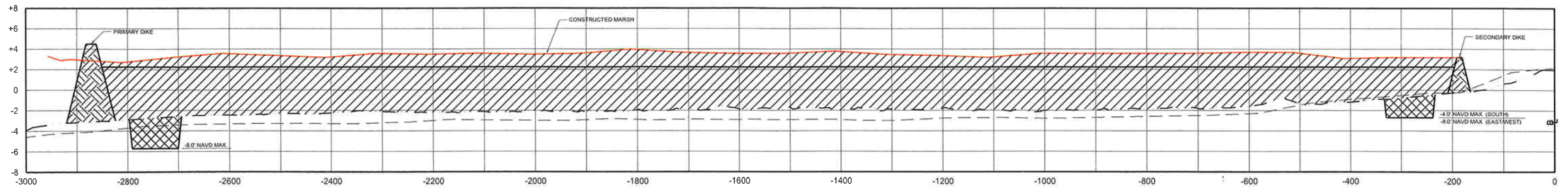
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

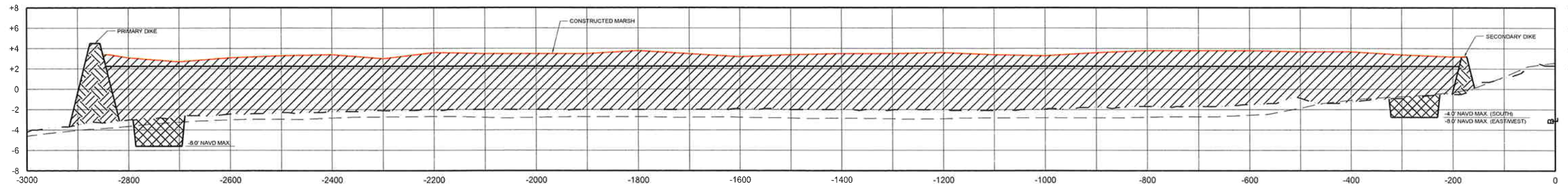
APPROVED BY: KPR



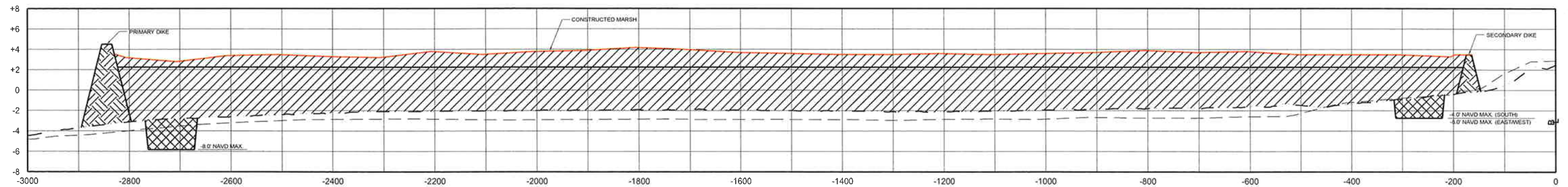
DATE: 08/04/10
SHEET 16 OF 22



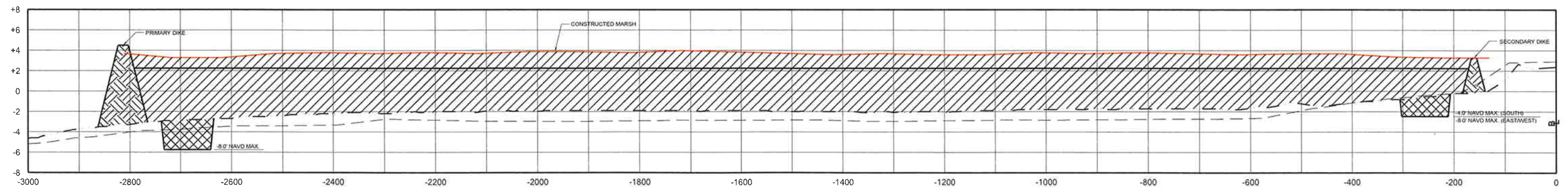
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VERT 1"=10'



STA. 435+00
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 432+50
SCALE: HORIZ 1"=200'
VERT 1"=10'



STA. 430+00
SCALE: HORIZ 1"=200'
VERT 1"=10'

NOTES:
1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE.

LEGEND

AS-BUILT - OCTOBER 2009 SURVEY
EXISTING PROFILE - MARCH 2009 SURVEY
EXISTING PROFILE - JUNE 2006 SURVEY
DESIGN TEMPLATE

MARSH FILL
CONTAINMENT DIKE
EXCAVATION FOR CONTAINMENT DIKE

REV.	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB

TBS
T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1913
(985) 868-1050 www.tbsmith.com

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

APPROVED BY: KPR

AS-BUILT

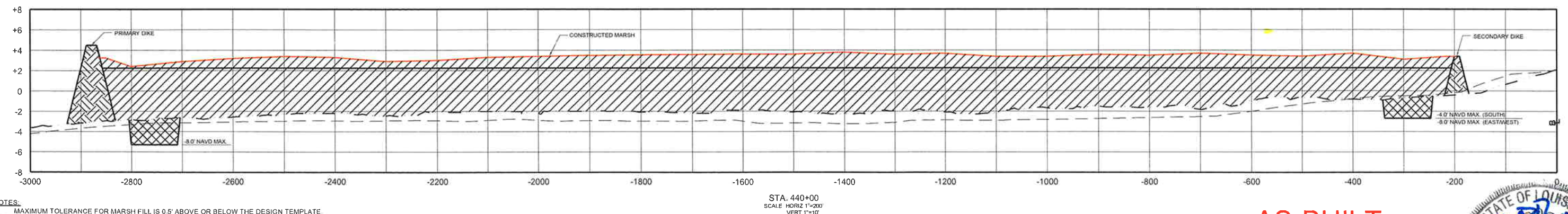
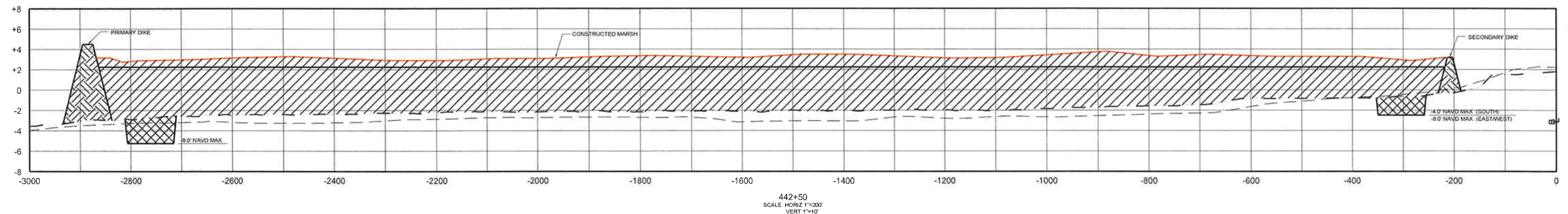
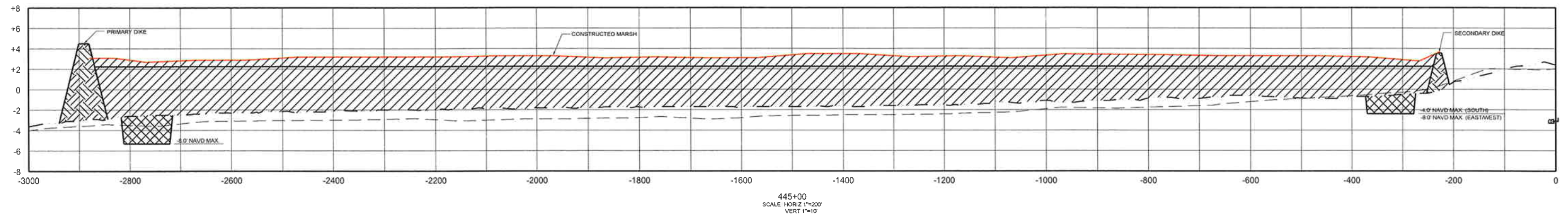
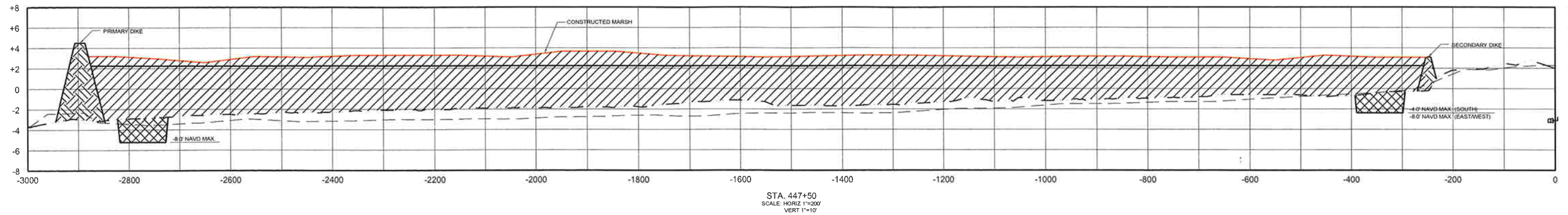
WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

STATE OF LOUISIANA
MARSH PLATFORM
CROSS SECTIONS
SHEET 4 OF 220
License No. 30575
PROFESSIONAL ENGINEER
DATE: SEPTEMBER 2008
SHEET 17 ENGINEERING

06/04/10



NOTES:
1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE.

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - MARCH 2009 SURVEY
	EXISTING PROFILE - JUNE 2006 SURVEY
	DESIGN TEMPLATE
	MARSH FILL
	CONTAINMENT DIKE
	EXCAVATION FOR CONTAINMENT DIKE

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

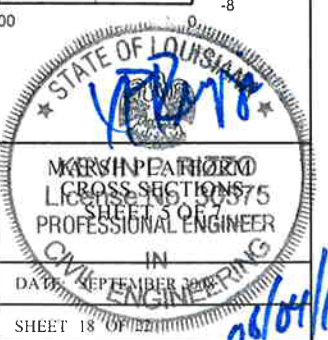
AS-BUILT

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

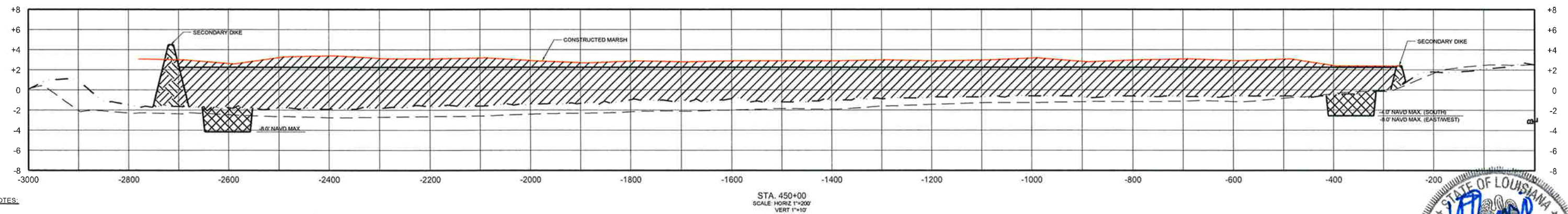
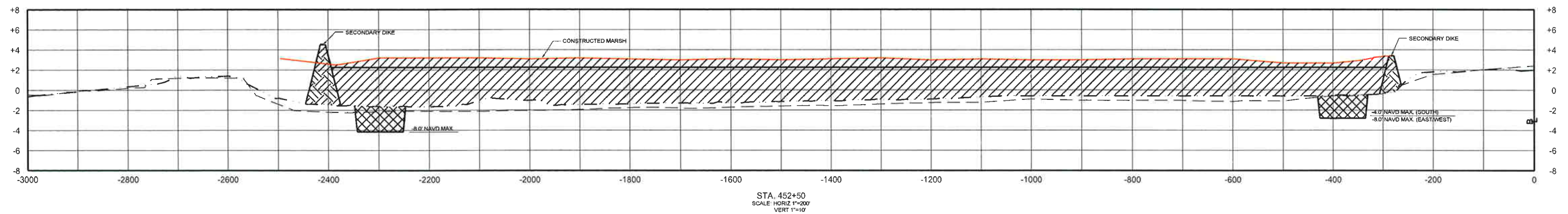
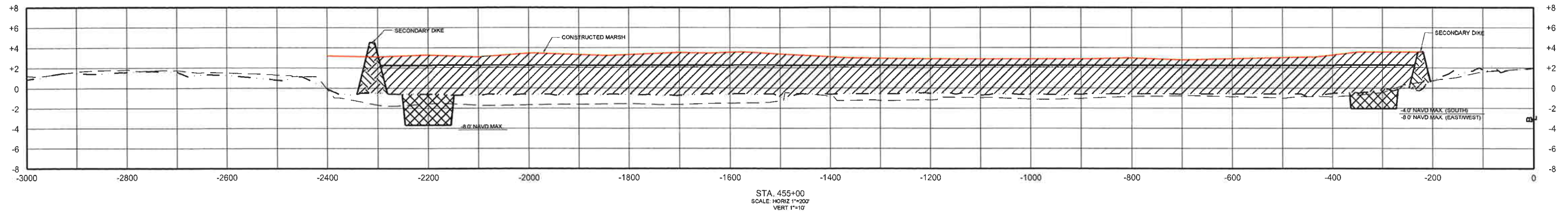
STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR



SHEET 18 OF 22



NOTES:

- 1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - MARCH 2009 SURVEY
	EXISTING PROFILE - JUNE 2006 SURVEY
	DESIGN TEMPLATE
	MARSH FILL
	CONTAINMENT DIKE
	EXCAVATION FOR CONTAINMENT DIKE

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

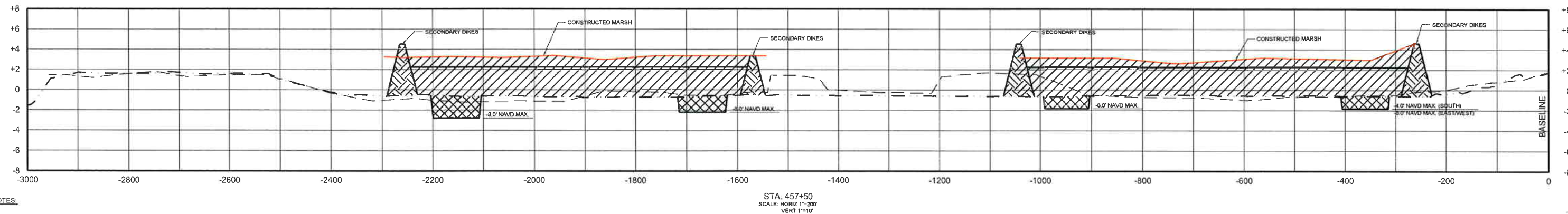
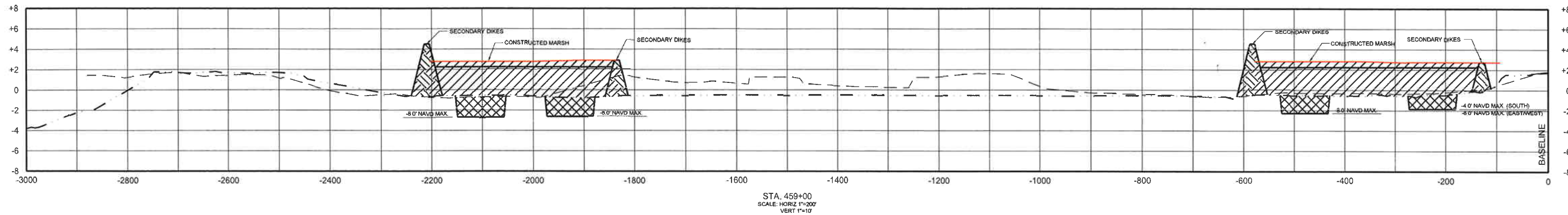
MARSH PLATFORM
CROSS SECTIONS
SHEET 6 OF 7

DATE: SEPTEMBER 2008

SHEET 19 OF 22



AS-BUILT



NOTES:

- 1) MAXIMUM TOLERANCE FOR MARSH FILL IS 0.5' ABOVE OR BELOW THE DESIGN TEMPLATE



AS-BUILT

LEGEND	
	AS-BUILT - OCTOBER 2009 SURVEY
	EXISTING PROFILE - MARCH 2009 SURVEY
	EXISTING PROFILE - JUNE 2006 SURVEY
	DESIGN TEMPLATE
	MARSH FILL
	CONTAINMENT DIKE
	EXCAVATION FOR CONTAINMENT DIKE

REV	DATE	DESCRIPTION	BY
1	2-2-10	AS-BUILT	KMB



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

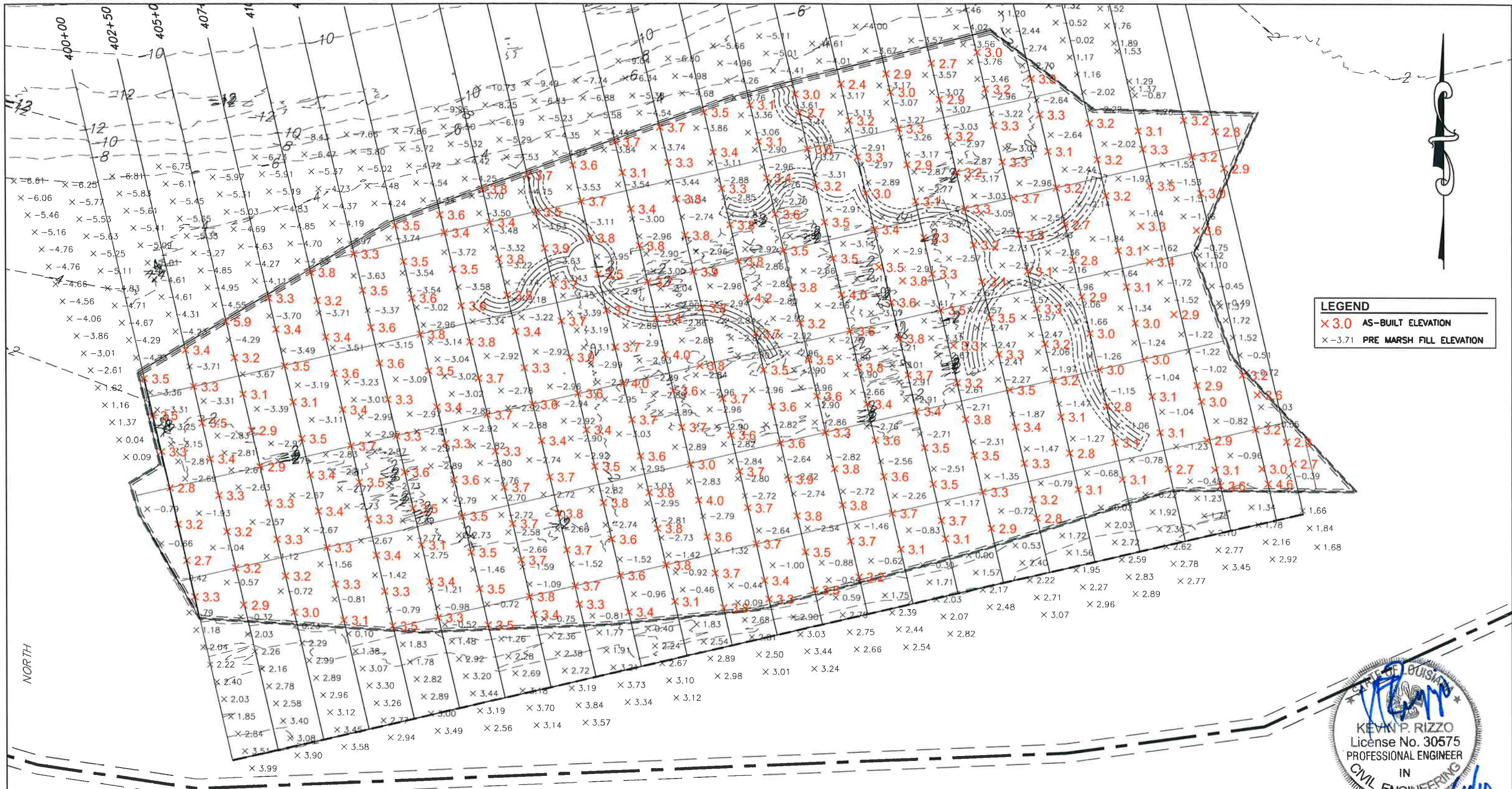
FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

MARSH PLATFORM
CROSS SECTIONS
SHEET 7 OF 7

DATE: SEPTEMBER 2008

SHEET 20 OF 22



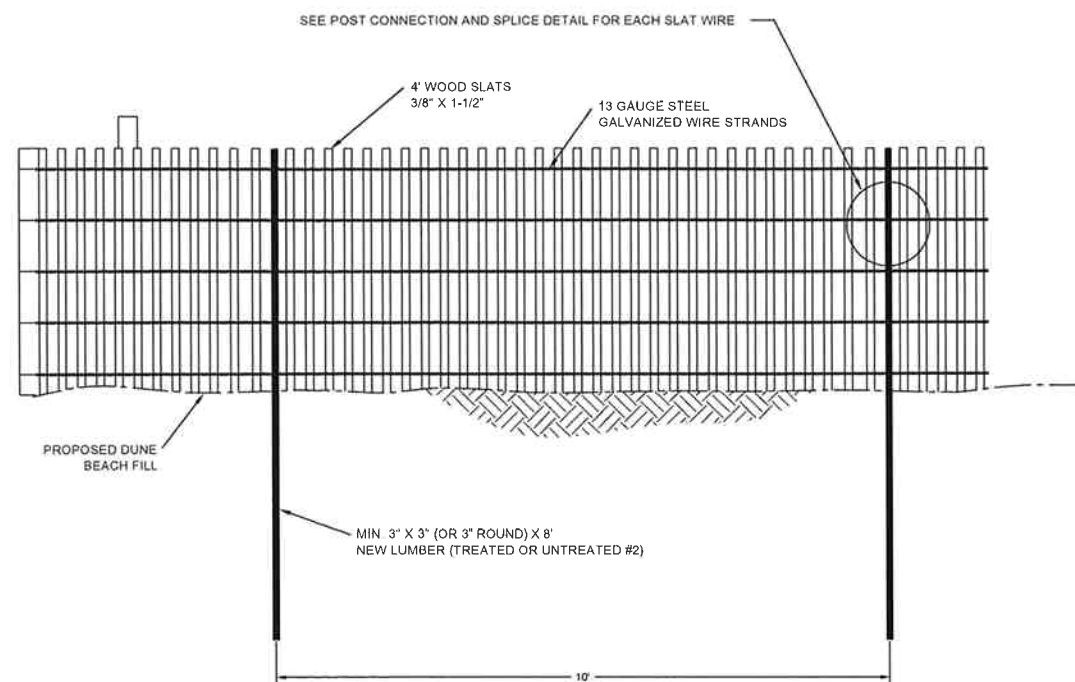
LEGEND
x 3.0 AS-BUILT ELEVATION
x -3.71 PRE MARSH FILL ELEVATION

VOLUME CALCULATION						
Base Surface PRE MARSH FILL	Comparison Surface AS-BUILT	Cut 0.00 Cu. Yd.	Fill 2,822,066.28 Cu. Yd.	Net 2822066.28 Cu. Yd.	Pay Volume 2,300,000 Cu. Yd.	Pit to Fill Ratio 1 to 1.23

AS-BUILT

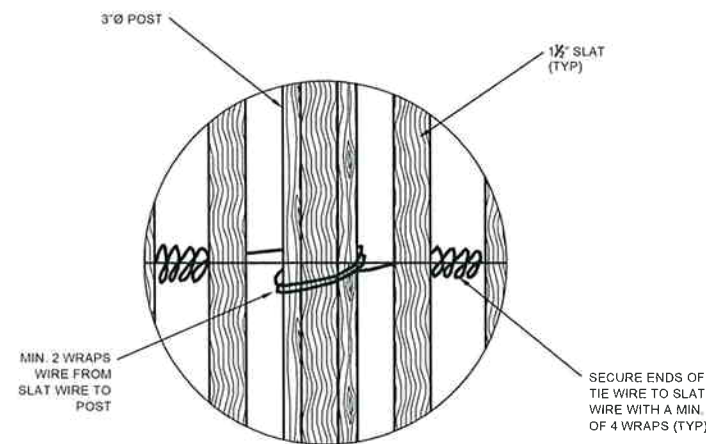
KEVIN P. RIZZO
License No. 30575
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
08/07/10

051176X12					<div>MOFFATT & NICHOL</div> <div>T. BAKER SMITH PROFESSIONAL CONSULTANTS SINCE 1913 (843) 846-1000 www.tbasmth.com</div>	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)		MARSHFILL VOLUME CALCULATIONS
	STATE PROJECT NUMBER: 2511-05-09									
	FEDERAL PROJECT NUMBER: TE-50		DATE: SEPTEMBER 2008							
	DRAWN BY: KSP		DESIGNED BY: KPR	APPROVED BY: KPR		SHEET 209 OF 22				
	REV	DATE	DESCRIPTION	BY						



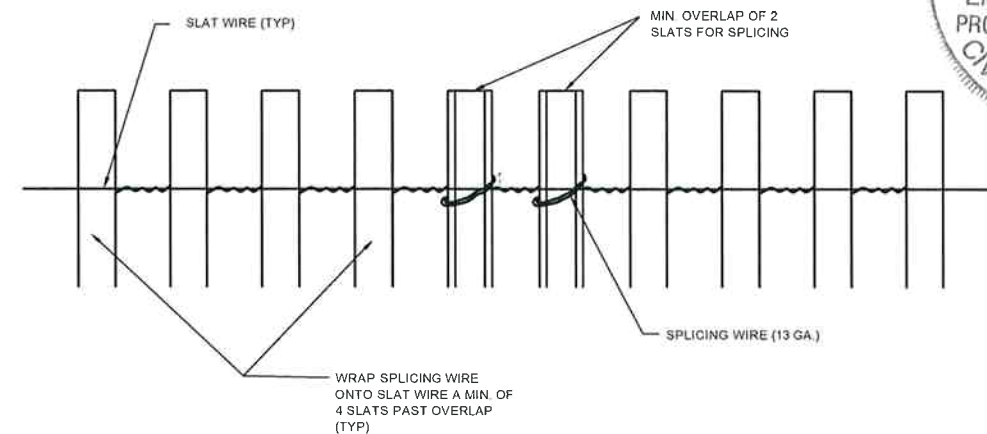
FENCING DIMENSIONS

N.T.S.



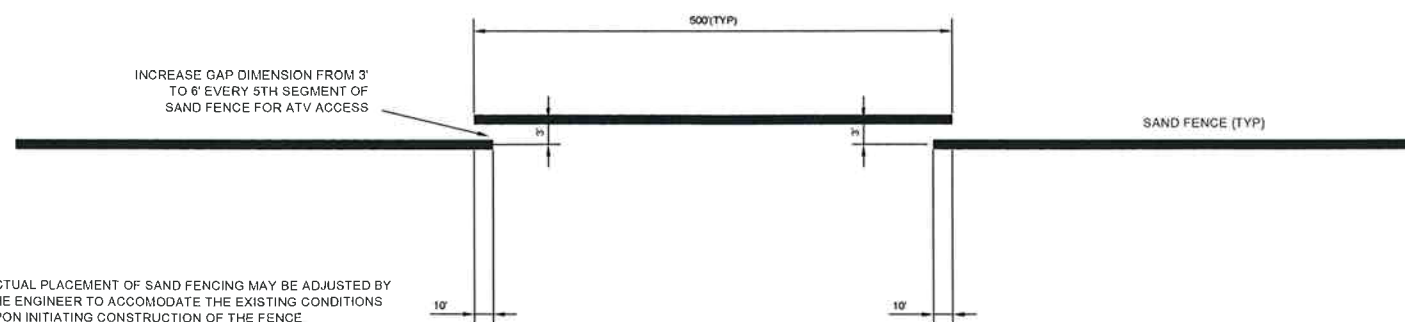
POST CONNECTION

N.T.S.



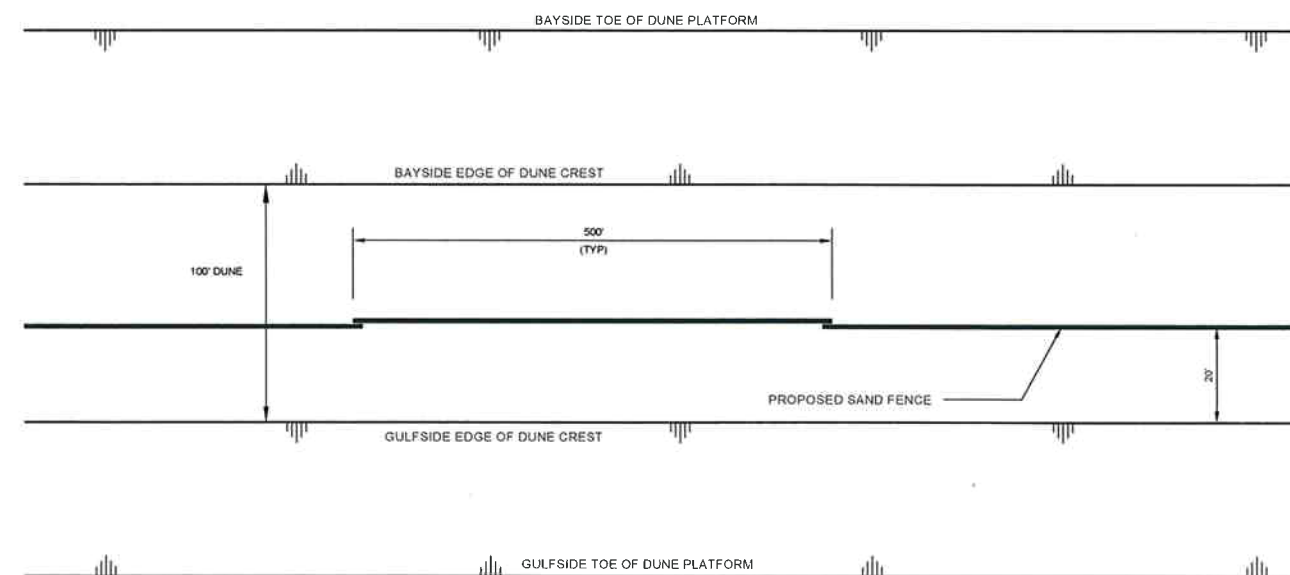
SPLICE DETAIL

N.T.S.



GAPPING DIMENSIONS

N.T.S.



SAND FENCE LAYOUT

N.T.S.

- NOTES:**
- 1) ACTUAL PLACEMENT OF SAND FENCING MAY BE ADJUSTED BY THE ENGINEER TO ACCOMMODATE THE EXISTING CONDITIONS UPON INITIATING CONSTRUCTION OF THE FENCE.
 - 2) THE DISTANCE FROM THE SAND FENCE TO THE EDGE OF DUNE CREST ON THE GULF SIDE IS 20'.

REV	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

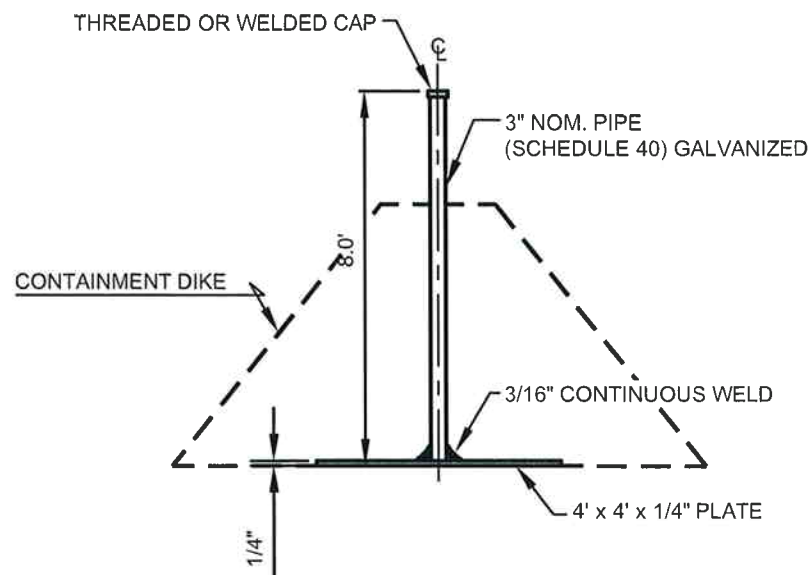
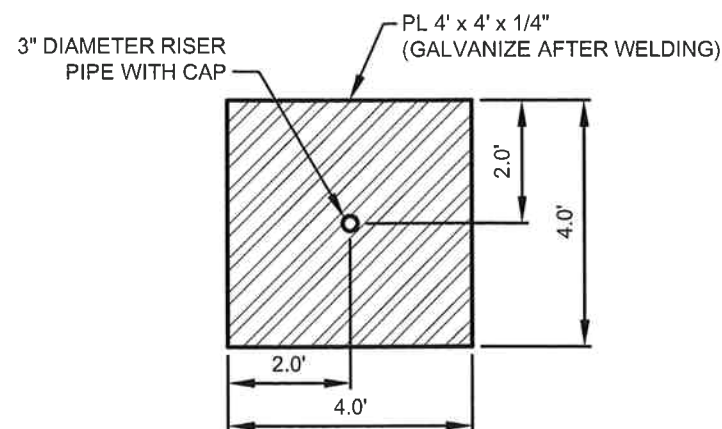
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APPROVED BY: KPR

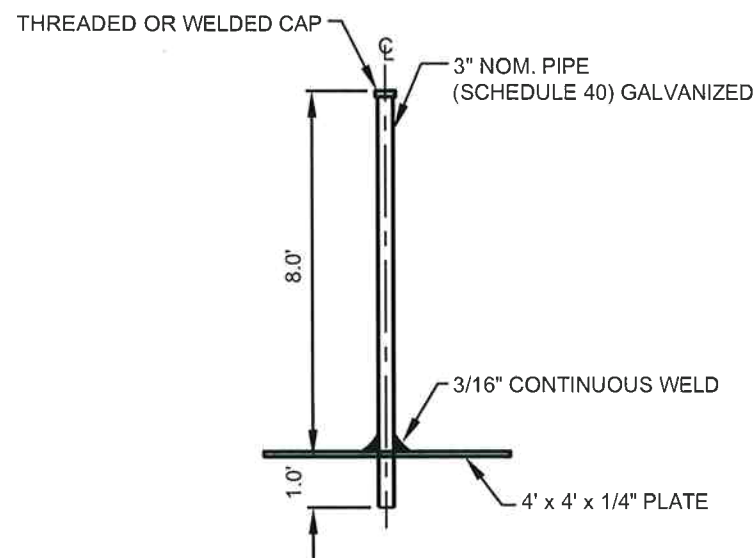
SAND FENCE DETAILS
(ADDITIVE ALTERNATE)

DATE: SEPTEMBER 2008

SHEET 21 OF 22

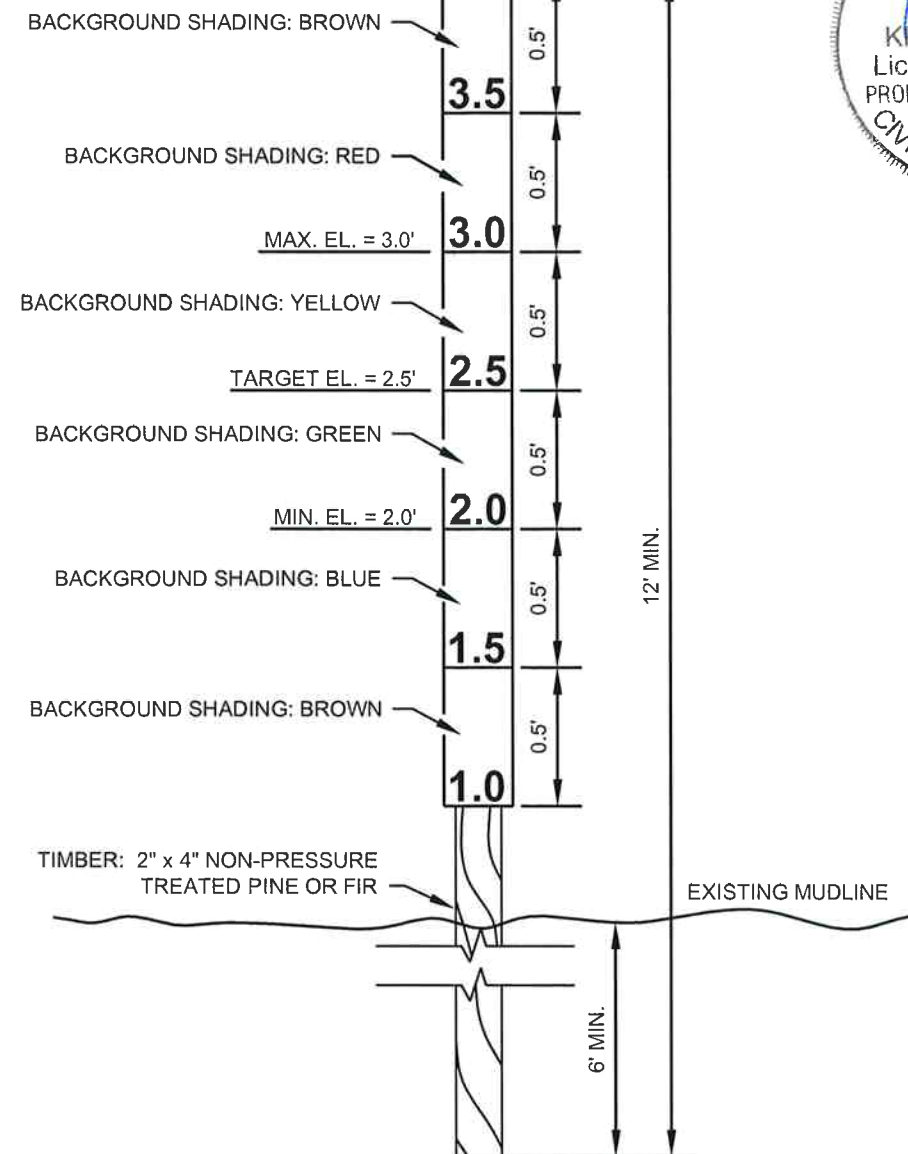


**EARTHEN CONTAINMENT DIKE
SETTLEMENT PLATE**
NOT TO SCALE



**MARSH CREATION
SETTLEMENT PLATE**
NOT TO SCALE

GAUGE SIGN: 4" WIDE x 24" HIGH 0.120"
FRP SUBSTRATE WITH ENGINEER-GRADE
REFLECTIVE SHEETING



GRADE STAKE
NOT TO SCALE

GRADE STAKE NOTES:

1. SEE SPECIFICATION TS-10 "GRADE STAKES" FOR GRADE STAKE PLACEMENT.
2. THE SIGNS SHALL HAVE THE DIMENSIONS, NUMBERING, AND SHADING AS SHOWN.
3. THE GAUGE SIGN SHALL BE CONSTRUCTED OF 0.120" THICK FIBERGLASS REINFORCED PLASTIC (FRP) WHICH HAS BEEN UV STABILIZED FOR OUTDOOR WEATHERABILITY. THE FRP MATERIAL SHALL BE WHITE OR GRAY IN COLOR AND BE TOTALLY DIELECTRIC AND NON-CONDUCTIVE.
4. THE MARSH FILL GRADE STAKES SHALL HAVE ELEVATION DELINEATIONS FOR MINIMUM, TARGET, AND MAXIMUM ELEVATIONS AS STATED IN SECTION TS-3.11.
5. THIS WORK CONSISTS OF FURNISHING, ASSEMBLING, INSTALLING, AND REMOVING THE REQUIRED MATERIAL FOR GRADE STAKES IN ACCORDANCE WITH SPECIFICATION TS-10 "GRADE STAKES". THE GRADE STAKES SHALL BE USED BY THE CONTRACTOR TO MONITOR ELEVATIONS OF THE MARSH FILL WITHIN THE FILL AREA. IF AREAS ARE DEEMED INACCESSIBLE BY THE ENGINEER FOR PAYMENT SURVEYS AFTER PLACEMENT OF THE FILL, THE CONTRACTOR SHALL USE THE GRADE STAKES TO DETERMINE PAYMENT ELEVATIONS AND VOLUMES. IN SUCH CASE THE CONTRACTOR SHALL DETERMINE MARSH ELEVATION FROM VISUAL INSPECTIONS OF THE GRADE STAKES UNDER DIRECT SUPERVISION OF THE INSPECTOR.

AS-BUILT



SETTLEMENT PLATE NOTES:

1. SETTLEMENT PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. LOCATION AND ELEVATION WILL BE RECORDED DURING AS-BUILT SURVEY.
3. FOR INSTALLATION METHOD REFER TO TS-8 OF THE PROJECT SPECIFICATIONS.
4. SEE SHEET 5 FOR SETTLEMENT PLATE LOCATIONS.

REV.	DATE	DESCRIPTION	BY



LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KSP

DESIGNED BY: KPR

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

APPROVED BY: KPR

SETTLEMENT PLATE AND
GRADE STAKE DETAILS

DATE: SEPTEMBER 2008

SHEET 22 OF 22

ATTACHMENT V

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

**PROJECT PERMITS
&
PERMIT AMENDMENTS**



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

Operations Division
Central Evaluation Section

FEB 26 2009

SUBJECT: MVN 2008-226-CY

Louisiana Department of Wildlife and Fisheries
2000 Quail Drive,
Baton Rouge, Louisiana 70808

Gentlemen:

Additional plans enclosed in sheets 2, 3, 6, 9 and 13 furnished with your application dated February 9, 2009, requesting an additional 300 feet of access channel and a 1.0-foot increase in channel depth from -5.0 to -6.0 feet NAVD 88 are approved and will be included in your plans for the work authorized by the Secretary of the Army in permit dated June 5, 2008, granting approval to dredge to construct a temporary access channel and excavate and deposit material to reconstruct the dune complex, install containment dikes and a sand fence, and build a marsh platform with tidal creeks and ponds, all for the purpose of implementing the Whiskey Island Back Barrier Marsh Creation Project (CWPPRA TE-50) located in the Isles Dernieres Island chain, Whiskey Island, approximately 17 miles southwesterly from Cocodrie, Louisiana, in Terrebonne Parish. These drawings along with the remaining set of drawings have been re-dated to January 27, 2009, and, therefore, will supersede all drawings of your original permit.

The conditions to which the work is made subject, remain in full force and effect.

A copy of the first page of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

We ask that you utilize the following link to complete and submit a Customer Service Survey: <http://per2.nwp.usace.army.mil/survey.html>. The New Orleans District Regulatory Branch is committed to improving our service to you and would like your honest opinions of how we are

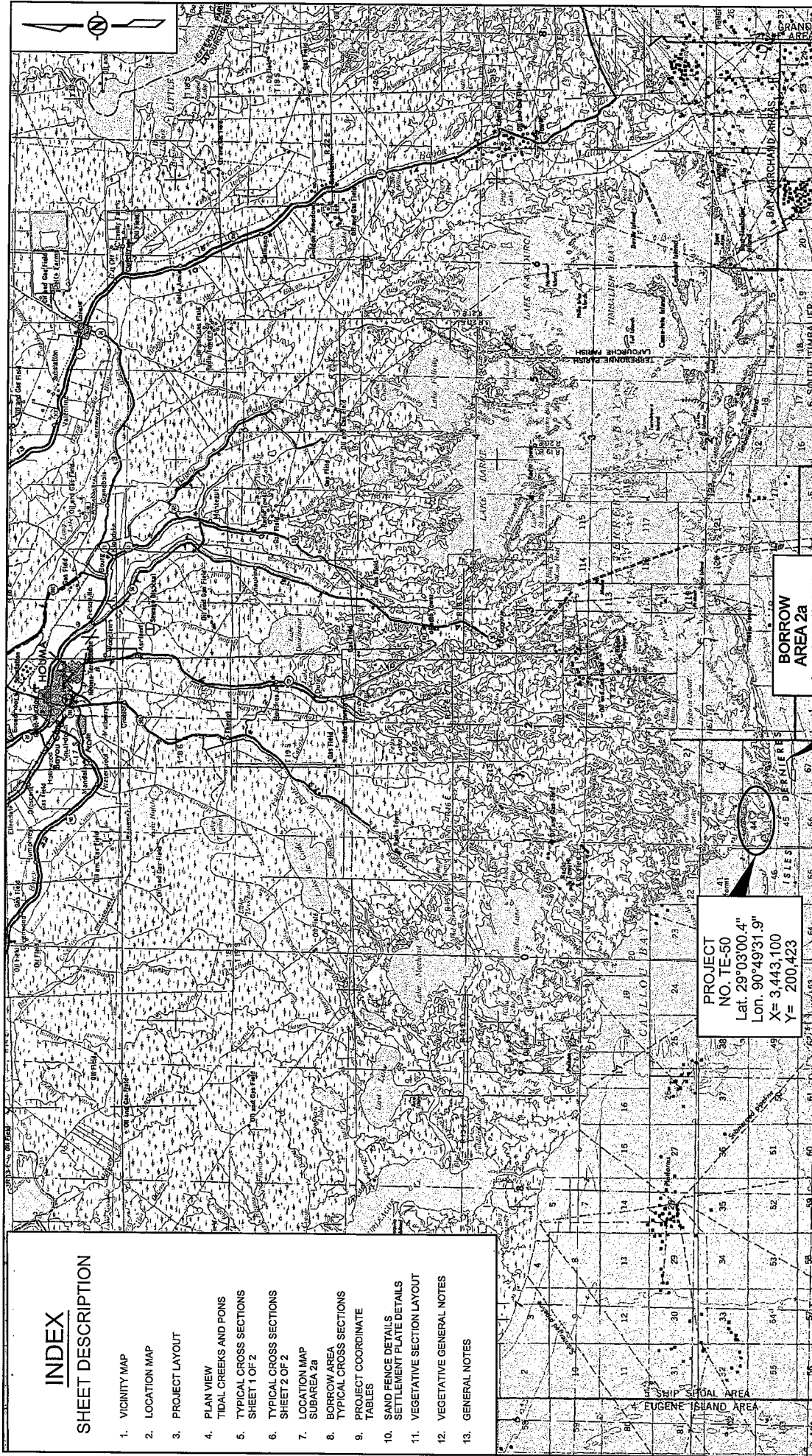
doing. If you do not have internet access you may request a hard copy of the Customer Service Survey by calling (504) 862-2257. Your input is important to us, thank you for your time.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:



Pete J. Serio
Chief, Regulatory Branch
for
Alvin B. Lee
Colonel, U.S. Army
District Commander

Enclosures



COORDINATES REFERENCE NAD83, LA STATE PLANE
COORDINATE SYSTEM, SOUTH ZONE, U.S. SURVEY
FEET. ALL ELEVATIONS REFERENCE NAVD88, U.S.
SURVEY FEET.

**BORROW
AREA 2a**
Lat. 29°01'20.1"
Lon. 90°46'28.7"
X= 3,459,409
Y= 190,370

**PROJECT
NO. TE-50**
Lat. 29°03'00.4"
Lon. 90°49'31.9"
X= 3,443,100
Y= 200,423

GULF OF MEXICO



INDEX

SHEET DESCRIPTION

1. VICINITY MAP
2. LOCATION MAP
3. PROJECT LAYOUT
4. PLAN VIEW
5. TIDAL CREEKS AND PONS
6. TYPICAL CROSS SECTIONS
SHEET 1 OF 2
7. TYPICAL CROSS SECTIONS
SHEET 2 OF 2
8. LOCATION MAP
SUBAREA 2a
9. BORROW AREA
TYPICAL CROSS SECTIONS
TABLES
10. SAND FENCE DETAILS
SETTLEMENT PLATE DETAILS
11. VEGETATIVE SECTION LAYOUT
12. VEGETATIVE GENERAL NOTES
13. GENERAL NOTES

T. BAKER SMITH, INC.
412 SOUTH VAN AVE.
HOUMA, LA 70363

APPLICATION BY:

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
2000 QUAIL DRIVE
BATON ROUGE, LOUISIANA 70808

LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION

617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)

VICINITY MAP

DRAWN BY: KSP

DESIGNED BY: KPR

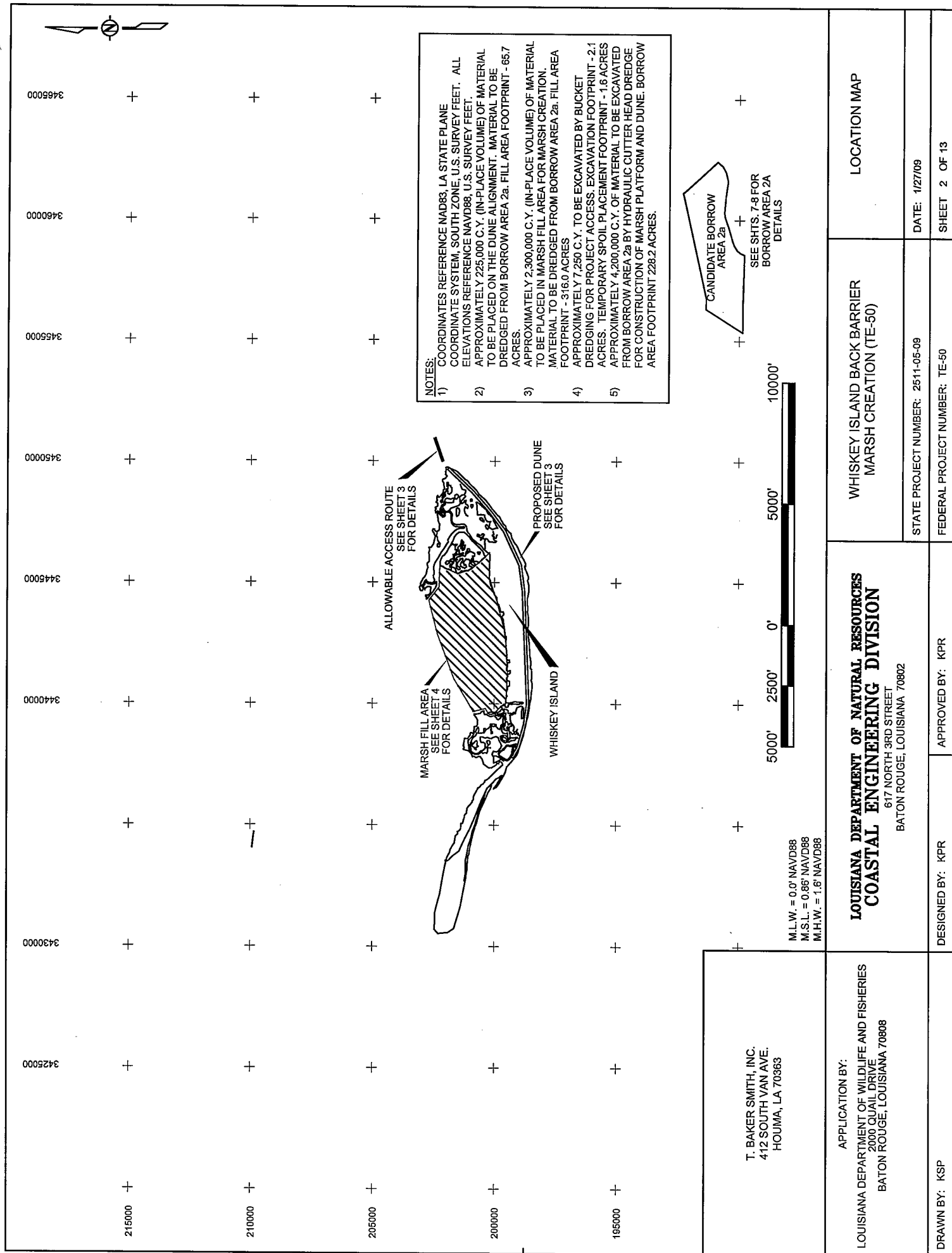
APPROVED BY: KPR

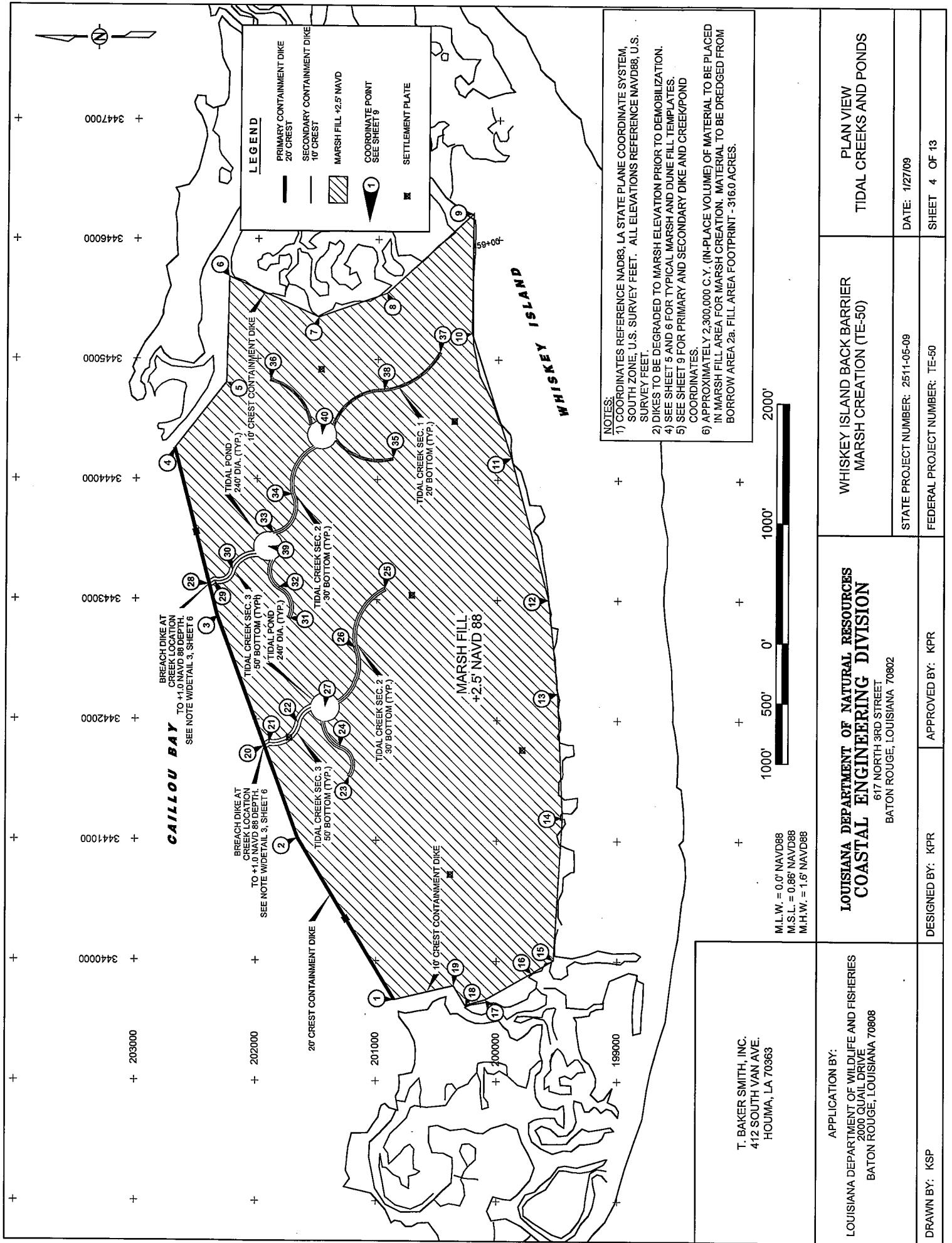
STATE PROJECT NUMBER: 2511-05-09

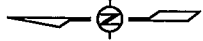
FEDERAL PROJECT NUMBER: TE-50

DATE: 1/27/09

SHEET 1 OF 13



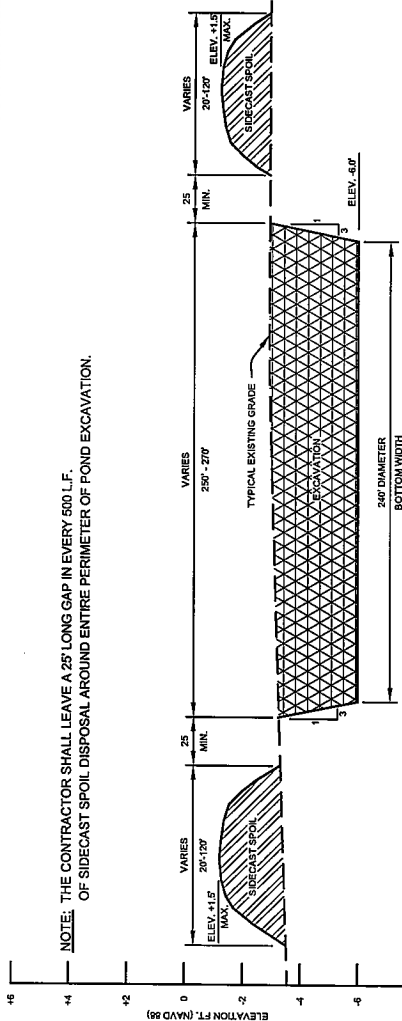




NOTE: APPROXIMATELY 49,000 C.Y. OF MATERIAL TO BE EXCAVATED BY BUCKET DREDGE FOR CONSTRUCTION OF TIDAL CREEKS AND PONDS. EXCAVATION FOOTPRINT - 10.3 ACRES. FILL AREA FOOTPRINT INCLUDED IN MARSH FILL QUANTITIES.

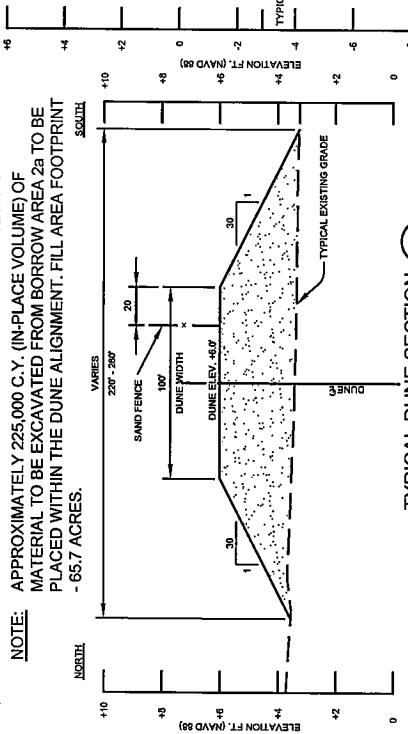
NOTE: THE CONTRACTOR SHALL LEAVE A 25' LONG GAP IN EVERY 500 L.F. OF SIDECAST SPOIL DISPOSAL AROUND ENTIRE PERIMETER OF POND EXCAVATION.

NOTE: THE CONTRACTOR SHALL LEAVE A 25' LONG GAP IN EVERY 500 L.F. OF SIDECAST SPOIL DISPOSAL ON EACH SIDE OF CREEK EXCAVATION



TYPICAL TIDAL POND SECTION 4
SCALE: HORIZ 1"=100'
VERT 1"=6'

NOTE: APPROXIMATELY 225,000 C.Y. (IN-PLACE VOLUME) OF MATERIAL TO BE EXCAVATED FROM BORROW AREA 2a TO BE PLACED WITHIN THE DUNE ALIGNMENT. FILL AREA FOOTPRINT - 65.7 ACRES.



TYPICAL DUNE SECTION 5
SCALE: HORIZ 1"=100'
VERT 1"=6'

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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

TYPICAL CROSS SECTIONS
SHEET 1 OF 2

DRAWN BY: KSP

DESIGNED BY: KPR

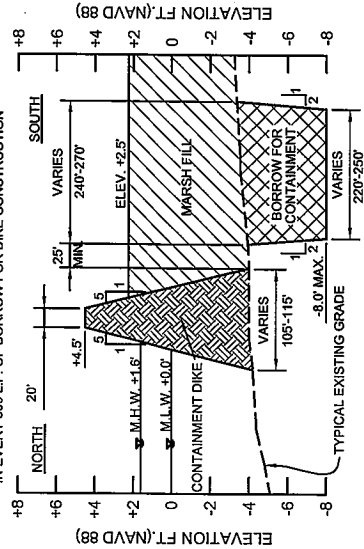
APPROVED BY: KPR

FEDERAL PROJECT NUMBER: TE-50

SHEET 5 OF 13

DATE: 1/27/09

NOTE: THE CONTRACTOR SHALL LEAVE A 25' LONG PLUG OF UNDISTURBED MATERIAL IN EVERY 500 L.F. OF BORROW FOR DIKE CONSTRUCTION

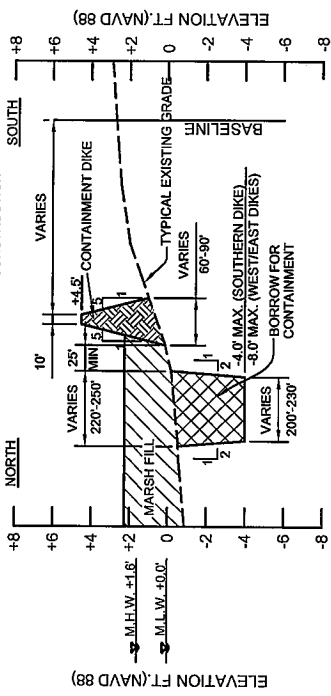


TYPICAL PRIMARY CONTAINMENT DIKE SECTION 1
SCALE: HORIZ 1"=200' VERT 1"=10'

NOTE: APPROXIMATELY 167,000 C.Y. OF MATERIAL TO BE EXCAVATED BY BUCKET DREDGE FOR CONSTRUCTION OF PRIMARY AND SECONDARY CONTAINMENT DIKES. EXCAVATION FOOTPRINT - 35.0 ACRES. CONTAINMENT DIKE FOOTPRINT - 31.0 ACRES. BORROW AREA FOR CONTAINMENT DIKES WILL BE REFILLED WITH HYDRAULICALLY PLACED MATERIAL FROM BORROW AREA 2a. CONTAINMENT DIKES TO BE DEGRADED TO MARSH PLATFORM ELEVATION PRIOR TO DEMOBILIZATION

105'-115'

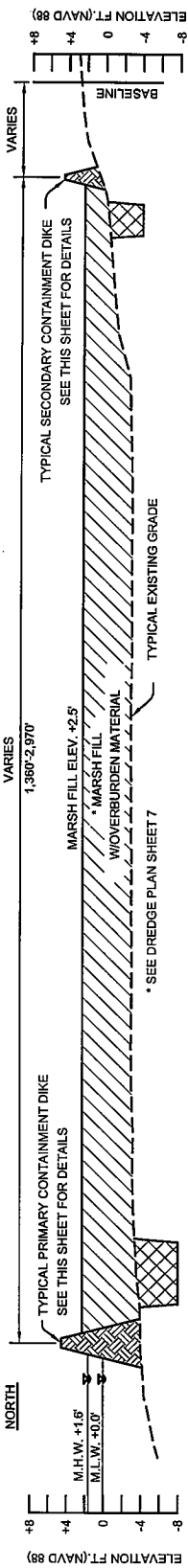
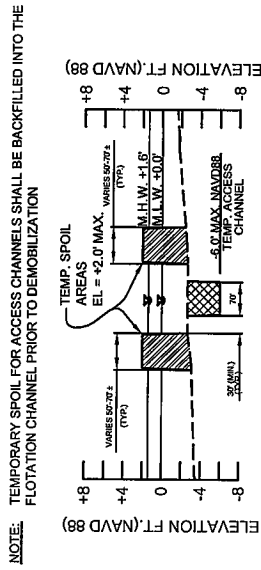
NOTE: THE CONTRACTOR SHALL LEAVE A 25' LONG PLUG OF UNDISTURBED MATERIAL IN EVERY 500 L.F. OF BORROW FOR DIKE CONSTRUCTION



TYPICAL SECONDARY CONTAINMENT DIKE SECTION 2
SCALE: HORIZ 1"=200' VERT 1"=10'

NOTE: APPROXIMATELY 7,250 C.Y. EXCAVATED BY BUCKET DREDGING FOR PROJECT ACCESS. EXCAVATION FOOTPRINT - 2.1 ACRES. TEMPORARY SPOIL PLACEMENT FOOTPRINT - 2.1 ACRES.

PRIMARY ACCESS CHANNEL 4
SCALE: HORIZ 1"=400' VERT 1"=20'

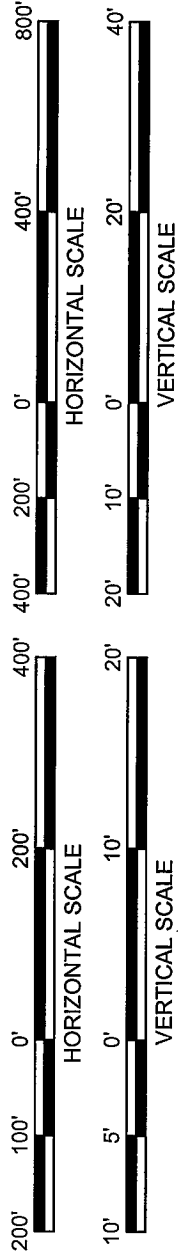


NOTE: APPROXIMATELY 2,300,000 C.Y. (IN-PLACE VOLUME) OF MATERIAL TO BE PLACED IN MARSH FILL AREA FOR MARSH CREATION. MATERIAL TO BE DREDGED FROM BORROW AREA 2a. FILL AREA FOOTPRINT - 316.0 ACRES.

TYPICAL MARSH FILL SECTION 3
SCALE: HORIZ 1"=400' VERT 1"=20'

CONTRACTOR TO BREACH AN APPROXIMATE 70' WIDE SECTION OF THE CONTAINMENT DIKE CENTERING THE BREACH ON EACH CREEK OPENING. ONLY THE CROWN SECTION OF THE CONTAINMENT DIKE SHALL BE BREACHED. REMOVE MATERIAL FROM THE CROWN OF THE DIKE TO ELEVATION OF +1.0 NAVD88. PLACE THE REMOVED MATERIAL WITHIN THE MARSH PLATFORM TEMPLATE AND SPREAD OUTSIDE OF THE FOOTPRINT OF THE CREEK EXCAVATION.

T. BAKER SMITH, INC.
412 SOUTH VAN AVE.
HOUMA, LA 70363



M.L.W. = 0.0' NAVD88
M.S.L. = 0.86' NAVD88
M.H.W. = 1.6' NAVD88

APPLICATION BY:
LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
2000 QUAIL DRIVE
BATON ROUGE, LOUISIANA 70808

**LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION**
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

TYPICAL CROSS SECTIONS
SHEET 2 OF 2

DRAWN BY: KSP

DESIGNED BY: KPR

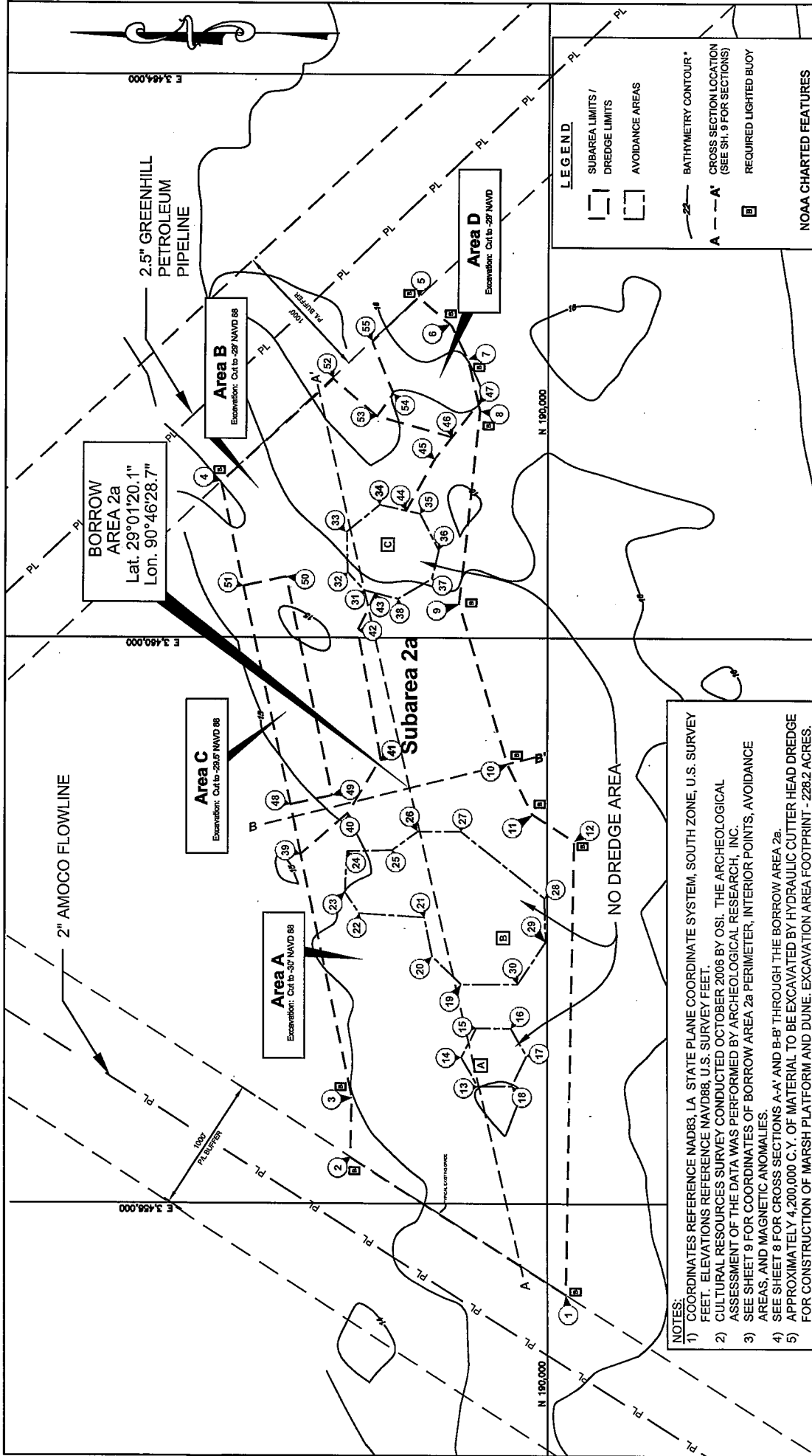
APPROVED BY: KPR

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

DATE: 1/27/09

SHEET 6 OF 13

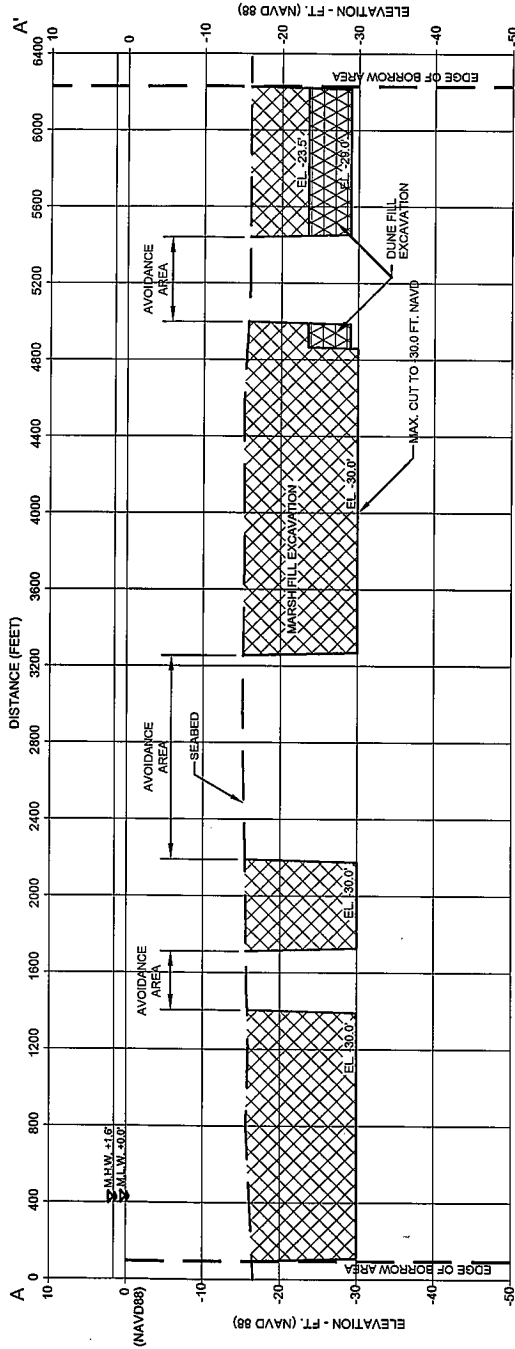


<p>T. BAKER SMITH, INC. 412 SOUTH VAN AVE. HOUMA, LA 70363</p>	<p>APPLICATION BY: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES 2000 QUAIL DRIVE BATON ROUGE, LOUISIANA 70808</p>	<p>LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802</p>	<p>WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)</p>	<p>LOCATION MAP SUBAREA 2a</p>
<p>DRAWN BY: KSP</p>	<p>DESIGNED BY: KPR</p>	<p>APPROVED BY: KPR</p>	<p>STATE PROJECT NUMBER: 2511-05-09</p>	<p>DATE: 1/27/09</p>
<p></p>	<p></p>	<p></p>	<p>FEDERAL PROJECT NUMBER: TE-50</p>	<p>SHEET 7 OF 13</p>

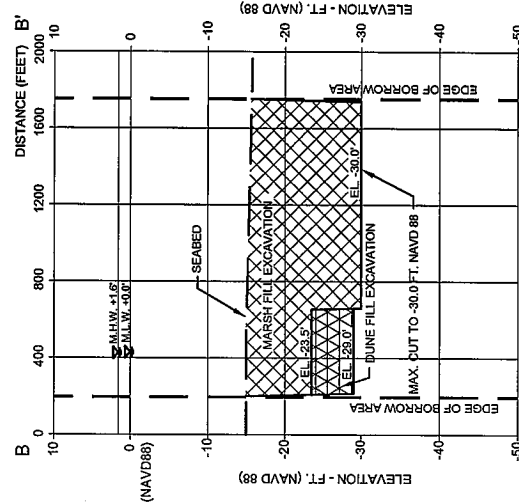
NOTES:

- 1) COORDINATES REFERENCE NAD83, LA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, U.S. SURVEY FEET. ELEVATIONS REFERENCE NAVD88, U.S. SURVEY FEET.
- 2) CULTURAL RESOURCES SURVEY CONDUCTED OCTOBER 2008 BY OSI, THE ARCHEOLOGICAL ASSESSMENT OF THE DATA WAS PERFORMED BY ARCHEOLOGICAL RESEARCH, INC.
- 3) SEE SHEET 9 FOR COORDINATES OF BORROW AREA 2a PERIMETER, INTERIOR POINTS, AVOIDANCE AREAS, AND MAGNETIC ANOMALIES.
- 4) SEE SHEET 8 FOR CROSS SECTIONS A-A' AND B-B' THROUGH THE BORROW AREA 2a.
- 5) APPROXIMATELY 4,200,000 C.Y. OF MATERIAL TO BE EXCAVATED BY HYDRAULIC CUTTER HEAD DREDGE FOR CONSTRUCTION OF MARSH PLATFORM AND DUNE. EXCAVATION AREA FOOTPRINT - 228.2 ACRES.





SECTION A-A'
SCALE: HORIZ 1"=1000'
VERT 1"=30'



SECTION B-B'
SCALE: HORIZ 1"=1000'
VERT 1"=30'

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BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

BORROW AREA
TYPICAL CROSS SECTIONS

DRAWN BY: KSP

DESIGNED BY: KPR

APPROVED BY: KPR

STATE PROJECT NUMBER: 2511-05-09

FEDERAL PROJECT NUMBER: TE-50

DATE: 1/27/09

SHEET 8 OF 13

DREDGE AREA 2a PERIMETER POINTS (NAD83)			
POINT #	X	Y	
1	3456326.097	191383.064	
2	3456343.223	191386.993	
3	3456747.155	191388.981	
4	3461106.856	192299.849	
5	3462415.555	190910.600	
6	3462221.123	190961.767	
7	3461971.324	190964.269	
8	3461604.263	190477.904	
9	3460242.418	190615.701	
10	3458945.561	190222.581	
11	3458748.908	190103.055	
12	3458560.591	188905.449	

DREDGE AREA 2a INTERIOR POINTS (NAD83)			
POINT #	X	Y	
39	3458486.96	191739.85	
40	3458762.39	191402.18	
41	3459144.06	191173.71	
42	3460052.59	191338.21	
43	3460314.14	191211.86	
44	3460898.32	190997.05	
45	3461263.95	190797.68	
46	3461419.86	190673.30	
47	3461663.26	190492.03	
48	3468818.83	191810.73	
49	3468883.34	191517.76	
50	3460431.54	191845.67	
51	3460363.89	192146.09	
52	3461832.05	191517.57	
53	3461568.31	191205.24	
54	3461727.94	191089.56	
55	3462095.79	191242.26	

DREDGE AREA 2a AVOIDANCE AREA A (NAD83)			
POINT #	X	Y	
13	3456827.537	190485.259	
14	3457033.164	190605.488	
15	3457239.391	190498.803	
16	3457237.530	190257.531	
17	3457044.829	190147.114	
18	3456830.018	190250.078	

DREDGE AREA 2a AVOIDANCE AREA B (NAD83)			
POINT #	X	Y	
19	3457548.444	190605.178	
20	3457745.183	190608.787	
21	3458021.354	190665.552	
22	3458050.000	191324.891	
23	3458198.708	191422.821	
24	3458486.982	191409.886	
25	3458496.156	191088.721	
26	3458627.791	190811.321	
27	3458627.791	190608.103	
28	3459153.660	190018.829	
29	3457848.612	190011.588	
30	3457549.568	190209.451	

DREDGE AREA 2a AVOIDANCE AREA C (NAD83)			
POINT #	X	Y	
31	3460335.115	191282.855	
32	3460462.796	191411.470	
33	3460750.078	191416.790	
34	3460839.826	191184.481	
35	3460877.759	190900.748	
36	3460620.624	190787.745	
37	3460416.689	190815.625	
38	3460274.821	191051.480	

ACCESS ROUTE & TEMP. CHANNEL (NAD83)			
POINT #	X	Y	
13	3456937.58	202493.97	
14	3449992.51	202167.09	
15	3450015.40	202100.94	
16	3450960.46	202427.82	
17	3441750.50	201918.48	
18	3441816.25	201942.53	
19	3441705.32	20218.50	
20	3441649.05	202195.91	

DUNE FILL CENTERLINE COORDINATES (NAD83)					
POINT #	X	Y	STATION	BEARING TO NEXT PT.	
1	343761.726	19252.125	200+00.00	S 59°37'57" E	
2	3438202.655	193011.400		S 73°53'52" E	
3	3439135.822	198741.980	214+47.17	S 61°40'45" E	
4	3439880.172	198671.037	223+10.98	N 87°39'21" E	
5	3444683.389	198807.925	269+78.10	N 82°20'13" E	
6	3447721.453	198801.632	280+55.79	N 65°13'02" E	
7	3447132.813	198603.161	296+10.09	N 53°06'48" E	
8	3447888.645	200170.530	305+55.34	N 49°25'57" E	
9	3448723.156	200884.972	316+53.90	N 43°26'10" E	
10	3448891.026	201807.172	330+61.61	N/A	

CREEK AND POND COORDINATES (NAD83)					
POINT #	X (BEGIN)	Y (BEGIN)	CHORD BEARING TO NEXT PT.	CHORD LENGTH	RADIUS (FEET)
20	3441782.44	201932.09	S 30°39'41" E	48.6	TANGENT
21	3441807.24	201890.25	S 35°08'30" E	295.3	
22	3441977.06	201648.70	S 50°04'00" E	160.2	206.3
23	3441532.26	201225.27	N 72°00'05" E	252.2	174.1
24	3441772.08	201303.18	N 56°46'41" E	255.2	151.2
25	3443069.38	200933.85	N 63°50'08" W	544.6	266.7
26	3442600.57	201173.99	N 72°27'13" W	470.4	453.4
27	3442104.59	201425.99	N/A	N/A	367.2
28	3443128.49	202383.31	S 32°26'13" E	51.6	120.0
29	3443153.19	202349.74	S 30°40'08" E	172.4	115.9
30	3443241.55	202201.61	S 34°55'40" E	235.9	207.4
31	3443244.79	201728.99	N 69°50'39" E	270.5	179.9
32	3443999.77	201822.19	S 63°47'17" E	365.0	172.1
33	3443941.97	201899.12	S 65°42'55" E	430.2	349.6
34	3444375.45	200873.90	N 18°20'53" E	500.0	446.8
35	3444174.42	200873.31	S 47°33'58" W	506.6	445.9
36	3444824.89	200483.88	N 34°12'25" W	580.9	625.1
37	3444560.69	200947.70	N 35°43'09" W	515.1	428.3
38	3444745.39	200907.44	N/A	N/A	120.0
39	3443438.13	201481.14	N/A	N/A	120.0
40	3444371.63	201481.14	N/A	N/A	120.0

PRIMARY & SECONDARY CONTAINMENT DIKE POINTS (NAD83)			
POINT #	X	Y	
1	3439877.136	200848.959	
2	3441016.939	201651.320	
3	3442859.851	202324.095	
4	3444258.786	202681.321	
5	3444806.532	202258.604	
6	3445686.168	202239.227	
7	3445351.028	201490.532	
8	3445552.662	200928.272	
9	3446219.076	200210.496	
10	3445219.373	200216.644	
11	3444182.515	199688.519	
12	3443005.831	199576.019	
13	3442224.581	199457.894	
14	3441193.331	198455.227	
15	3440006.737	198530.005	
16	3439897.495	198712.012	
17	3439880.343	200088.778	
18	3439631.525	200256.606	
19	3439785.468	200355.204	

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WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

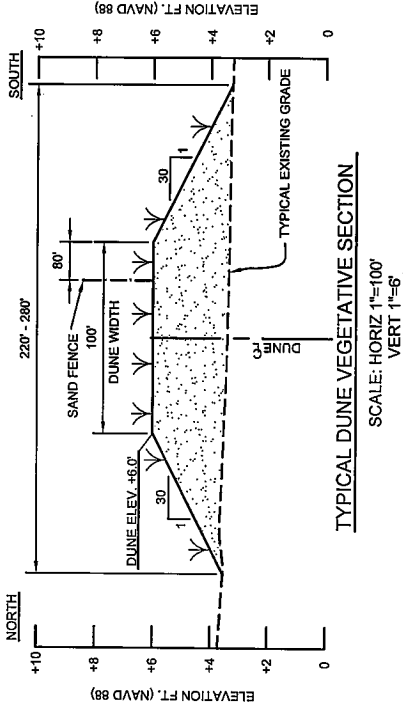
PROJECT COORDINATE
TABLES

DRAWN BY: KSP

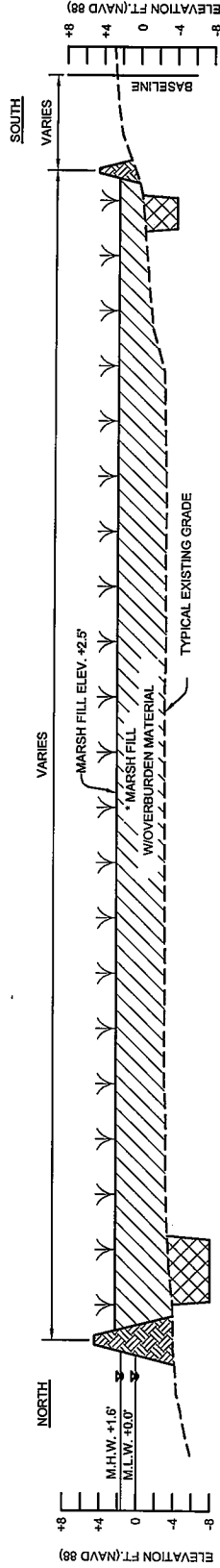
DESIGNED BY: KPR
APPROVED BY: KPR

STATE PROJECT NUMBER: 2511-05-09
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DATE: 1/27/09
SHEET 9 OF 13



NOTE: DUNE PLATFORM SHALL BE PLANTED WITH NATIVE DUNE AND MARSH SPECIES OF LOUISIANA ECOTYPE AFTER FINAL GRADING AND SHAPING. SPECIES FOR PLANTING SHALL INCLUDE BITTER PANICUM (PANICUM AMARUM VAR. AMARUM), SEA OATS (UNIOA PANICULATA) AND SEACOAST BLUESTEM (SCHIZACHYRIUM MARITIMUM).

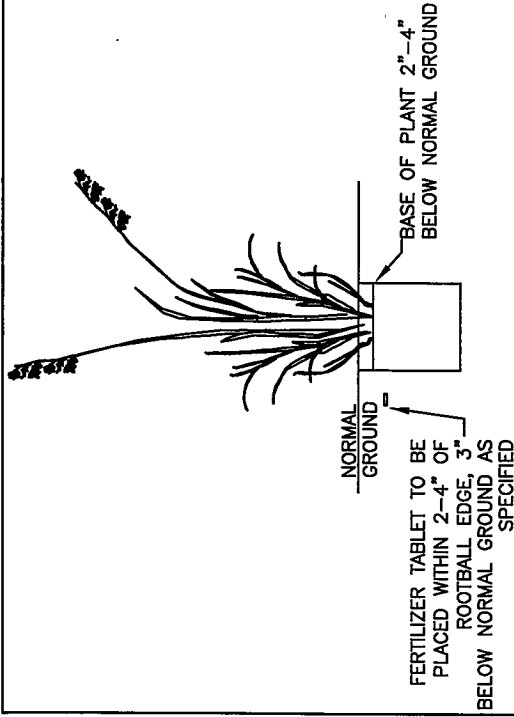


NOTE: MARSH FILL PLATFORM SHALL BE PLANTED WITH NATIVE MARSH SPECIES OF LOUISIANA ECOTYPE AFTER FINAL GRADING AND SHAPING. SPECIES FOR PLANTING SHALL INCLUDE SMOOTH CORDGRASS (SPARTINA ALTERNIFLORA) AND BLACK MANGROVE (AVICENNIA GERMINANS).

TYPICAL MARSH FILL VEGETATIVE SECTION
SCALE: HORIZ 1"=400'
VERT 1"=20'

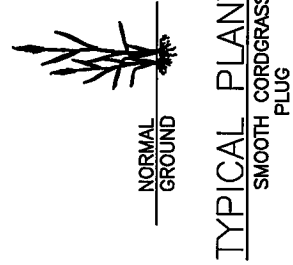
NOTE: EXACT LOCATION OF ALL PLANTS SHALL BE DETERMINED ON SITE BY DNR/CED DURING PRE-CONSTRUCTION LAYOUT

<p>T. BAKER SMITH, INC. 412 SOUTH VAN AVE. HOUMA, LA 70363</p>	<p>LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802</p>	<p>WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)</p>	<p>VEGETATIVE SECTION LAYOUT</p>
<p>DRAWN BY: KSP</p>	<p>DESIGNED BY: KPR</p>	<p>APPROVED BY: KPR</p>	<p>STATE PROJECT NUMBER: 2511-05-09 FEDERAL PROJECT NUMBER: TE-50</p>
<p>DATE: 1/27/09 SHEET 11 OF 13</p>			



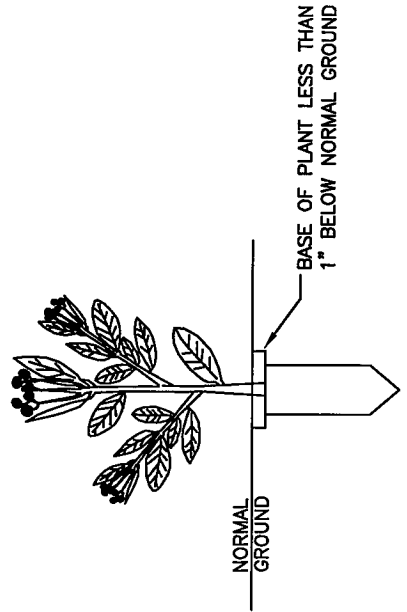
TYPICAL PLANTING

SEA OATS
GALLON CONTAINER



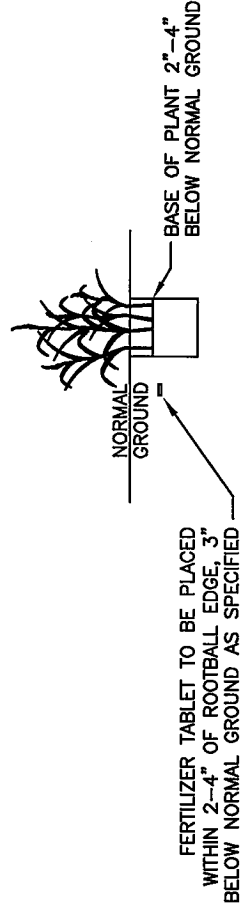
TYPICAL PLANTING

SMOOTH CORDGRASS
PLUG



TYPICAL PLANTING

BLACK MANGROVE
TUBE CONTAINER



TYPICAL PLANTING

BITTER PANICUM, SEACOAST BLUESTEM
4" CONTAINER

- NOTES:
1. EXACT LOCATION OF ALL PLANTS SHALL BE DETERMINED ON SITE BY DNR/CED DURING PRE-CONSTRUCTION LAYOUT.
 2. THE TOP OF THE BLACK MANGROVE AND SMOOTH CORDGRASS ROOT MEDIA SHALL BE PLACED ONE INCH BELOW NORMAL GROUND. THE SEA OATS, SEACOAST BLUESTEM AND BITTER PANICUM ROOT MEDIA SHALL BE PLANTED A MINIMUM OF 4" BELOW NORMAL GROUND.
 3. ONE FERTILIZER TABLET SHALL BE PLACED WITHIN TWO (2) TO FOUR (4) INCHES OF THE SIDE OF EACH PLANT SPECIFIED. ALL DISTANCE MEASUREMENTS SHOWN ON THE PLANS ARE APPROXIMATE.
 4. NO EQUIPMENT MAY ALTER THE EXISTING CONDITIONS OF THE ISLAND OR DISTURB EXISTING VEGETATION.
 5. CONTAINMENT DIKE NOT MAINTAINED AND IS SUBJECT TO DEGRADATION.

<p>T. BAKER SMITH, INC. 412 SOUTH VAN AVE. HOUMA, LA 70363</p>	<p>APPLICATION BY: LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES 2000 QUAIL DRIVE BATON ROUGE, LOUISIANA 70808</p>	<p>LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL ENGINEERING DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802</p>	<p>WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)</p>	<p>VEGETATIVE GENERAL NOTES</p>
<p>DRAWN BY: KSP</p>	<p>DESIGNED BY: KPR</p>	<p>APPROVED BY: KPR</p>	<p>STATE PROJECT NUMBER: 2511-05-09</p>	<p>DATE: 1/27/09</p>
<p>FEDERAL PROJECT NUMBER: TE-50</p>				
<p>SHEET 12 OF 13</p>				

	VOLUME (CY)	ACREAGE (Acres)
BORROW AREA 2a EXCAVATION	4,200,000	228.2
CONTAINMENT DIKE EXCAVATION	167,000	35.0
TIDAL CREEK & POND EXCAVATION	49,000	10.3
TEMPORARY ACCESS ROUTE EXCAVATION	7,250	2.1
NOTE: VOLUMES ARE CALCULATED TO THE MAXIMUM DEPTH OF EQUIPMENT		

	VOLUME (CY)	ACREAGE (Acres)
MARSH FILL (IN-PLACE)	2,300,000	316.0
DUNE FILL (IN-PLACE)	225,000	65.7

NOTES:

1. TEMPORARY SPOIL FOR ACCESS CHANNELS SHALL BE BACKFILLED INTO THE FLOTATION CHANNEL PRIOR TO DEMOBILIZATION.
2. EXCAVATED AREAS FOR CONTAINMENT DIKE CONSTRUCTION AND TIDAL CREEKS AND PONDS WILL BE REFILLED WITH HYDRAULICALLY PLACED MATERIAL FROM BORROW AREA 2a DURING CONSTRUCTION OF THE MARSH PLATFORM.
3. THE BORROW AREA 2a VOLUME EXCEEDS THE FILL VOLUME TO ACCOUNT FOR THE FOLLOWING:
 - a. WHEN FINE-GRAINED MATERIAL IS DREDGED, LOSSES TYPICALLY OCCUR DURING TRANSPORT, PLACEMENT, AND DEWATERING. ASSUMED CUT-TO-FILL RATIO FOR THE MARSH FILL IS 1.2:1; ASSUMED CUT-TO-FILL RATIO FOR THE DUNE FILL IS 1.6:1. AVAILABLE BORROW AREA VOLUMES CONSIDERS VARIATIONS IN THE CUT-TO-FILL RATIOS.
 - b. POTENTIAL DIFFERING SITE CONDITIONS PRIOR TO CONSTRUCTION THAT WOULD RESULT IN MINOR VARIATIONS IN FILL VOLUME NEEDS.

T. BAKER SMITH, INC.
412 SOUTH VAN AVE.
HOUMA, LA 70363

APPLICATION BY:
LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
2000 QUAIL DRIVE
BATON ROUGE, LOUISIANA 70808

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

WHISKEY ISLAND BACK BARRIER
MARSH CREATION (TE-50)

GENERAL NOTES

STATE PROJECT NUMBER: 2511-05-09

DATE: 1/27/09

FEDERAL PROJECT NUMBER: TE-50

SHEET 13 OF 13

DESIGNED BY: KPR

APPROVED BY: KPR

DRAWN BY: KSP

BOBBY JINDAL
GOVERNOR



SCOTT A. ANGELLE
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL RESTORATION AND MANAGEMENT

February 10, 2009

Kristi Cantu
Louisiana Dept. Natural Resources
Coastal Engineering Division
P. O. Box 44027
Baton Rouge, LA 70804

RE: **C20070623**, Coastal Zone Consistency Modification
USEPA/LDWF
Direct Federal Action
Whiskey Island Back Barrier Island Marsh Creation CWPPRA Project (TE-50); modification
for an access channel, **Terrebonne Parish, Louisiana.**

Dear Ms. Cantu:

The above referenced project modification has been reviewed for consistency with the approved Louisiana Coastal Resource Program (LCRP) as required by Section 307 of the Coastal Zone Management Act of 1972, as amended. The modification, as proposed in the application, is consistent with the LCRP.

If you have any questions concerning this determination please contact Brian Marcks of the Consistency Section at (225) 342-7949.

Sincerely yours,


Jim Rives
Administrator

JR/JH/bgm

cc: Tim Landers, USEPA
Brandt Savoie, LDWF
Pete Serio, COE-NOD
Rod Piercé, CMD FI
James Miller, Terrebonne Parish

Coastal Management Division • Post Office Box 44487 • Baton Rouge, Louisiana 70804-4487

(225) 342-7591 • Fax (225) 342-9439 • <http://www.dnr.state.la.us>

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ATTACHMENT VI

WHISKEY ISLAND BACK BARRIER MARSH CREATION PROJECT (TE-50)

**OPERATION, MAINTENANCE, AND MONITORING
BUDGET**

ATTACHMENT VI

OPERATION, MAINTENANCE AND MONITORING BUDGET WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)

FEDERAL SPONSOR: United States Environmental Protection Agency

PROJECT FEATURES

- 316 acres marsh creation
- 13,061 linear feet dune
- Three (3) one-acre tidal ponds
- 5,800 linear ft. of tidal creeks
- 13,000 linear feet sand fence

OPERATION AND MAINTENANCE / REHABILITATION ASSUMPTIONS

The operation, maintenance, and rehabilitation budget for the Whiskey Island Back Barrier Marsh Creation Project (TE-50) is based on the following assumptions:

- Annual Inspections every two (2) years: 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027 and 2029
- Habitat Mapping: Years 2009, 2013, and 2015
- Bathymetry/Topographic Surveys: Years 2013 and 2015.
- Aerial Photography: Year 2015

OPERATION AND MAINTENANCE COST CONSIDERATIONS

(Based on 20 year project life; cost includes inflation)

A. ANNUAL INSPECTIONS (O&M) \$ 74,730
(1 Field day with 3 team members including federal participant, boat
And report)

Annual Inspections: (Beginning in 2013 including inflation)

Annual Inspection Field Trip Rate: \$4,700

Year 2013 (\$4,700 x 1.3439)	\$6,316
Year 2015 (\$4,700 x 1.4340)	\$6,740
Year 2017 (\$4,700 x 1.5302)	\$7,192
Year 2019 (\$4,700 x 1.6329)	\$7,675
Year 2021 (\$4,700 x 1.7424)	\$8,189
Year 2023 (\$4,700 x 1.8593)	\$8,739

	Year 2025 (\$4,700 x 1.9841)	\$9,325	
	Year 2027 (\$4,700 x 2.1172)	\$9,951	
	Year 2029 (\$4,700 x 2.2559)	\$10,603	
B.	ANNUAL COST OF MONITORING (2009)		\$ 10,054
	<u>Habitat Mapping</u>		
	Data Collection and Processing:	\$10,054	
	(Lump Sum)		
C.	ANNUAL COST OF MONITORING (2013)		\$ 82,812
	<u>Topographic/Bathymetric Survey, Habitat Mapping</u>		
	Topographic/Bathymetric Survey:	\$60,790	
	(Lump Sum)		
	Habitat Mapping:	\$ 9,990	
	(Lump Sum)		
	Comprehensive Report:	\$12,032	
	(Lump Sum)		
D.	ANNUAL COST OF MONITORING (2015)		\$ 107,154
	<u>Topographic/Bathymetric Survey, Habitat Mapping</u>		
	Topographic/Bathymetric Survey:	\$63,971	
	(Lump Sum)		
	Habitat Mapping:	\$10,517	
	(Lump Sum)		
	Aerial Photography:	\$20,000	
	(Lump Sum)		
	Comprehensive Report:	\$12,666	
	(Lump Sum)		
E.	CPRA ADMINISTRATION COST (O&M/Monitoring):		\$ 35,409
	Engineering Administration:	\$ 9,440	
	Monitoring Administration:	\$25,969	
F.	FEDERAL S&A (EPA) ADMINISTRATION COST:		\$ 84,170
G.	COE ADMINISTRATION COST:		\$ 20,017
OPERATION AND MAINTENANCE (O&M/Monitoring) BUDGET SUMMARY			
WHISKEY ISLAND BACK BARRIER MARSH CREATION (TE-50)			
	Original O&M/Monitoring Budget:		\$ 414,346