



DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1229
GALVESTON TX 77553-1229

August 8, 2011

REPLY TO
ATTENTION OF:

Policy Analysis Section

SUBJECT: Permit Application – SWG-2007-00813



Honorable C. H. "Burt" Mills, Jr.
County of Aransas, Office of the County Judge
301 North Live Oak Street
Rockport, Texas 78382-2744

Dear Judge Mills:

The above numbered permit has been approved and a signed copy is enclosed for your retention.

Also enclosed are ENG Form 4336, and a copy of "Notice to Permittee" which provides important information for permit administration. You should notify the District Engineer, in writing, upon completion of the authorized work. A pre-addressed postcard has been enclosed for your convenience. To assist us in improving our service to you, please complete the survey found at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,

Fred L. Anthamatten
Chief, Regulatory Branch

Enclosures

Copies Furnished:

Commander (dpb), Eighth Coast Guard District, Hale Boggs Federal Building, 501 Magazine Street, New Orleans, Louisiana 70130-3396 w/encl

Director, National Ocean Service, Coast & Geo. Sur., Mapping & Charting Branch, Source Data Unit, Attn: NI/CG2211, Station 7317, SSMC3, 1315 East-West Highway, Silver Spring, Maryland 20910-3233



This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

8 Aug 20 11

A permit to reopen a fishpass by dredging and land-based excavation
at the Aransas County/Calhoun County Line, Texas

has been issued to County of Aransas on 8 Aug 20 11

Address of Permittee 301 N. Live Oak St., Rockport, TX 78382-2744

Permit Number

SWG-2007-00813

Fred L. Anthamatten
Fred L. Anthamatten
For Col Christopher W. Salles
District Commander

NOTICE TO PERMITTEES

Department of the Army Permits for Work in Navigable Waters require attention to administration and policies which are often misunderstood or disregarded. To avoid possible misinterpretations and to expedite procedures, permit post-authorization requirements and pertinent information are outlined as follows:

1. Permits remain in effect until revoked, relinquished, or the structures are removed. An extension of time for completion of structures or work may be granted provided that a public notice is issued and that evidence is furnished of the bona fide intention of the permittee to complete the work within a reasonable time. If work or structures are not completed within the time provided in the permit, it is the permittee's responsibility to request an extension of time at least 4 months before the expiration date.

2. Maintenance of authorized completed structures may be done at any time without extending the completion period. It is, however, required that the District Commander be notified prior to commencement of maintenance.

3. SPECIAL REGULATIONS GOVERN MAINTENANCE WORK INVOLVING DREDGING OR FILL. This maintenance is not authorized by the original permit and specific prior approval is required before such work is commenced in navigable waters. Your request for authorization should be submitted in time for public notice requirements and coordination with other agencies.

4. If ownership of structures or work covered by a permit is transferred, the District Commander must be notified immediately. The notification will provide information so that permit responsibilities can be changed to the new owner or assignee.

5. Permittees are reminded that the Area Engineer must be notified as soon as possible of the time for commencement of construction or work, and immediately upon completion. If pipelines across Federal project channels are covered by the permit, the Area Engineer should be informed of the date the pipelines are to be placed in time for him to arrange for an inspector to be present.

6. All material changes in location or plans must be submitted promptly to the District Commander for approval before construction is begun.

7. Permits should not be considered as an approval of design features of any structure authorized or an implication that such structure is adequate for the purpose intended.

DISTRICT COMMANDER
GALVESTON DISTRICT
CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY PERMIT

Permittee Aransas County

Permit No. SWG-2007-00813

Issuing Office Galveston District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To reopen a fish pass between the Gulf of Mexico (Gulf) and Mesquite Bay for migrating marine species. All construction equipment and materials will enter and exit the project site from the Gulf only, and will be staged in upland areas within the construction template of the authorized work. Excavate approximately 48,500 cubic yards (cy) of material from an existing dredged material placement area (PA) using land-based earthmoving equipment traveling along a dredge pipeline route, and place the material below mean higher high water (MHHW) in PA No. 1 on San Jose Island's Gulf beach. Use a hydraulic pipeline dredge to excavate approximately 528,000 cy of sediment from the Gulf, Cedar Bayou, and Vinson Slough, and place it below MHHW in PA No. 2 on San Jose Island's Gulf beach. The authorized dredged fish pass channel dimensions are 100 feet wide (bottom width) by 6 feet deep Mean Sea Level (MSL) with 4 Horizontal:1 Vertical side slopes. Maintenance dredging is not authorized. The project will directly impact 2.15 acres of *Spartina alterniflora* marsh, 11.36 acres of tidal flats, and 104.0 acres of open water, and indirectly impact 0.25 acres of *S. alterniflora* marsh, 3.46 acres of tidal flats, and less than 0.1 acre of submerged aquatic vegetation. As compensatory mitigation for aquatic impacts, the permittee will create 6.5 acres of off-site *S. alterniflora* marsh. The permittee will also create 15 acres of new intertidal area within the Cedar Bayou and Vinson Slough Mitigation Tidal Flat Survey and Reporting Area by restoring tidal flow to the area. The project will be conducted in accordance with the attached plans, in 5 sheets, and the Mitigation Plan, Attachment I, in 16 sheets.

Project Location: In the Gulf of Mexico, Cedar Bayou, and Vinson Slough near the Aransas County/Calhoun County line in Aransas County and Calhoun County, Texas. The project can be located on the U.S.G.S. quadrangle map entitled "Saint Charles Bay SE, Tex.", at Latitude 28°04'17"North, Longitude -96°50'53"West. The off-site compensatory mitigation site is located in Carlos Bay and Mesquite Bay paralleling the shoreline of Blutworth Island, in Aransas County, Texas, and can be located on the U.S.G.S. quadrangle map entitled "St. Charles Bay, Tex.", at Latitude 28°08'34"North, Longitude -96°54'00"West.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 2016. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee understands and agrees that if future operations by the United States require the removal, relocation or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate or alter the structural work or obstructions caused thereby without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. The permittee must obtain real estate consent from the Corps of Engineers (CE), Galveston District, Real Estate Division, and, at least 60 days prior to conducting any work at the compensatory mitigation area adjacent to Bludworth Island, coordinate with the CE, Galveston District's Southern Area Office, Navigation Branch, and Operations Branch to assure that the work will not conflict with United States Government dredging or dredged material placement area activities or beneficial use of dredged material site activities.
3. Work at the compensatory mitigation area must be accomplished outside of October 15 through April 15, the whooping crane wintering season, to prevent direct disturbance to wintering whooping cranes.
4. All construction of mitigation, including planting, must be complete within 8 months after start of construction within a jurisdictional area at the project site. The permittee must notify the CE, Corpus Christi Regulatory Field Office, 5151 Flynn Parkway, Suite 306, Corpus Christi, Texas 78411, in writing, within 14 days of beginning work in a jurisdictional area at the project site. Monitoring and maintenance will proceed according to the mitigation plan.
5. The permittee will create 15 acres of new intertidal area within the Cedar Bayou and Vinson Slough Mitigation Tidal Flat Survey and Reporting Area by restoring tidal flow to the area. The permittee will survey the area pre-construction, immediately post-construction, and one and five years after completion of construction, and if 15 acres of additional tidal flats do not develop within one year of completion of construction, the permittee will consult the CE and develop alternate mitigation, if determined appropriate by the CE.
6. The mitigation success criteria, as indicated on Page 6, Section 8.0 (for *Spartina alterniflora* marsh) and on page 8, Section 9.3 (for tidal flats) of the mitigation plan included in Attachment 1, must be achieved for the mitigation requirement to be considered complete.
7. Should mitigation be determined to be unsuccessful by CE personnel at the end of the monitoring period, the permittee will be required to take necessary corrective measures, as approved by the CE. Once the corrective measures are completed, the permittee will notify the CE and a determination will be made regarding success of the mitigation.
8. A transplant survival survey of the planted mitigation area must be performed within 55 to 65 calendar days following the initial planting effort. If at least 50 percent survival of transplants is not achieved within 55 to 65 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for replanting smooth cordgrass (*Spartina alterniflora*) is not suitable when replanting would be required, within 30 calendar days of completion of the transplant survival survey the permittee must submit a replanting schedule for CE approval.
9. Written reports detailing plant survival must be submitted to the CE, Corpus Christi Regulatory Field Office, within 30 calendar days of completing the initial survival survey and any subsequent replanting effort.
10. If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35 percent areal coverage of *Spartina alterniflora*, those areas that are not vegetated will be replanted using the original planting specifications. The replanting effort will be completed within 60 calendar days of completing the monitoring survey.
11. If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70 percent areal coverage of *Spartina alterniflora*, the permittee will develop a plan for corrective action and submit it to the CE within 30 calendar days after completion of the monitoring survey for approval prior to implementation of the action.
12. In addition to the initial survey report, progress reports will be submitted to the CE, Corpus Christi Regulatory Field Office, at 6 months, 1 year, 2 years, 3 years, 4 years, and at 5 years following the initial transplanting effort and subsequent replanting efforts. Photos of the mitigation site will be included.

13. The end of the dredged material discharge pipe will have an energy dissipater to slow the discharge velocity and prevent scour immediately beneath the discharge point.
14. Prior to initiation of work within the compensatory mitigation area, the permittee will provide a copy of the Texas General Land Office lease agreement for the compensatory mitigation site to the CE, Corpus Christi Regulatory Field Office.
15. The permittee will use turbidity curtains around seagrass beds and oyster beds within 500 feet of dredging in order to reduce turbidity impacts to seagrass beds and oyster beds.
16. This Corps permit does not authorize you to take an endangered species, in particular the Kemp's ridley, loggerhead, and green sea turtles, and piping plovers. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a biological opinion [BO] under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (FWS) BO, dated September 30, 2010, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA, and to enforce the terms and conditions of the BO. However, failure to meet these conditions and fully comply with the ESA and FWS requirements could result in suspension or revocation of your Corps permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

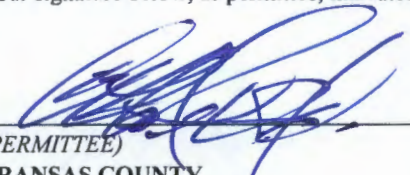
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.




(PERMITTEE)
ARANSAS COUNTY

August 3, 2011

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER)
**FRED L. ANTHAMATTEN, CHIEF
REGULATORY BRANCH
FOR COLONEL CHRISTOPHER W. SALLESE**

8 August 2011

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE – Typed/Printed Name)

(DATE)

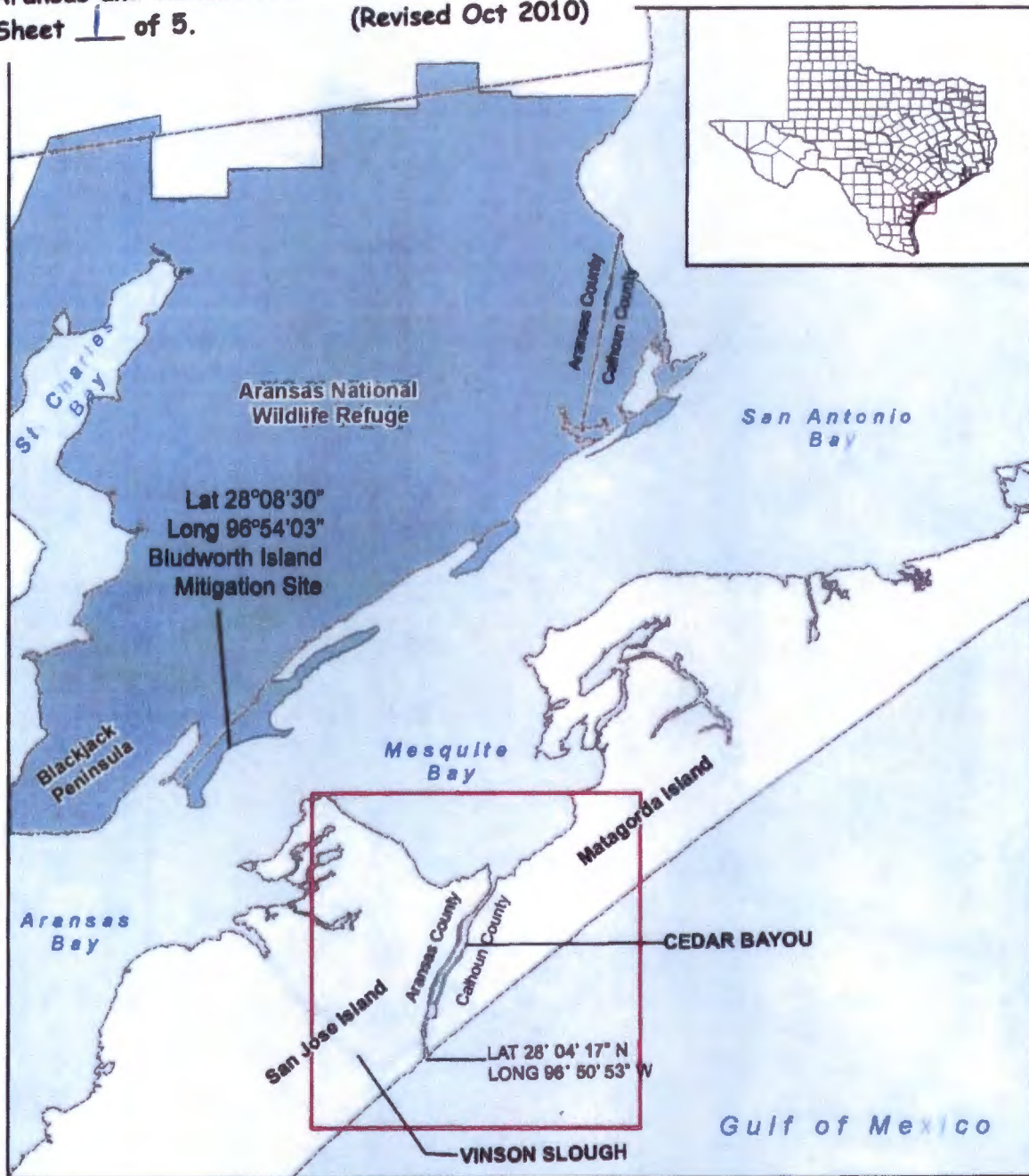
(TRANSFEEE - Signature)

(Mailing Address)

Aransas County
 Cedar Bayou, Vinson Slough, and Gulf of Mexico,
 Aransas and Calhoun counties, Texas.
 Sheet 1 of 5.

SWG-2007-00813'
 (Revised Oct 2010)

OCT 20 2010



Source: TNRIIS

Legend



PERMITTED BY AWP

Project Location Map
 Cedar Bayou and Vinson Slough
 Restoration Project
 Aransas and Calhoun Counties



Aransas County SW6-2007-00813
Cedar Bayou, Vinson Slough, and Gulf of Mexico,
Aransas and Calhoun counties, Texas.
Sheet 2 of 5.
(Revised Oct 2010)

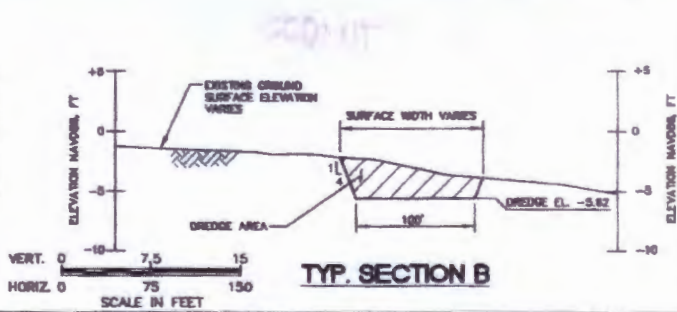
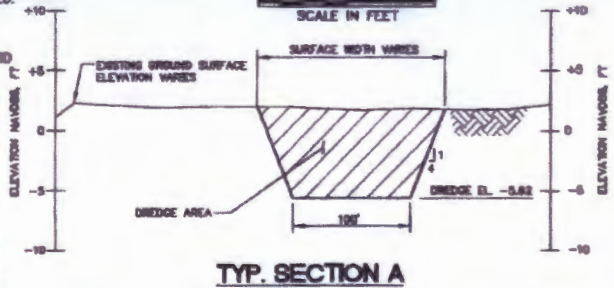
- NOTE:**
- ACCESS TO THE PROJECT WILL BE FROM THE GULF OF MEXICO SIDE OF THE PROJECT.
 - IF ANY ACCESS ACROSS OR ACTIVITY ON PRIVATE LAND WILL OCCUR DURING PROJECT CONSTRUCTION, A TEMPORARY CONSTRUCTION EASEMENT WILL BE REQUIRED.
- POTENTIAL EQUIPMENT FOR DREDGING OPERATIONS:**
- CUTTERHEAD DREDGE AND PUMP STATION
 - PIPELINE FOR TRANSPORTING SAND
 - BULLDOZER AT DISCHARGE POINT TO SHAPE AND GRADE DISCHARGED SAND

REMOVED DREDGE MATERIAL

LOCATION	STATIONING	LENGTH (FT)	AREA (ACRES)	DREDGE VOLUME (CY)
CEDAR BAYOU	-5+00 TO 75+00	8,000	18.51	187,474
VINSON SLOUGH	100+00 TO 175+00	7,500	17.05	335,822
SPOIL PILE	128+77 TO 138+08	1,032	10.82	48,537
PROJECT TOTAL		16,532	47.48	577,833

PLACED DREDGED MATERIAL

LOCATION	LENGTH (FT)	AREA (ACRES)	PLACEMENT VOL. (CY)
SPOIL PILE PLACEMENT AREA 1	4,000	18.50	48,537
SPOIL PILE PLACEMENT AREA 2	5,280	71.80	328,296
PROJECT TOTAL	9,280	90.40	377,833



CEDAR BAYOU/VINSON SLOUGH RESTORATION PROJECT

SCALE:
HORIZ.: AS SHOWN
VERT.: AS NOTED
VERIFY SCALE
DATE: OCT 19 2010

JOB NUMBER: 0775

COAST & HARBOR ENGINEERING
3410 FAR WEST BLVD., SUITE 210
AUSTIN, TX 78731
PH: 512-342-8700
FAX: 512-342-8708

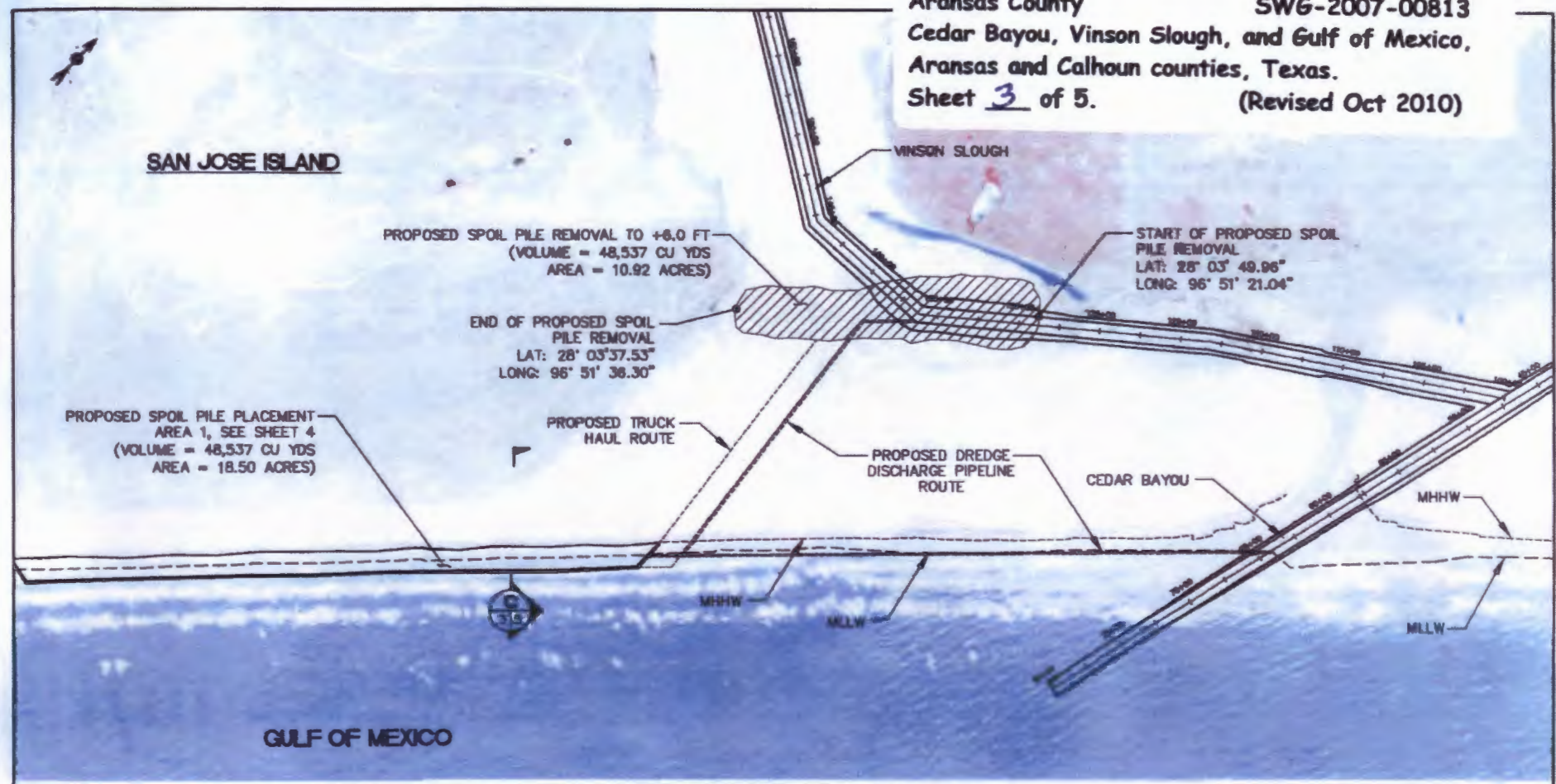
OVERALL SITE PLAN

CLIENT: SAVE CEDAR BAYOU

SITE ADDRESS: 28° 04' 17" N, 96° 50' 53" W

IN: CEDAR BAYOU
ADJACENT: GULF OF MEXICO
COUNTY: ARANSAS/CALHOUN STATE: TX
VERTICAL DATUM: NAVD83
HORIZ. DATUM: TSPSC NAD83-FT
DATE: OCTOBER 7, 2010

Aransas County
 Cedar Bayou, Vinson Slough, and Gulf of Mexico,
 Aransas and Calhoun counties, Texas.
 Sheet 3 of 5.
 (Revised Oct 2010)



SPOIL PILE REMOVAL PLAN



NOTE:
 POTENTIAL EQUIPMENT FOR EXCAVATION, TRANSPORTATION,
 AND PLACEMENT OF SPOIL PILE MATERIAL:
 1. EXCAVATOR OR BULLDOZER AT SPOIL SITE
 2. OFF-ROAD DUMP TRUCKS FOR HAULING
 3. BULLDOZER AT PLACEMENT SITE

REMOVED MATERIAL				
LOCATION	STATIONING	LENGTH (FT)	AREA (ACRES)	DREDGE VOLUME (CY)
SPOIL PILE	128+77 TO 130+99	1,022	10.92	48,537

PLACED MATERIAL			
LOCATION	LENGTH (FT)	AREA (ACRES)	PLACEMENT VOL. (CY)
SPOIL PILE PLACEMENT AREA 1	4,000	18.50	48,537

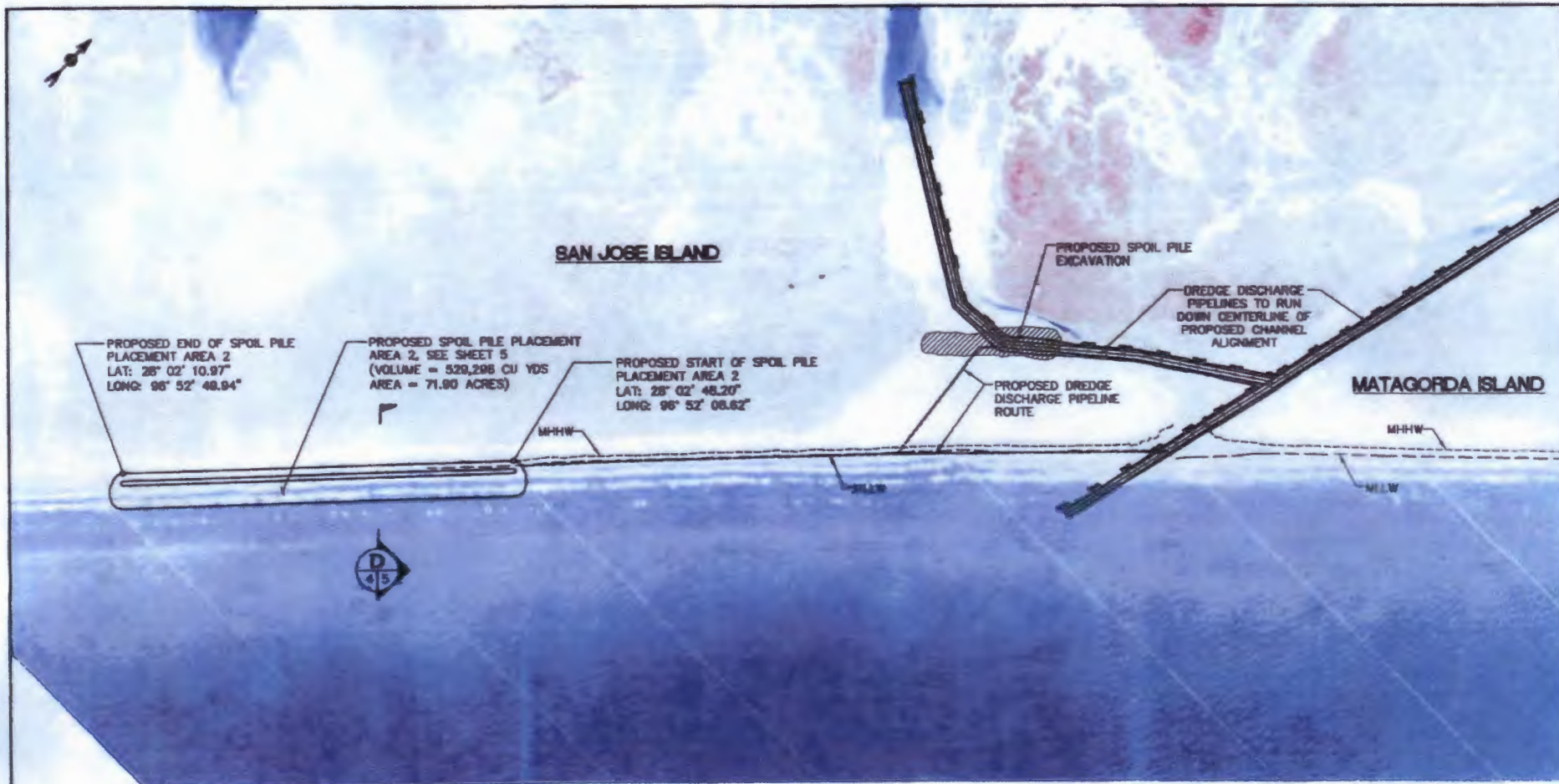
**CEDAR BAYOU/VINSON
 SLOUGH RESTORATION
 PROJECT**

SCALE
 HORIZ.: AS NOTED
 VERT.: AS NOTED
 COPY SCALE
 JOB NUMBER
 0775

COAST & HARBOR ENGINEERING
 3400 FAR WEST BLDG., SUITE 200
 ALBUQU, TX 78701
 PH 512-342-8700
 FAX 512-342-8708

SPOIL PILE PLACEMENT AREA 1
 CLIENT: SAVE CEDAR BAYOU
 SITE ADDRESS: 28° 04' 17" N, 96° 50' 53" W

IN: CEDAR BAYOU
 ADJACENT: GULF OF MEXICO
 COUNTY: ARANSAS/CALHOUN STATE: TX
 VERTICAL DATUM: NAVD88
 HORIZ. DATUM: TSPSC NAD83-FT
 DATE: OCTOBER 7, 2010



Aransas County SWG-2007-00813
 Cedar Bayou, Vinson Slough, and Gulf of Mexico,
 Aransas and Calhoun counties, Texas.
 Sheet 4 of 5. (Revised Oct 2010)

DREDGE DISPOSAL



REMOVED MATERIAL

LOCATION	STATIONING	LENGTH (FT)	AREA (ACRES)	DREDGE VOLUME (CY)
CEDAR BAYOU	-5+00 TO 75+00	8,000	16.91	167,474
VINSON SLOUGH	100+00 TO 1284+00	7,200	17.05	331,832
TOTAL		15,200	33.96	529,296

PLACED MATERIAL

LOCATION	LENGTH (FT)	AREA (ACRES)	PLACEMENT VOL. (CY)
SPOIL PILE PLACEMENT AREA 2	5,200	71.00	529,296
TOTAL	5,200	71.00	529,296

PERMITTED PLAN

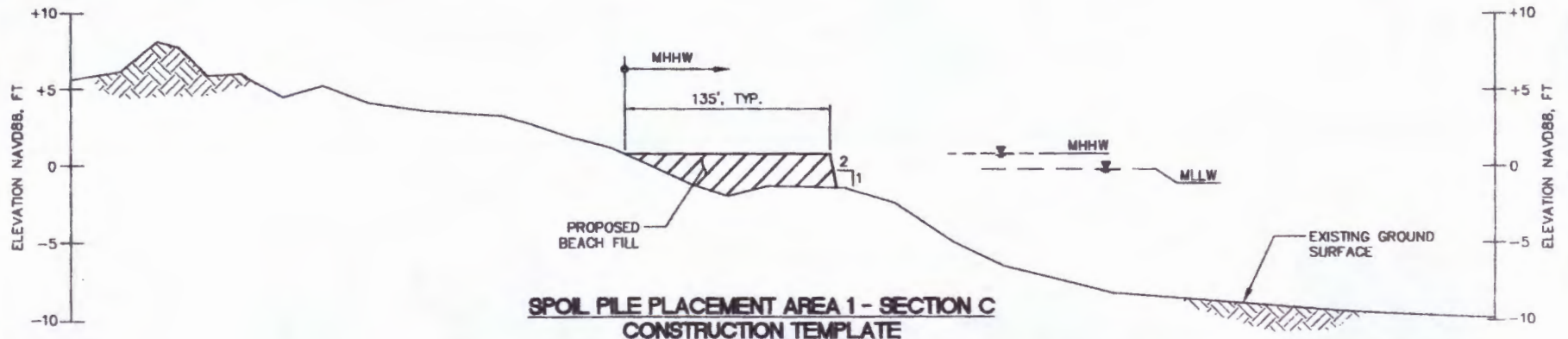
SPOIL PILE PLACEMENT AREA 2

CLIENT: SAVE CEDAR BAYOU
 SITE ADDRESS: 28° 04' 17" N, 96° 50' 53" W

IN: CEDAR BAYOU
 ADJACENT: GULF OF MEXICO
 COUNTY: ARANSAS/CALHOUN STATE: TX
 VERTICAL DATUM: NAVD83
 HORIZ. DATUM: TSPSC NAD83-FT
 DATE: OCTOBER 7, 2010

CEDAR BAYOU/VINSON SLOUGH RESTORATION PROJECT	SCALE: HORIZ.: AS NOTED VERT.: AS NOTED VERIFY SCALE SEE IF THE PROJECT ORIGINATOR'S RESPONSIBILITY FOR ANY CHANGES TO THE SHEET.		JOB NUMBER: 0775
	COAST & HARBOR ENGINEERING 3410 FM 1977 BLVD., SUITE 210 AUSTIN, TX 78721 PH: 512-348-8700 FAX: 512-348-8708		

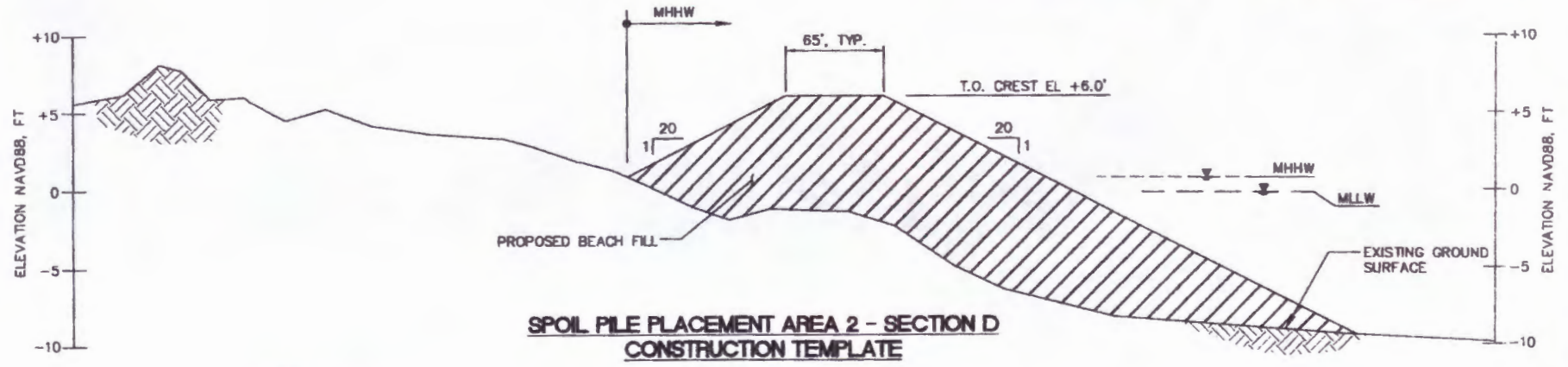
OCT 19 2010



**SPOIL PILE PLACEMENT AREA 1 - SECTION C
CONSTRUCTION TEMPLATE**



Aransas County SWG-2007-00813
Cedar Bayou, Vinson Slough, & the Gulf of Mexico, Aransas County & Calhoun County, TX.
Sheet 5 of 5. (Revised Oct 2010)



**SPOIL PILE PLACEMENT AREA 2 - SECTION D
CONSTRUCTION TEMPLATE**



CEDAR BAYOU/VINSON SLOUGH RESTORATION PROJECT	SCALE: HORIZ.: AS NOTED VERT.: AS NOTED VERIFY SCALE <small>THIS IS NOT A CONTRACT DOCUMENT. IT IS FOR INFORMATION ONLY AND DOES NOT SUPERSEDE THE CONTRACT DOCUMENTS.</small>	COAST & HARBOR ENGINEERING 3410 FAR WEST BLVD., SUITE 210 AUSTIN, TX 78731 PH 512-342-8700 FAX 512-342-8700	PLACEMENT AREA SECTIONS		IN: CEDAR BAYOU ADJACENT: GULF OF MEXICO COUNTY: ARANSAS/CALHOUN STATE: TX VERTICAL DATUM: NAVD88 HORIZ. DATUM: TSPSC NAD83-FT DATE: OCTOBER 7, 2010
	JOB NUMBER 0775		CLIENT: SAVE CEDAR BAYOU SITE ADDRESS: 28° 04' 17" N, 96° 50' 53" W	SHEET 5 OF 5	

1.0 OBJECTIVES

The Cedar Bayou and Vinson Slough Restoration Project (Cedar Bayou Project) includes compensatory mitigation to offset the loss of smooth cordgrass marsh associated with dredging activities at the project site. The objective of the mitigation is to replace the habitat functions of the smooth cordgrass marsh lost at the construction site by creating 6.5 acres of smooth cordgrass marsh in a new location.

Approximately 2.15 acres of smooth cordgrass (*Spartina alterniflora*) will be permanently impacted by the construction of the new channel at Cedar Bayou and Vinson Slough. These areas provide primarily marine life habitat and shoreline stabilization functions. To compensate for this loss, 6.5 acres of smooth cordgrass marsh will be created at another location. To accomplish this, individual smooth cordgrass plants will be selectively thinned from another location or obtained from commercial sources in Aransas County and transplanted to the mitigation site. The locations of the Cedar Bayou Project area and mitigation site are shown on **Figure 1**.

The permittee will notify the USACE Corpus Christ Field Office in writing when the work begins at the mitigation site. Monitoring and maintenance will proceed according to this mitigation plan. The mitigation site will be monitored according to the parameters outlined below to ensure that the site is progressing toward and achieves the minimum success criteria. Monitoring will be conducted for 5 years or until the USACE determines that the mitigation has reached minimum success criteria, whichever occurs last. The mitigation site will be considered to have met minimum success criteria when a minimum of 6.5 acres of *Spartina alterniflora* marsh has been created with a minimum 80 percent aerial cover, as determined by the USACE. The permittee will remove all wave barrier fencing from the site within one year after the USACE determines that minimum success criteria have been met.

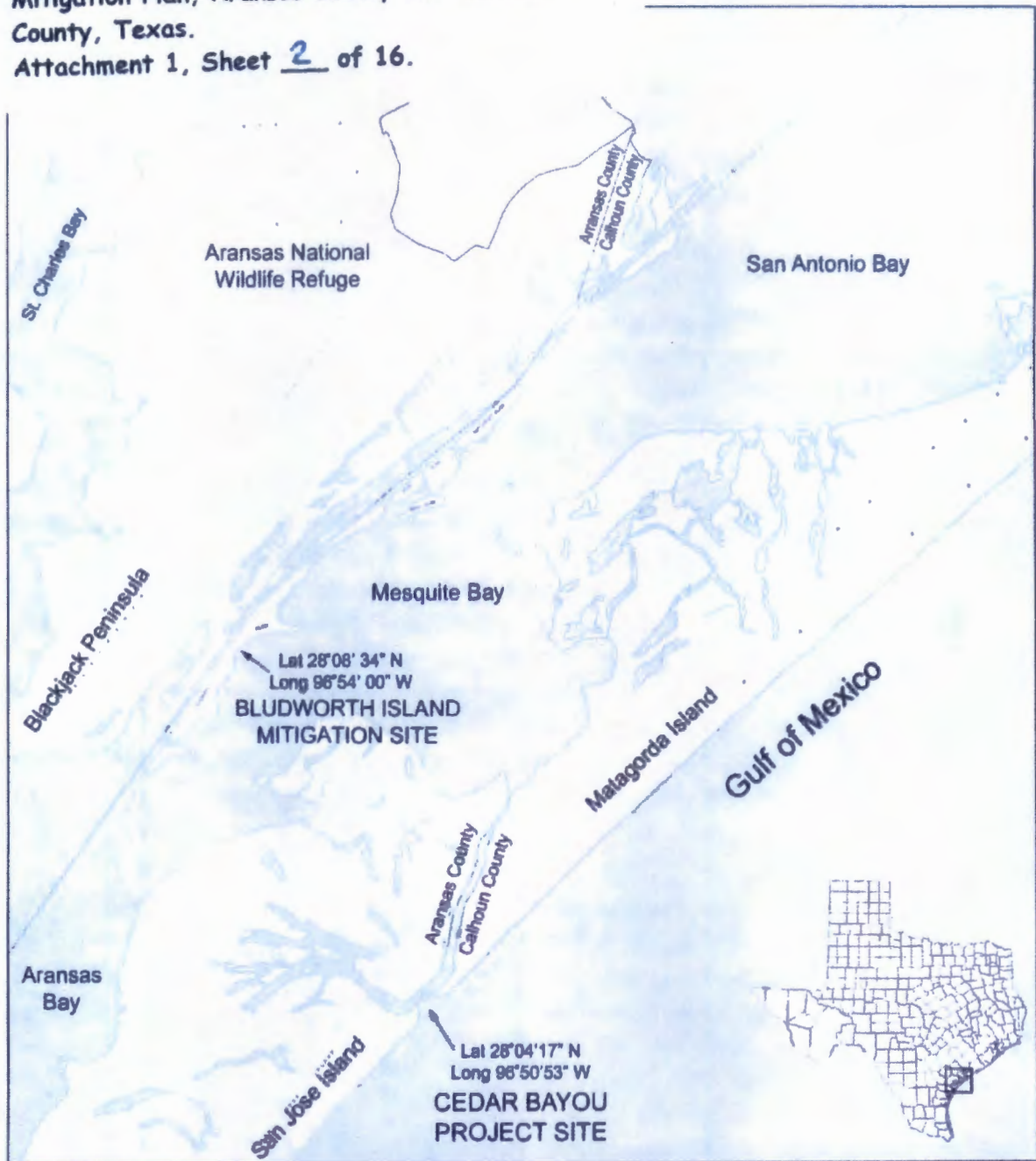
2.0 SITE SELECTION

A suitable location for compensatory mitigation was identified along the eastern shore of Bludworth Island (photo, right). The planting of the new 6.5 acres will occur within an area where existing depth and substrate would be conducive to establishment of a new smooth cordgrass community. This area provides a broad shallow area conducive to the establishment of smooth cordgrass. There are five small stands of existing smooth cordgrass in the area (see attached **Exhibit A**), further indicating that this area will support the establishment of transplants.



The proposed smooth cordgrass mitigation site is situated along unvegetated portions of shoreline on the eastern side of Bludworth Island. Per elevation data collected at upper and lower elevations of local

Aransas County SWG-2007-00813
Mitigation Plan, Aransas County and Calhoun
County, Texas.
Attachment 1, Sheet 2 of 16.



<http://www.tnris.state.tx.us/daladownload/download.jsp>
Accessed 4/11

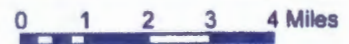


Figure 1
Project Location
Cedar Bayou and Vinson Slough
Mitigation Plan

existing smooth cordgrass stands on October 14, 2010, the existing elevations of the proposed planting areas vary from +1.0 feet MLLW (mean lower low water) to -0.5 feet MLLW. No fill or excavation of proposed planting areas will be required as sites were selected at ideal elevations for successful smooth cordgrass propagation. The proposed mitigation area totals approximately 13,426 linear feet of unvegetated shoreline on Bludworth Island.

3.0 SITE PROTECTION INSTRUMENT

The smooth cordgrass planting area will be preserved in perpetuity as a mitigation site. Aransas County will acquire a lease agreement from the Texas General Land Office for the site. It is anticipated that the lease term will be for 20 years with provisions for renewal as necessary.

4.0 BASELINE INFORMATION

The community types within the Cedar Bayou Project area were identified during field surveys in May 2008. These community types include tidal flats, high marsh, *Spartina* marsh, sand/dune beach, submerged aquatic vegetation, coastal prairie/uplands, and open water. The *Spartina* marsh is dominated by *Spartina alterniflora* and is restricted to areas that are subject to daily tidal inundation. In the project area (within 700' of the channel centerline) there were approximately 14 acres of smooth cordgrass marsh.

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The mitigation site at Bludworth Island was evaluated on October 14, 2010 and again in February of 2011. The site is located in Carlos Bay and Mesquite Bay on the east-southeast side of Bludworth Island. The shoreline is mostly sand and shell with one stretch of fine silt (mud). Five areas of existing smooth cordgrass ranging in size from .03 acre to .50 acre occur in the area. Four oyster beds occur in the area ranging in size from .01 acre to .53 acre. Existing seagrass beds occur within 25 to 100 feet from the shoreline. Further out into the bay, several shell reefs reduce the fetch of west or southwest winds. Along the narrow portion of Bludworth Island the shoreline is siltier and appears to be eroding (photo, upper right). The shoreline on other portions of the site is sandy and appears more stable (photo, lower right). The substrate consists of sand and silty sand. Depths were taken at various locations and indicated a broad strip paralleling the shore



between +1.1 MLLW and -1.1 feet MLLW. The gentle slope provides an adequate existing depth for a planting width of 6 to 60 feet. Locations and a typical cross-section are included in Exhibit A.

5.0 DETERMINATION OF CREDITS

Approximately 2.15 acres of smooth cordgrass will be permanently impacted by the construction of the new channel at Cedar Bayou and Vinson Slough. A 3:1 ratio was used to calculate the compensatory mitigation requirement of 6.5 acres.

6.0 MITIGATION WORK PLAN

Ingress and egress routes to the mitigation site will avoid existing oyster reefs, *Spartina* marsh and seagrass beds in Carlos and Mesquite Bays. See attached map depicting proposed access/egress routes and proposed work staging areas (**Exhibit A**). Shallow draft, flat bottom boats will be used during mitigation site planting and wave barrier fence construction. Boat propellers will be raised prior to entering shallow water and boats will be walked to shore. Plants will be placed in 25 gallon tubs with water. Plants and wave barrier fencing materials will be staged within unvegetated areas between the shoreline and existing seagrasses.

A temporary wave barrier will be erected along the entire area to be planted to protect the newly planted sprigs. Plans for the mitigation site planting area and wave barrier fence construction are shown in Exhibit A. The wave barrier fencing will be constructed five feet bayward of the proposed mitigation planting areas and a minimum of three feet shoreward of existing seagrass beds or oyster reefs. An example (photo, right) of the wave barrier fence is provided. This geotextile fencing material, brand name Maxigrid, comes in 4-foot wide rolls and 50- or 100-foot lengths. Negligible sedimentation is expected to occur during plant installation or during/ after wave barrier fence construction. No adverse effects to adjacent seagrasses and oyster beds are expected.

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All construction of mitigation, including planting and removal of salt cedar, will be completed within 8 months after the start of impacts within a jurisdictional area at the project site. The work at the mitigation site will be accomplished outside of the whooping crane wintering season (October 15th through April 15th) to prevent the disturbance of wintering whooping cranes. Plant stock will be obtained from local stands or from commercial sources in Aransas County. No more than one six-inch plug of borrow material will be collected per square yard of borrow marsh. Incidental damage to borrow areas shall be strictly avoided. The permittee will obtain a Texas Parks and Wildlife transplant permit and a General Land Office easement (if necessary) prior to wave barrier fence installation and planting. Smooth cordgrass will be planted at elevations between +1.0 feet MLLW and -0.5 feet MLLW. All smooth

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cordgrass plants will be installed as single stem units on three foot centers within 60 calendar days of completion of wave barrier fence. Complete photographic coverage of the planting area shall be submitted to the USACE immediately prior to and following transplanting activities. Each planting unit will be securely embedded in the planting surface. Upon completion, planting locations will be documented and monitoring locations will be identified for future reference.

Aransas County will post signage to restrict boat, vehicle and foot traffic in the mitigation area. Signage will be removed at the same time the wave barrier fencing is removed, within one year after USACE determines mitigation site success has been reached, based in part on the creation of 6.5 acres of 80% vegetative coverage smooth cordgrass marsh, and a minimum of 5 years of monitoring.

Additionally, Aransas County will remove the stand of salt cedar in the mitigation area (photo, right) to avoid its spread into marsh areas. This area encompasses about 200 linear feet of shoreline and will be removed using hand tools. Cuttings will be left in place.



Existing seagrass beds and oyster reefs adjacent to the compensatory mitigation area will be monitored for density and aerial extent within 30 days prior to the initiation of construction of the marsh creation site and within 30 days following completion of construction, as well as annually one year, two years and three years following initial planting (or subsequent planting efforts). Seagrass and oyster monitoring reports will be submitted to the USACE Regulatory Branch, Chief of Compliance, Corpus Christi Field Office within 30 day of the completion of each survey. Photographs of the seagrass beds and oyster samples will be included.

In addition to the compensatory mitigation provided by the creation of 6.5 acres of *Spartina alterniflora* marsh, the smooth cordgrass planting site, mitigation of adverse effects will be provided at the construction site of the Cedar Bayou Project. General mitigation measures for construction will include:

- The permittee will enlist the services of a qualified biologist or consultant to assist and insure that the measures to implement the mitigation plan are performed.
- The permittee will ensure that the contractor develops a mitigation implementation plan that will document his measures during construction to address and implement the requirements in this mitigation plan. The plan will include construction scheduling, a mobilization plan and identification/confirmation of staging areas and haul routes.
- The permittee will return temporarily impacted areas to their original contours and elevations and loosen compacted sand.
- The permittee will ensure that the contractor is made aware of sensitive environmental issues such as sea turtles, nesting migratory birds and sensitive habitats.

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- Staging areas, haul routes and pipeline routes will be located to avoid marsh areas and tidal flats.
- After construction, signs will be erected to indicate that the channel is not to be used for passage to and from the Gulf of Mexico.

7.0 MAINTENANCE PLAN

A transplant survival survey of the planted mitigation areas will be performed within 55 to 65 calendar days following the initial planting effort. If at least 50% survival of transplants is not achieved within 55 to 65 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for replanting smooth cordgrass are not suitable when replanting would be required, the permittee will submit a replanting schedule for USACE approval.

If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35% aerial coverage of smooth cordgrass, those areas that are not vegetated will be replanted using the original planting specifications.

If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of smooth cordgrass, the permittee will develop a plan for corrective action and submit it to the USACE for approval prior to implementation of the action. The fence wave barrier will be inspected and maintained monthly during the initial six months after original planting and on a quarterly basis until one year after USACE determines mitigation site success has been reached.

The permittee will post signage to restrict boat, vehicle and foot traffic in the mitigation area. Signage will be removed at the same time the wave barrier fencing is removed, within one year after USACE determines mitigation site success has been reached.

8.0 PERFORMANCE STANDARD

The site will be monitored for vegetative coverage at six months, one, two, three, four and five years after original planting, or until the USACE determines that the mitigation site has reached minimum success criteria, whichever occurs last. The mitigation site will be considered to have met minimum success criteria when a minimum of 6.5 acres of smooth cordgrass marsh has been created with a minimum 80% aerial coverage, as determined by the USACE. If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of smooth cordgrass, the permittee will develop a plan for corrective action and submit it to the USACE for approval prior to implementation of the action.

9.0 MONITORING

9.1 Bludworth Island (Smooth Cordgrass) Mitigation Site

The proposed smooth cordgrass mitigation site is situated along 13,426 linear feet of unvegetated shoreline on Bludworth Island. The newly planted location will be monitored at 55-66 days for survival and at 6 months, one year and each subsequent year following initial planting for a total of five years, or

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until the USACE determines that the mitigation site has reached minimum success criteria, whichever occurs last. After the initial survival monitoring report, reports documenting site conditions, acreage of *Spartina* marsh, and percent aerial coverage of *Spartina alterniflora* will be prepared for each monitoring period. Should mitigation be determined to be unsuccessful at the end of the 5-year monitoring period, the permittee will be required to take necessary corrective measures, as approved by the USACE. Once the corrective measures are completed, the permittee will notify the USACE, and a determination will be made regarding success of the mitigation. The mitigation site monitoring parameters will include:

- A transplant survival survey of the planted mitigation area will be performed within 55 to 65 calendar days following the initial planting effort. If at least 50% survival of transplants is not achieved within 55 to 65 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for replanting smooth cordgrass are not suitable when replanting would be required, Aransas County will submit a replanting schedule for USACE approval.
- Written reports detailing plant survival will be submitted to the USACE Regulatory Branch, Chief of Compliance, Corpus Christi Field Office within 30 calendar days of completing the initial survival survey and any subsequent replanting effort.
- If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35% aerial coverage of *Spartina alterniflora*, those areas that are not vegetated will be replanted using the original planting specifications.
- If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of smooth cordgrass, the permittee will develop a plan for corrective action and submit it to the USACE for approval prior to implementation of the action.
- In addition to the initial survival survey report, monitoring reports will be submitted to the USACE Regulatory Branch, Chief of Compliance, Corpus Christi Field Office at 6 months, 1 year, 2 years, 3 years, 4 years and at 5 years following the initial transplanting effort and subsequent replanting efforts. Photos of the mitigation site will be included.

9.2 Cedar Bayou (New Channel) and Sand Placement Areas

A baseline and post-construction monitoring program will be implemented to document shoreline morphology and channel conditions before and after construction at the Cedar Bayou Project site. The construction project will entail placement of sand on the beach and dredging a new channel open to the Gulf of Mexico. Because both of these actions will take place in the dynamic shoreline environment, it will be important to monitor how the physical setting is affected and how the shoreline and channel change over time. The purpose of the monitoring project is to document baseline conditions as well as changes after construction for both the newly constructed channel and the Gulf of Mexico beach that will receive the beach nourishment. The tasks will include:

- Beach profile surveys **Attachment 1, Sheet 8 of 16.**
No fewer than five locations along the beach in the project area will be identified for pre- and post-construction beach profile surveys. These locations will be surveyed before construction, immediately after completion of construction, and annually for five years after the completion of construction.
- Monitoring of the channel location, depth and width (at the mouth)
Immediately after completion of construction, a cross-sectional bathymetric survey of the new channel (at the mouth) will be performed to document the location, depth and width of the new channel. A similar survey will be performed one year and five years after the completion of construction.
- Aerial photography
Documentation of the project site will be performed with aerial photos prior to construction and at two times after the completion of construction – within 30 days and at one year.
- Habitat Community Survey
Habitat communities in the project area will be identified and delineated prior to the commencement of construction and within 30 days of the completion of construction. These surveys will include characterization of the community, GPS delineation of the community boundaries and photo documentation. A similar survey will be performed two years and five years after the completion of construction. If changes in the habitat community are identified, an evaluation of the change will be included on the report with recommendations for remediation or mitigation, if applicable.

The results of the baseline and post-construction monitoring program will be delivered to the USACE as four separate reports: one prior to construction, one immediately following completion of construction, one at one year following completion of construction and the last report documenting the results at five years after construction.

9.3 Tidal Flats /New Channel and Vinson Slough Area

Habitat communities, including tidal flats, will be identified and delineated at the project site prior to the commencement of construction. This survey will include characterization of the community, GPS delineation of the community boundaries and photo documentation, and the total acreage of each community.

Impacts to tidal flats would be partially self mitigating, with new tidal flats developing along the new channel. Approximately 3.8 acres of new intertidal habitat is expected to develop along the new channel. Additionally, with the return of tidal flow to Vinson Slough, new areas of tidal flats will develop as shown on **Figure 2**. An estimated 65 acres of intertidal habitat would be created by new tidal flow into Vinson Slough, however; the goal of the compensatory tidal flat mitigation is to create 15 acres of new intertidal area. The 15 acres is based on compensating for 11.36 acres of direct impacts and 3.46 acres of indirect impacts to tidal flats associated with the construction of the project. The area to be monitored will

include the new channel and the portion of Vinson Slough shown on **Figure 2**. New tidal flats will be determined by defining new (post construction) intertidal areas (areas between low tide and high tide as measured on the day of the survey).

The monitoring will be performed immediately following construction and at one year and five years after the completion of construction. The monitoring reports will include plans, maps and photographs to illustrate site conditions and will be delivered to the USACE, NMFS, USFWS, EPA, TPWD within 60 days of completion of each survey. If additional tidal flats do not develop as expected, the USACE will be consulted and alternate mitigation will be developed, if appropriate.

10.0 LONG-TERM MANAGEMENT PLAN

Once the mitigation site has reached minimum success criteria and the USACE has signed-off on the completion of the monitoring effort. It is expected that the planted smooth cordgrass will be self-sustaining. Because of the site's relatively remote location, it is not expected to be subject to development pressures or damage from recreational activities.

11.0 ADAPTIVE MANAGEMENT PLAN

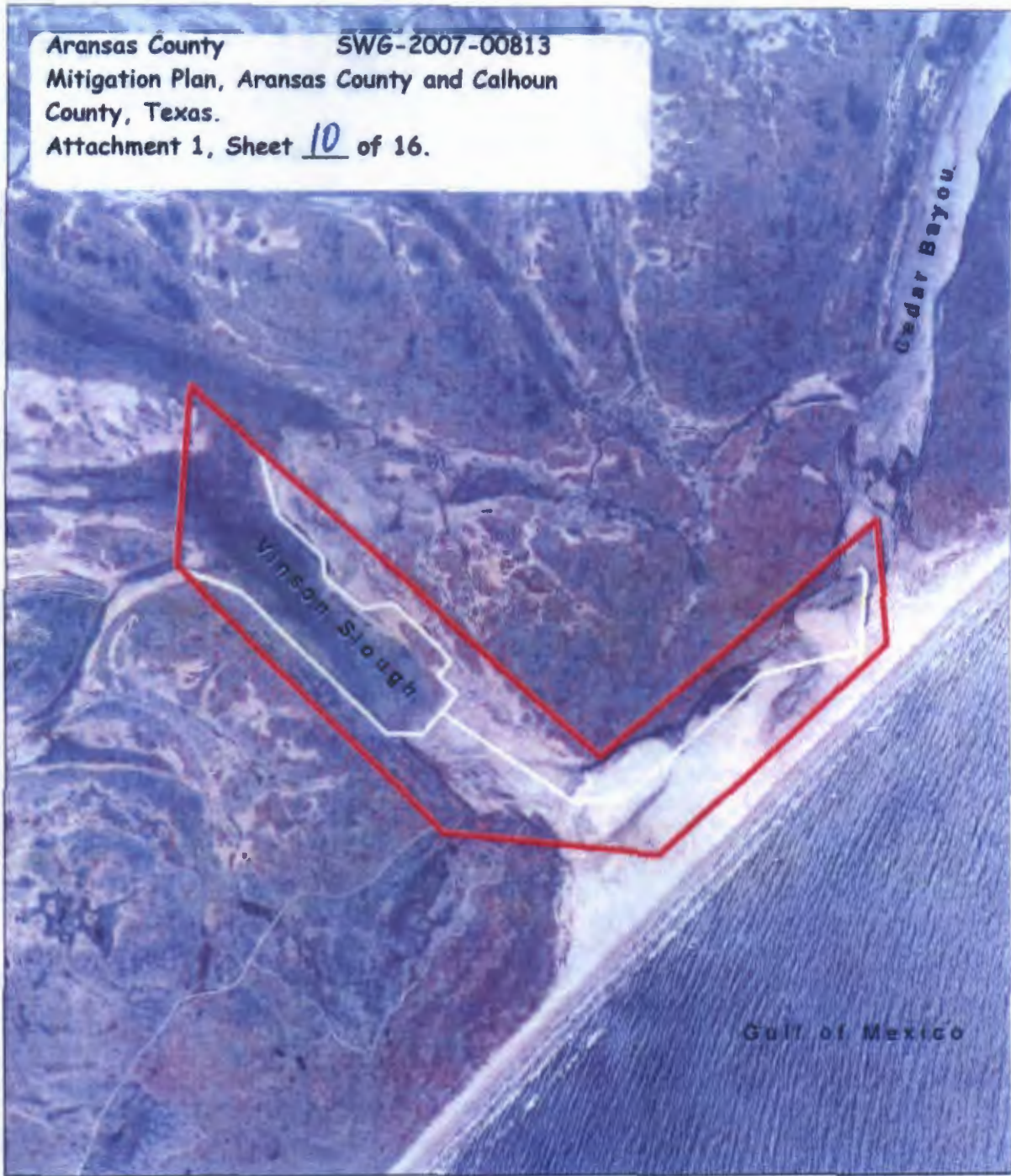
To address unforeseen changes in site conditions or other components of the compensatory mitigation site, Aransas County will utilize information from the monitoring program and consult with the USACE if changes are warranted. If, through the monitoring program, corrective efforts beyond those described in this mitigation plan are needed, Aransas County will develop a report documenting the problem and proposing a solution, and submit it to the USACE Regulatory Branch, Chief of Compliance, Corpus Christi Field Office within 30 calendar days of identification of the problem. Upon approval of the corrective action by the USACE, Aransas County will implement the proposed action.


12.0 FINANCIAL ASSURANCES

The permittee, Aransas County, does not currently have designated funding for the Cedar Bayou Project. Aransas County will seek a funding source (e.g., grant) that will include not only construction of the Cedar Bayou Project, but also the anticipated costs for: all environmental monitoring and studies at the Cedar Bayou Project site as required by the Department of the Army permit; construction of the compensatory mitigation project; and monitoring of the compensatory mitigation project. Therefore, monies will be dedicated to the construction and monitoring of the Cedar Bayou Project and of the compensatory mitigation project site at the time of the award of the construction contract for the Cedar Bayou Project. The scope of the contract for the construction and monitoring of the compensatory mitigation site will extend out for a minimum of the 5-year monitoring period and will include contingencies for re-planting and adaptive management measures.

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 Tidal Flat Survey Area
Area of Expanded
New Tidal Flat Development



1:24,000



Figure 2
Cedar Bayou and Vincent Slough Mitigation
Tidal Flat Survey and Reporting Area
Aransas and Calhoun Counties

Base Map 2009 NAIP (NC) Nueces County Texas

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 County, Texas.
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Location Map



Aransas National Wildlife Refuge

Northern Limit of Surveyed
 Potential Mitigation Area

Mesquite Bay

Bludworth Island

Cedar Point

GWW

Carlos Dugout

USACE DA 130B

Proposed Smooth Cordgrass
 Mitigation Area
 (Approx. 8.5 Ac)

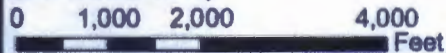
**Note: Smooth Cordgrass Mitigation
 Equals 6.5 Ac Total**

Cape Carlos

Carlos Bay

Notes:
 -Prepared by Belaire Environmental, Inc., October 19, 2010 (BPH).
 -Revised: February 25, 2011 (BPH).
 -Revised: April 13, 2011 (BPH).
 -For planning and permitting purposes only, not for construction.
 -Base map source: 0.5-meter NAIP imagery obtained from TNRIS;
 2009 Aransas County.

Southern Limit of Surveyed
 Potential Mitigation Area



Proposed Cedar Bayou Mitigation,
 Aransas County, Texas

Vicinity Map



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 Revised: February 25, 2011
 Revised: April 13, 2011
 Revised: May 18, 2011

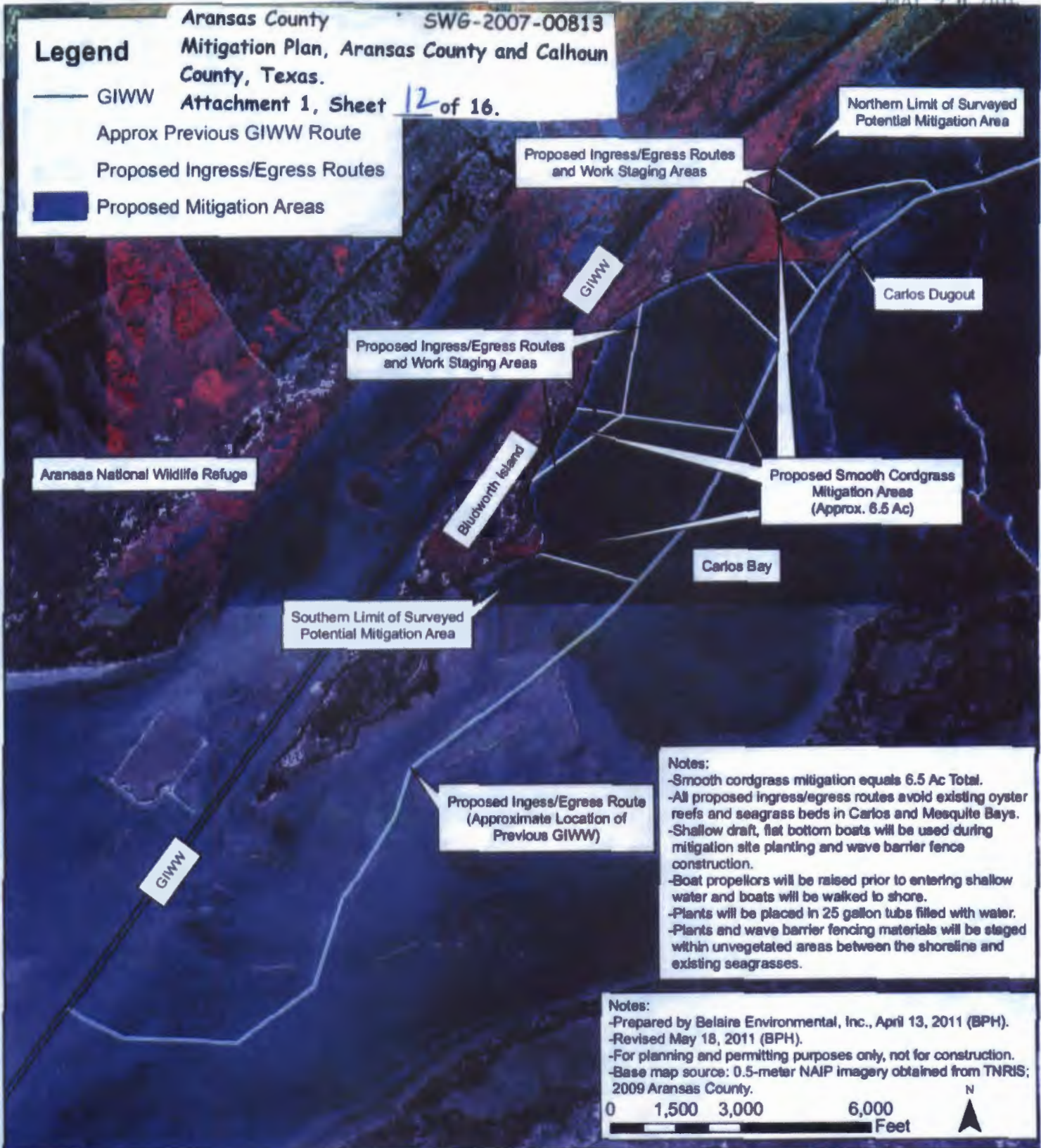
Aransas County SWG-2007-00813

Mitigation Plan, Aransas County and Calhoun County, Texas.

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Legend

- GIWW
- Approx Previous GIWW Route
- Proposed Ingress/Egress Routes
- Proposed Mitigation Areas



Northern Limit of Surveyed Potential Mitigation Area

Proposed Ingress/Egress Routes and Work Staging Areas

Carlos Dugout

Proposed Ingress/Egress Routes and Work Staging Areas

Aransas National Wildlife Refuge

Blueworth Island

Proposed Smooth Cordgrass Mitigation Areas (Approx. 6.5 Ac)

Carlos Bay

Southern Limit of Surveyed Potential Mitigation Area

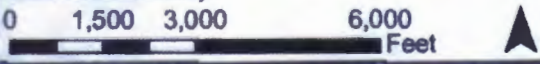
Notes:

- Smooth cordgrass mitigation equals 6.5 Ac Total.
- All proposed ingress/egress routes avoid existing oyster reefs and seagrass beds in Carlos and Mesquite Bays.
- Shallow draft, flat bottom boats will be used during mitigation site planting and wave barrier fence construction.
- Boat propellers will be raised prior to entering shallow water and boats will be walked to shore.
- Plants will be placed in 25 gallon tubs filled with water.
- Plants and wave barrier fencing materials will be staged within unvegetated areas between the shoreline and existing seagrasses.

Proposed Ingress/Egress Route (Approximate Location of Previous GIWW)

Notes:

- Prepared by Belaire Environmental, Inc., April 13, 2011 (BPH).
- Revised May 18, 2011 (BPH).
- For planning and permitting purposes only, not for construction.
- Base map source: 0.5-meter NAIP imagery obtained from TNRIS: 2009 Aransas County.



Proposed Cedar Bayou Mitigation, Aransas County, Texas

Proposed Access/Egress Routes & Proposed Work Staging Areas

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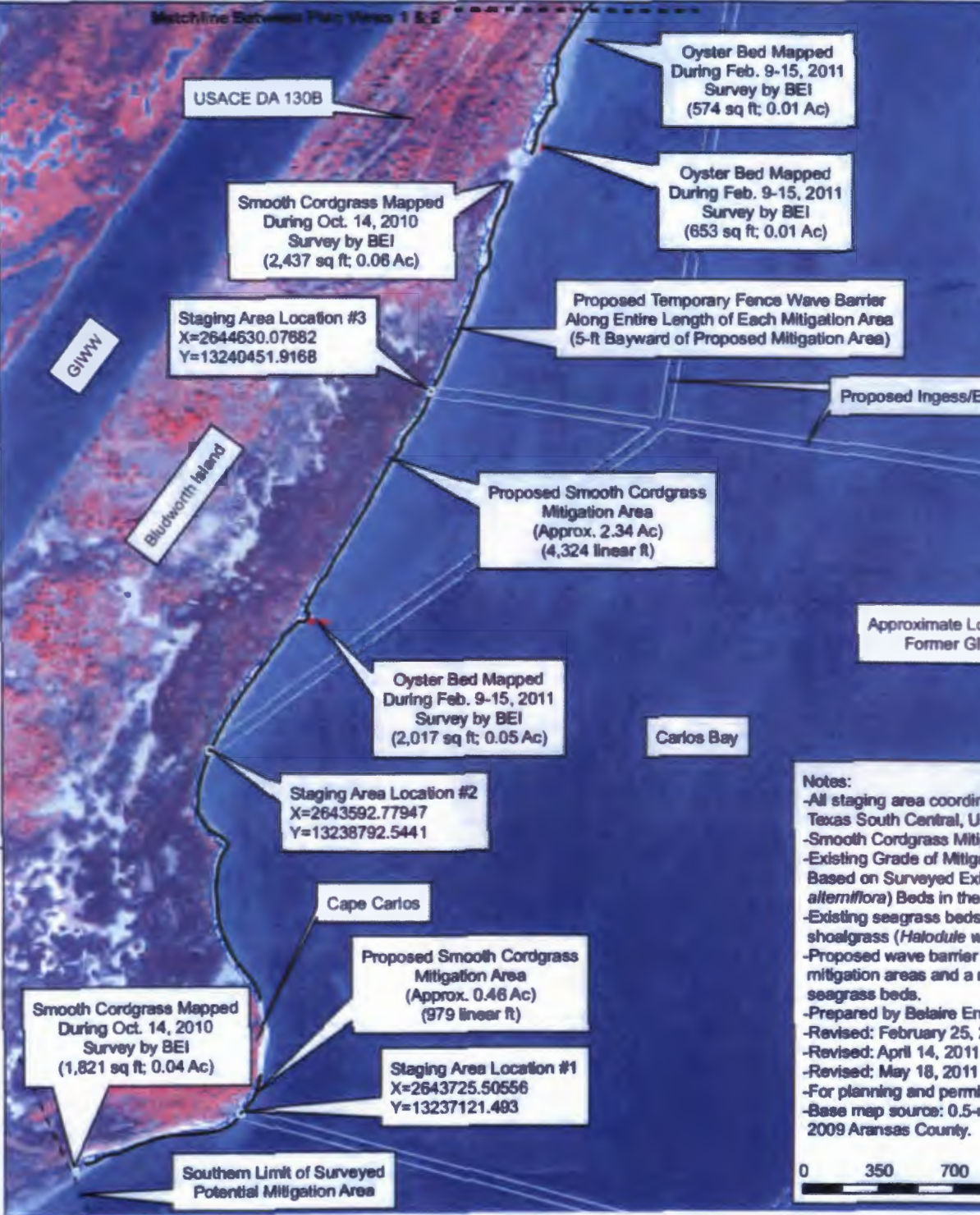
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Revised: February 25, 2011
Revised: April 13, 2011
Revised: May 18, 2011

Legend

- Staging Area Locations
- Approx Previous GIWW Route
- Proposed Fence Wave Barrier
- Ingress/Egress Routes
- Proposed Mitigation Areas
- Mapped Spartina Stands
- Mapped Oyster Beds



Notes:

- All staging area coordinates are shown in State Plane, NAD-83, Texas South Central, U.S. Survey Feet.
- Smooth Cordgrass Mitigation Equals 6.5 Ac Total.
- Existing Grade of Mitigation Area Varies from -0.5 to +1.0 ft MLLW Based on Surveyed Existing Smooth Cordgrass (*Spartina alterniflora*) Beds in the Vicinity.
- Existing seagrass beds in the vicinity beds are comprised of only shoalgrass (*Halodule wrightii*).
- Proposed wave barrier fencing will be located 5 ft bayward of mitigation areas and a minimum of 3 ft landward of existing seagrass beds.
- Prepared by Belaire Environmental, Inc., October 19, 2010 (BPH).
- Revised: February 25, 2011 (BPH).
- Revised: April 14, 2011 (BPH).
- Revised: May 18, 2011 (BPH).
- For planning and permitting purposes only, not for construction.
- Base map source: 0.5-meter NAIP Imagery obtained from TNRIS; 2009 Aransas County.



Proposed Cedar Bayou Mitigation,
Aransas County, Texas
Aransas County
Mitigation Plan, Aransas County and Calhoun
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Attachment 1, Sheet 13 of 16.
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Plan View 1: Proposed Smooth
Cordgrass Mitigation Area



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Revised: February 25, 2011
Revised: April 13, 2011
Revised: May 18, 2011

Legend

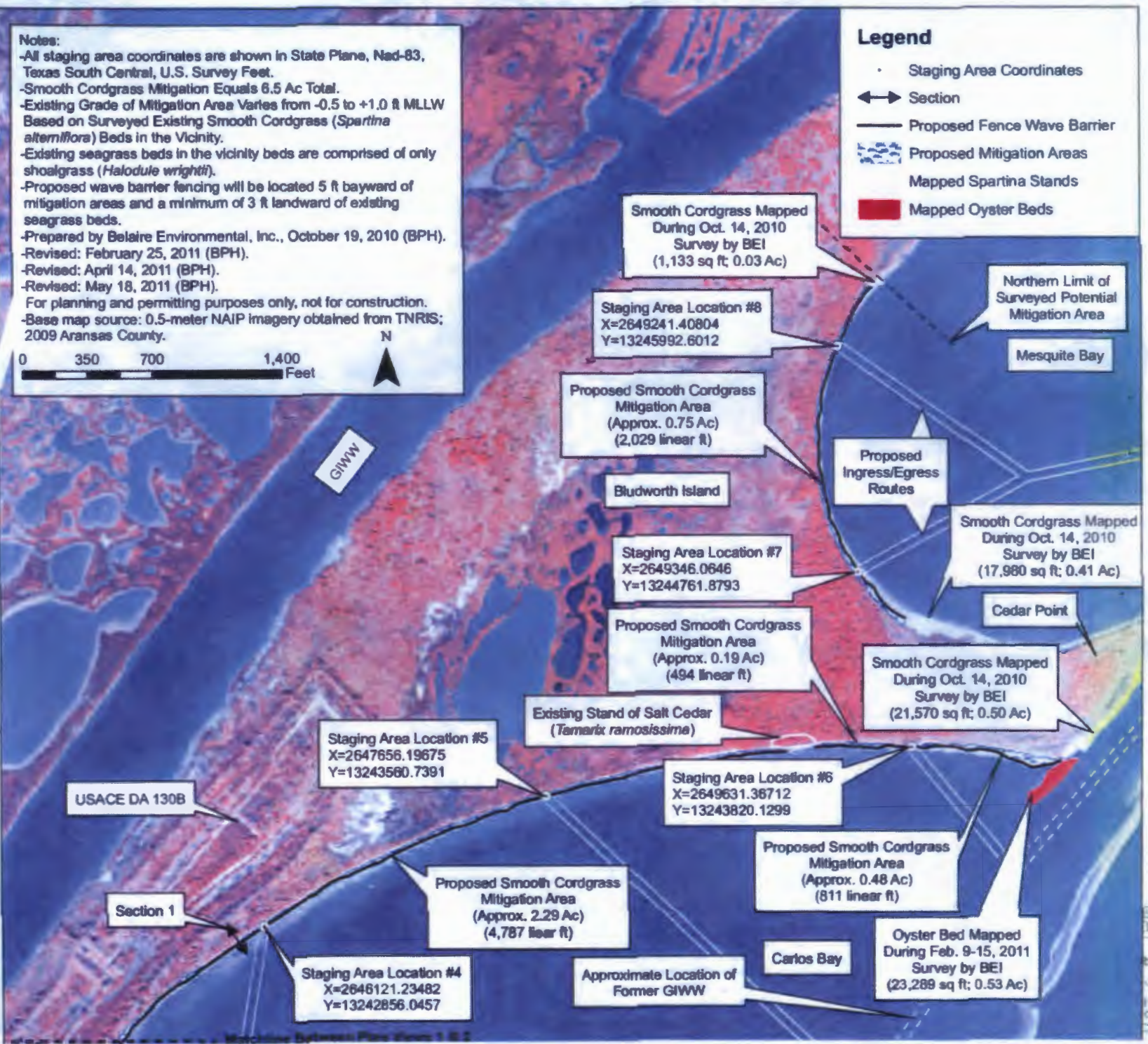
- Staging Area Coordinates
- ↔ Section
- Proposed Fence Wave Barrier
- ▨ Proposed Mitigation Areas
- ▨ Mapped Spartina Stands
- Mapped Oyster Beds

Notes:

- All staging area coordinates are shown in State Plane, Nad-83, Texas South Central, U.S. Survey Feet.
- Smooth Cordgrass Mitigation Equals 6.5 Ac Total.
- Existing Grade of Mitigation Area Varies from -0.5 to +1.0 ft MLLW Based on Surveyed Existing Smooth Cordgrass (*Spartina alterniflora*) Beds in the Vicinity.
- Existing seagrass beds in the vicinity beds are comprised of only shoalgrass (*Halodule wrightii*).
- Proposed wave barrier fencing will be located 5 ft bayward of mitigation areas and a minimum of 3 ft landward of existing seagrass beds.
- Prepared by Belaire Environmental, Inc., October 19, 2010 (BPH).
- Revised: February 25, 2011 (BPH).
- Revised: April 14, 2011 (BPH).
- Revised: May 18, 2011 (BPH).

For planning and permitting purposes only, not for construction.

-Base map source: 0.5-meter NAIP imagery obtained from TNRIS; 2009 Aransas County.



Proposed Cedar Bayou Mitigation,
Aransas County, Texas
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County, Texas.
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Plan View 2: Proposed Smooth
Cordgrass Mitigation Area

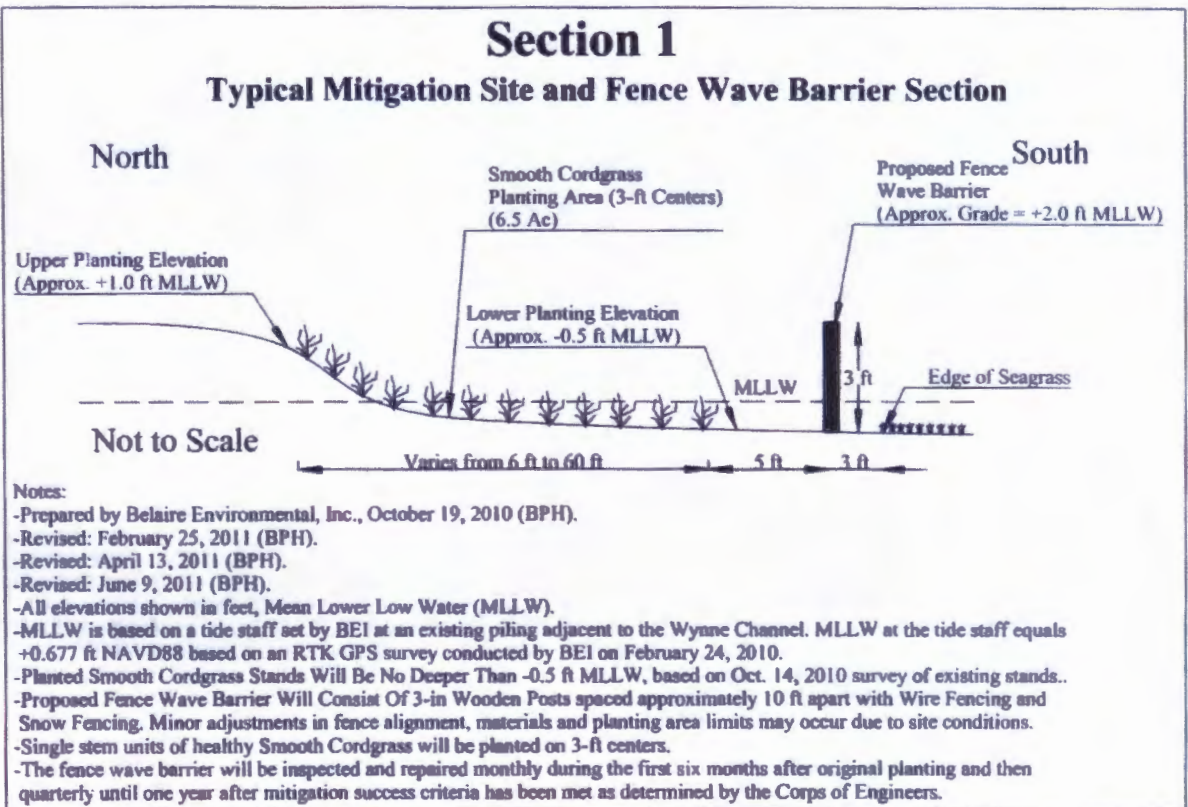


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Revised: April 13, 2011
Revised: May 18, 2011

MAY 24 2011



Proposed Cedar Bayou Mitigation,
 Aransas County, Texas

Section 1: Typical Mitigation Site &
 Fence Wave Barrier Section

PREPARED BY:

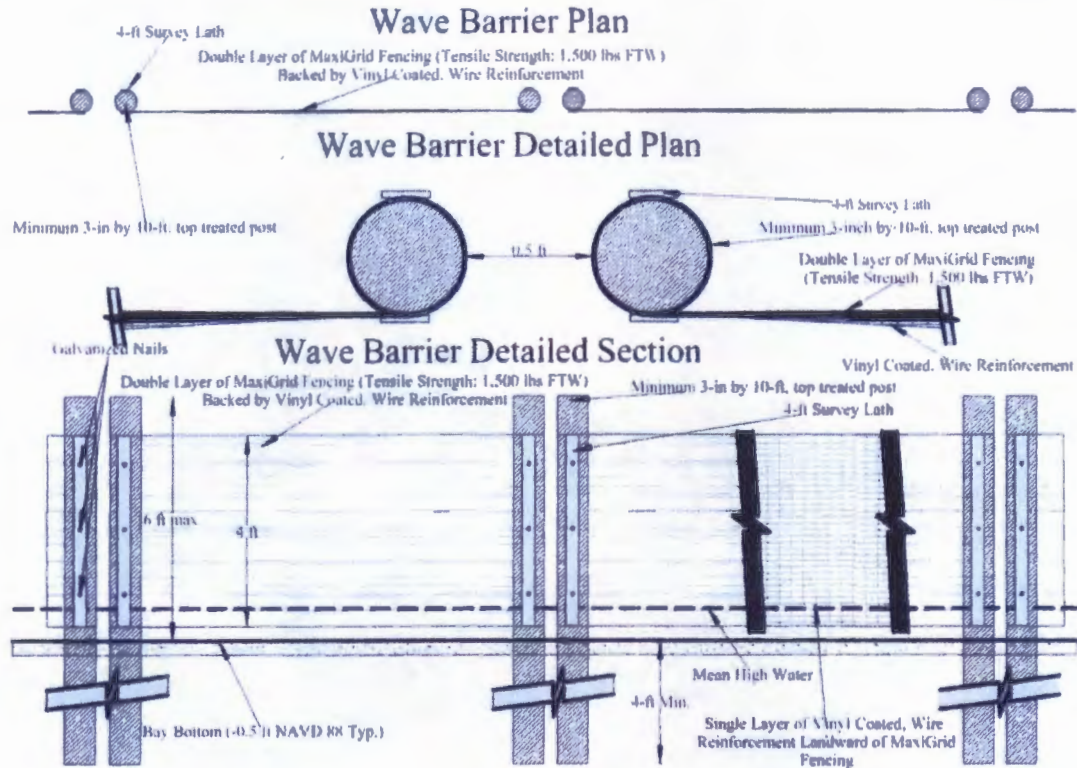
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 Revised: May 18, 2011
 Revised: June 9, 2011

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 County, Texas.
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Scale: none

- Notes:
- For permitting only, not for construction.
 - Each 15-ft section of wave barrier will consist of 2 layers of MaxiGrid fencing with a 3-inch by 10-ft minimum top treated post on each end. The ends of the MaxiGrid fencing will be wrapped entirely around the treated posts and secured either side with a 4-ft survey lath nailed on either side of the post. Three holes will be pre-drilled in each lath to facilitate nailing the laths to the posts using galvanized nails. One layer of vinyl coated wire fencing will be placed landward (behind) the MaxiGrid fencing for added strength.
 - Three plastic cable ties will also be used to further secure the fencing to each post.
 - Posts will be driven into place.
 - Prepared by Belaire Environmental, Inc., April 14, 2011 (BSG).
 - Revised: May 18, 2011 (BPII).

Proposed Cedar Bayou Mitigation,
 Aransas County, Texas

Detailed Wave Barrier Plan & Section

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 Revised: February 25, 2011
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 Revised: May 18, 2011

Ms. Denise Sloan
Attachment 1 – Dredge and Fill Certification
USACE Permit Application Number SWG-2007-00813
Page 1 of 3

WORK DESCRIPTION: As described in the public notice dated February 24, 2009, the interagency coordination notices dated July 9, 2009 and November 19, 2010, and the July 11, 2011, Environmental Assessment and Statement of Findings.

SPECIAL CONDITIONS: None

GENERAL: This certification, issued pursuant to the requirements of Title 30, Texas Administrative Code, Chapter 279, is restricted to the work described in the July 11, 2011, Environmental Assessment and Statement of Findings and shall be concurrent with the Corps of Engineers (COE) permit. This certification may be extended to any minor revision of the COE permit when such change(s) would not result in an impact on water quality. The Texas Commission on Environmental Quality (TCEQ) reserves the right to require full joint public notice on a request for minor revision. The applicant is hereby placed on notice that any activity conducted pursuant to the COE permit which results in a violation of the state's surface water quality standards may result in an enforcement proceeding being initiated by the TCEQ or a successor agency.

STANDARD PROVISIONS: These following provisions attach to any permit issued by the COE and shall be followed by the permittee or any employee, agent, contractor, or subcontractor of the permittee during any phase of work authorized by a COE permit.

1. The water quality of wetlands shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards including the General, Narrative, and Numerical Criteria.
2. The applicant shall not engage in any activity which will cause surface waters to be toxic to man, aquatic life, or terrestrial life.
3. Permittee shall employ measures to control spills of fuels, lubricants, or any other materials to prevent them from entering a watercourse. All spills shall be promptly reported to the TCEQ by calling the State of Texas Environmental Hotline at 1-800-832-8224.
4. Sanitary wastes shall be retained for disposal in some legal manner. Marinas and similar operations which harbor boats equipped with marine sanitation devices shall provide state/federal permitted treatment facilities or pump out facilities for ultimate transfer to a permitted treatment facility. Additionally, marinas shall display signs in appropriate locations advising boat owners that the discharge of sewage from a marine sanitation device to waters in the state is a violation of state and federal law.

Ms. Denise Sloan

Attachment 1 – Dredge and Fill Certification

USACE Permit Application Number SWG-2007-00813

Page 2 of 3

5. Materials resulting from the destruction of existing structures shall be removed from the water or areas adjacent to the water and disposed of in some legal manner.
6. A discharge shall not cause substantial and persistent changes from ambient conditions of turbidity or color. The use of silt screens or other appropriate methods is encouraged to confine suspended particulates.
7. The placement of any material in a watercourse or wetlands shall be avoided and placed there only with the approval of the Corps when no other reasonable alternative is available. If work within a wetland is unavoidable, gouging or rutting of the substrate is prohibited. Heavy equipment shall be placed on mats to protect the substrate from gouging and rutting if necessary.
8. Dredged Material Placement: Dredged sediments shall be placed in such a manner as to prevent any sediment runoff onto any adjacent property not owned by the applicant. Liquid runoff from the disposal area shall be retained on-site or shall be filtered and returned to the watercourse from which the dredged materials were removed. Except for material placement authorized by this permit, sediments from the project shall be placed in such a manner as to prevent any sediment runoff into waters in the state, including wetlands.
9. If contaminated spoil that was not anticipated or provided for in the permit application is encountered during dredging, dredging operations shall be immediately terminated and the TCEQ shall be contacted by calling the State of Texas Environmental Hotline at 1-800-832-8224. Dredging activities shall not be resumed until authorized by the Commission.
10. Contaminated water, soil, or any other material shall not be allowed to enter a watercourse. Noncontaminated storm water from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
11. Storm water runoff from construction activities that result in a disturbance of one or more acres, or are a part of a common plan of development that will result in the disturbance of one or more acres, must be controlled and authorized under Texas Pollutant Discharge Elimination System (TPDES) general permit TXR150000. A copy of the general permit, application (notice of intent), and additional information is available at: http://www.tceq.state.tx.us/nav/permits/wq_construction.html or by contacting the TCEQ Storm Water & Pretreatment Team at (512) 239-4671.

12. Upon completion of earthwork operations, all temporary fills shall be removed from the watercourse/wetland, and areas disturbed during construction shall be seeded, ripped, or given some other type of protection to minimize subsequent soil erosion. Any fill material shall be clean and of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters.
13. Disturbance to vegetation will be limited to only what is absolutely necessary. After construction, all disturbed areas will be revegetated to approximate the pre-disturbance native plant assemblage.
14. Where the control of weeds, insects, and other undesirable species is deemed necessary by the permittee, control methods which are nontoxic to aquatic life or human health shall be employed when the activity is located in or in close proximity to water, including wetlands.
15. Concentrations of taste and odor producing substances shall not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the water, or otherwise interfere with reasonable use of the water in the state.
16. Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms, putrescible sludge deposits, or sediment layers which adversely affect benthic biota or any lawful uses.
17. Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of reservoirs, lakes, and bays.
18. The work of the applicant shall be conducted such that surface waters are maintained in an aesthetically attractive condition and foaming or frothing of a persistent nature is avoided. Surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.
19. This certification shall not be deemed as fulfilling the applicant's/permittee's responsibility to obtain additional authorization/approval from other local, state, or federal regulatory agencies having special/specific authority to preserve and/or protect resources within the area where the work will occur.