

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF PAGES 1   2	
2. AMENDMENT/MODIFICATION NO. 000002	3. EFFECTIVE DATE 07/11/2012	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY USDA-NRCS-LOUISIANA STATE OFFICE 3737 GOVERNMENT ST. ALEXANDRIA LA 71302	CODE NRCS-LA-127217	7. ADMINISTERED BY (If other than Item 6)		CODE
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)		(x) 9A. AMENDMENT OF SOLICITATION NO. AG-7217-S-12-0009	9B. DATED (SEE ITEM 11) 05/21/2012	
CODE		10A. MODIFICATION OF CONTRACT/ORDER NO.		10B. DATED (SEE ITEM 13)
FACILITY CODE		<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>		
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this amendment is to provide revised drawings and specifications.

1. Remove Special Provisions SP-1 to SP-5 and replace with SP-1 to SP-5 dated July 6, 2012, Amendment 2.

2. Remove Construction Specification 7 - Construction Surveys 7-1 to 7-7 and replace with Construction Specification - Construction Surveys 7-1 to 7-7 dated July 6, 2012, Amendment 2.

3. Remove Construction Specification 23 - Earthfill 23-1 to 23-7 and replace with Construction Specification 23 - Earthfill 23-1 to 23-7, dated July 6, 2012, Amendment 2.

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) VICKI SUPLER	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)	16C. DATE SIGNED

**CONTINUATION SHEET**REFERENCE NO. OF DOCUMENT BEING CONTINUED  
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NAME OF OFFEROR OR CONTRACTOR

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>4. Remove Drawing Sheets 2 to 6 of 21 and replace with Drawing Sheets 2A2 to 6A2 of 21.</p> <p>5. Remove Drawing Sheets 14, 16, 17, 18, and 19 of 21 and replace with Drawing Sheets 14A2, 16A2, 17A2, 18A2 and 19A2 of 21.</p> <p>All other terms and conditions of the solicitation remain unchanged and in full force and effect.</p>				

## SPECIAL PROVISIONS

1. Known pipelines and utilities are shown in the construction drawings. It is possible that some pipelines and/or utilities exist that have not been shown. The contractor shall be on the alert for such pipelines and utilities, and shall report them immediately to the Contracting Officer (CO). The contractor shall notify Louisiana One Call (LA ONE CALL) at 1-800-272-3020 96 hours prior to digging or driving piling in order to locate utility lines.
2. The contractor shall notify the US Coast Guard (USCG) Eighth District to prepare a Notice to Mariners as required. Notification, with a copy of the permit approval and drawings should be mailed to the following address within 48 hours of issuance of the Notice to Proceed:

CDR 8th Coast Guard District (dpw)  
Hale Boggs Federal Bldg.  
500 Poydras St. Suite 1230  
New Orleans, La. 70130-3396

E-mail notification must also be provided to the USCG Eighth District, Aids to Navigation Branch, Marine Information Office seven (7) to ten (10) days prior to dredging or construction operations. The Marine Information Office may be reached by e-mail at [d8marineinfo@d8.uscg.mil](mailto:d8marineinfo@d8.uscg.mil). Telephone inquiries may be directed to 504-671-2327. The contractor shall provide documentation of the notification to the NRCS CO.

3. All elevations stated in the plans and specifications refer to NAVD 88, Geoid99. Horizontal position refers to Louisiana State Plane feet, NAD 83.
4. The contractor's responsibilities include, but are not limited to, the following:
  - a. The Contractor shall submit a Hurricane Evacuation Plan and an Oil Spill Response Plan to the CO before the notice to proceed is issued as part of this contract.
  - b. Repair or replace, in like manner any fences, roads, bridges, launches, trails, waterways, and other facilities which may be damaged or destroyed during the construction of the structures and/or appurtenances installed as part of the project, and removal or disposal of all debris associated with construction of the project.
  - c. All tools, equipment, and other property (excluding project features) taken upon or placed upon the land or water bottoms by the contractor shall remain the property of the contractor. All such tools, equipment and other property shall be removed by the contractor prior to the final payment being made.
  - d. In the event of surface alterations resulting from activities of the contractor, beyond those alterations absolutely necessary for accessing the sites and conducting project activities, the contractor is responsible for restoring the site, to the greatest extent practical, to conditions existing at commencement of contractor activities, or the contractor or its insurance carrier will be responsible for the cost of such restoration. The contractor shall be responsible for removing all litter from the project sites upon completion of authorized work.
  - e. The contractor is made aware that occasional access by landowners, lessees and oilfield and utility company employees throughout the work area may be required. The contractor shall provide for such passage in a reasonably adequate and satisfactory manner, as determined by the contracting officer, on such occasions.
  - f. The contractor shall include the State of Louisiana as an additional insured on any and all pertinent liability insurance policies maintained by the contractor during the construction of the project.
  - g. The contractor's movement in the project area shall be limited to the work limits and access routes stated in the specifications and as shown on the plans.

- h. The contractor shall notify the contracting officer within seven (7) calendar days of occurrence of any written or oral notice of conflict between contractor and any subcontractor/supplier regarding non-payment for services or supplies.

In the event that a lawsuit is filed and the prime contractor is notified of such lawsuit while the contract is active, the contractor shall notify the contracting officer within seven (7) calendar days of receipt of such notice.

5. The contractor is advised that tidal fluctuations in this area will vary due to weather and daily tides. Historical tide data can be obtained from the U.S. Army Corps of Engineers (USACE) or the U.S. Geological Survey (USGS). The contractor is responsible for taking the appropriate measures to ensure that tidal fluctuations do not interfere with the execution of the contract.
6. Airboats and small outboards shall be used whenever practical to reduce the usage of marsh buggies. Established trails and access canals shall be utilized by airboats and small outboards whenever possible. Marsh buggy use shall be limited to the construction limits of the project features.
7. The contractor's navigation requirements include, but are not limited to, the following:
  - a. All marine vessels shall follow the Inland Navigation Rules which are contained in the following Federal Laws or Regulation: International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608), and the Inland Navigation Rules Act of 1980 (Public Law 96-591, 94 Stat. 3415, 33 U.S.C. 2001-2038). These rules can be found on the Internet at [http://www.navcen.uscg.gov/mwv/navrules/rotr\\_online.htm](http://www.navcen.uscg.gov/mwv/navrules/rotr_online.htm). All marine vessels shall display the lights and day shapes required by Part C – Lights and Shapes of the Inland Navigation Rules. The location, type, color, and size of the lights and day shape shall be in accordance with Annex I – Positioning and Technical Details of Lights and Shapes. Any vessel engaged in dredging is considered a “Vessel restricted in her ability to maneuver” and shall display all the lights and shapes required in Rule 27: Vessel Not Under Control.
  - b. The contractor shall operate in compliance with pertinent U.S. Coast Guard (USCG) regulations and shall conduct work in such a manner as to minimize any obstruction to navigation. If the Contractor's dredge or any other floating equipment obstructs any navigation, making navigation difficult or endangering the passage of vessels, said dredge or equipment shall be promptly moved on the approach of any vessel to the extent necessary to afford a practical passage. Upon completion of work, the contractor shall promptly remove the dredge and other floating equipment, as well as ranges, buoys, piles and any other marks or objects that are not permanent project features.
  - c. All vessels that are regulated by the USCG shall have current inspection and certifications issued by the USCG before commencing construction. A copy of the certification shall be posted in a public area on board the vessel.
  - d. All dredge and quarter boats not subject to USCG inspection and certification or not having a current American Bureau of Shipping (ABS) Classification shall be inspected in working mode annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS). The surveyor must have at least five years experience in commercial marine vessels and equipment. All other vessels shall be inspected before being placed in use and at least annually by a qualified person. The inspection shall be documented. A copy of the most recent inspection report shall be posted in a public area on board the vessel. A copy of the inspection shall be furnished to the Contracting Officer's Representative (COR) upon request. The inspection shall be appropriate for the intended use of the vessel. The inspection, as a minimum, shall evaluate the structural integrity of the vessel and compliance with the National Fire Protection Association code 302 – Pleasure and Commercial Motor Craft.

- e. Officers and crew shall be in possession of a current valid USCG license or a correctly endorsed document as required by the USCG, which shall be posted in a public area on board the vessel.
8. The access route shall be on the northeast corner of the project area and shall occur from open water on the bayside of the island as shown on the construction drawings. At no time shall equipment be used on Raccoon Island outside of the work limits. See sheet 2A2 of the construction drawings for the access route and the work limits.
9. Disturbing, injuring, collecting or attempting to disturb, injure or collect any flora, fauna, or other property is prohibited.
10. Construction activities on Raccoon Island (Isles Dernieres Barrier Islands Refuge) shall be closely coordinated with the Louisiana Department of Wildlife and Fisheries (LDWF). Raccoon Island is the most important brown pelican and waterbird nesting colony in Louisiana. Access to Raccoon Island by personnel or equipment will need prior approval from LDWF and may require on site LDWF personnel for such activities. The contact person is Cassidy LeJeune at 337-373-0032.
11. Prior to the commencement of any dredging activity in Outer Continental Shelf (OCS) waters, a lease agreement was executed between the federal project sponsor and the U.S. Department of Interior - Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE). As per conditions specified in the lease, BOEMRE requirements will be adhered to during the dredging operation as stated in the Special Provisions Attachment 1.
12. The project area lies within a dynamic coastal environment subject to significant changes in environmental conditions. As a result, changes to the configuration of the shoreline and marsh creation area may have occurred.
13. **No construction activities on Raccoon Island shall be performed between March 1 and August 31. See sheet 2 of the construction drawings for detailed notes on containment dike construction.**
14. Additional contractor responsibilities near pipelines, other utilities and structures are as follows.
  - a. ALL PIPELINES
    - 1) At least 96 hours but not more than 120 hours in advance of any work within 50 feet of a pipeline right of way within state waters, the contractor shall notify Louisiana One Call at 1-800-272-3020 and the designated pipeline company representatives listed below. Within the Outer Continental Shelf, the contractor must also comply with the BOEMRE requirement of a 300 meter “no dredge” setback from existing pipelines.
    - 2) The contractor shall provide written documentation to the CO if a pipeline company chooses not to have a representative on site during construction activities in the vicinity of their pipeline.
    - 3) No excavation will be allowed within 50 feet of the center line of any pipeline unless otherwise approved by the pipeline representative and the COR. No activities that will result in the reduction of the existing cover over any pipeline will be permitted.
    - 4) Barges or other watercraft shall not anchor, spud, or dredge within the pipeline right-of-way (ROW) without specific prior approval from the pipeline company. All vessels shall be floating when crossing any pipeline. Spuds shall be welded or pinned up while traveling in and/or crossing any pipeline ROW.

- 5) No heavy construction equipment will operate (place an operating load) within any pipeline ROW without specific prior approval from the pipeline company. When required and approved by the pipeline company, timber mats will be utilized when crossing.
- 6) The contractor shall cross pipelines only at locations designated by the pipeline company and in the manner approved by the pipeline company. The contractor shall not remove the soil cover over the pipeline. Pipeline companies may require the contractor to cross their pipelines at high tide and during daylight hours only; this will be determined by the agreement the contractor has with the pipeline company.
- 7) The contractor shall schedule a pre-work meeting with the associated pipeline company to discuss all aspects of the planned activities, pipeline marking schedule, pipeline crossing locations, and excavations within 50 feet of pipelines within state waters as well as establish lines of communication. Within the Outer Continental Shelf, the contractor must also comply with the BOEMRE requirement of a 300 meter “no dredge” setback from existing pipelines.
- 8) Unless otherwise approved by the COR and pipeline representative, all open excavations made by the contractor that are closer than fifty feet to a pipeline within state waters shall be backfilled at the conclusion of each day.
- 9) Any pipeline markers damaged or removed by the contractor shall be replaced within 24 hours of such damage or removal.
- 10) All equipment crossings of the pipeline shall be marked or flagged.
- 11) The contractor shall be liable for any expense, loss or damage to any pipeline due to the presence his/her equipment/operations in the vicinity of the pipeline, including and without limitation to coating repair, pipe replacement, operational downtime or product loss that the pipeline company may sustain resulting from the operations or activities of the contractor, its agents or employees during construction for any project feature.
- 12) If the contractor’s facilities or related equipment are damaged or destroyed or if said operations and equipment must be relocated or removed due to any emergency, operational or maintenance requirements arising out of the day to day business activities of any pipeline company, the pipeline company shall not be liable to the contractor or to any other person or entity for any damages whatsoever, including, for emphasis only and not by way of limitation, damages of any type arising from the loss of product, loss of profit, interruption of business activity or business loss of any kind. Additionally, any subsequent repair and or reinstallation of said facilities shall be at the sole (100%) expense of the contractor.

b. PIPELINE CONTACT INFORMATION

Trunkline Gas Company (a Williams Company)

Contact **Bennett Comeaux** of Trunkline Gas Company 48 hours prior to performing any work in the vicinity of the pipeline right of way at:

**4094 Hwy 56**  
**Houma, LA 70363**  
**985-876-5712 office**  
**337-350-0498 cell**

Williams Energy Services / Transco

Contact **Diane Cassalena** of Transco 48 hours prior to performing any work in the vicinity of the pipeline right of way at:

**60825A Highway 1148 West**  
**Plaquemine, LA 70764**  
**225-685-1419 office**

# Construction Specification 7—Construction Surveys

## 1. Scope

The work consists of performing all surveys, measurements, and computations required by this specification.

## 2. Equipment and material

Equipment for construction surveys shall be of a quality and condition to provide the required accuracy. The equipment shall be maintained in good working order and in proper adjustment at all times. Records of repairs, calibration tests, accuracy checks, and adjustments shall be maintained and be available for inspection by the engineer. Equipment shall be checked, tested, and adjusted as necessary in conformance with manufacturer's recommendations.

Material is field notebooks, stakes, templates, platforms, equipment, spikes, steel pins, tools, and all other items necessary to perform the work specified.

## 3. Quality of work

All work shall follow recognized professional practice and the standards of the industry unless otherwise specified in section 9 of this specification. The work shall be performed to the accuracy and detail appropriate for the type of job. Notes, sketches, and other data shall be complete, recorded neatly, legible, reproducible and organized to facilitate ease in review and allow reproduction of copies for job documentation. Survey equipment that requires little or no manual recording of field data shall have survey information documented as outlined in section 9 of this specification.

All computations shall be mathematically correct and shall include information to identify the bid item, date, and who performed, checked, and approved the computations. Computations shall be legible, complete, and clearly document the source of all information used including assumptions and measurements collected.

If a computer program is used to perform the computations, the contractor shall provide the engineer with the software identification, vendor's name, version number, and other pertinent data before beginning survey activities. Computer generated computations shall show all input data including values assigned and assumptions made.

The elevations of permanent and temporary bench marks shall be determined and recorded to the nearest 0.01 foot. Differential leveling and transit traverses shall be of such precision that the error of vertical closure in feet shall not exceed plus or minus 0.1 times the square root of the traverse distance in miles. Linear measurements shall be accurate to within 1 foot in 5,000 feet, unless otherwise specified in section 9 of this specification. The angular error of closure for transit traverses shall not exceed 1 minute times the square root of the number of angles turned.

The minimum requirements for placing slope stakes shall be at 100-foot stations for tangents, as little as 25 feet for sharp curves, breaks in the original ground surface and at any other intermediate stations necessary to ensure accurate location for construction layout and measurement. Slope stakes and cross sections shall be perpendicular to the centerline. Significant breaks in grade shall be determined for cross sections. Distances shall be measured horizontally and recorded to the nearest 0.1 foot. Side shots for interim construction stakes may be taken with a hand level.

Unless otherwise specified in section 9 of this specification, measurements for stationing and establishing the location of structures shall be made to the nearest 0.1 foot.

Elevations for concrete work, pipes, and mechanical equipment shall be determined and recorded to the nearest 0.01 foot. Elevations for earth work shall be determined and recorded to the nearest 0.1 foot.

## 4. Primary control

The baselines and bench marks for primary control, necessary to establish lines and grades needed for construction, are shown on the drawings and have been located on the job site.

These baselines and bench marks shall be used as the origin of all surveys, layouts, and measurements to establish construction lines and grades. The contractor shall take all necessary precautions to prevent the loss or damage of



primary control points. Any stakes or control points lost or damaged by construction activity will be reestablished by the contractor or at contractor expense.

## 5. Construction surveys

Before work starts that requires contractor performed surveys, the contractor shall submit in writing for the engineer's review: the name, qualifications, and experience of the individuals to be assigned to the survey tasks.

**Method 1**—Contractor performed surveys shall include:

- checking and any supplemental or interim staking
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

**Method 2**—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payment
- other surveys as described in section 9 of this specification

**Method 3**—Contractor performed surveys shall consist of all work necessary for:

- establishing line and grade for all work
- setting slope stakes for all work
- checking and any supplemental or interim staking
- establishing final grade stakes
- performing quantity surveys, measurements, and computations for progress payments
- performing original (initial) and final surveys for determinations of final quantities
- other surveys as described in section 9 of this specification.

## 6. Staking

The construction staking required for the item shall be completed before work on any item starts. Construction staking shall be completed as follows or as otherwise specified in section 9 of this specification:

**Clearing and grubbing**—The boundary of the area(s) to be cleared and grubbed shall be staked or flagged at a maximum interval of 200 feet, closer if needed, to clearly mark the limits of work. When contractor staking is the basis for determining the area for final payment, all boundary stakes will be reviewed by the engineer before start of this work item.

**Excavation and fill**—Slope stakes shall be placed at the intersection of the specified slopes and ground line. Slope stakes and the reference stakes for slopes shall be marked with the stationing, required cut or fill, slope ratio, and horizontal distance from the centerline or other control line. The minimum requirements for placing slope stakes is outlined in section 3, Quality of work.

**Structures**—Centerline and offset reference line stakes for location, alignment, and elevation shall be placed for all structures.

## 7. Records

All survey data shall be recorded in fully identified standard hard-bound engineering survey field notebooks with consecutively numbered pages. All field notes and printed data shall include the purpose or description of the work, the date the work was performed, weather data, sketches, and the personnel who performed and checked the work. Electronically generated survey data and computations shall be bound, page numbered, and cross referenced in a bound field notebook containing the index for all survey activities. All work shall follow recognized professional practice.

The construction survey records shall be available at all times during the progress of the work for examination and use by the engineer and when requested, copies shall be made available. The original field notebooks and other records shall be provided to and become the property of the owner before final payment and acceptance of all work.

Complete documentation of computations and supporting data for progress payments shall be submitted to the engineer with each invoice for payment as specified in section 9 of the specification. When the contractor is required to conduct initial and final surveys as outlined in section 5, Construction Surveys, notes shall be provided as soon as possible after completion to the engineer for the purpose of determining final payment quantities.

## 8. Payment

**Method 1**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds, after presentation of correct and accurate invoices by the contractor showing related costs and evidence of the charges of suppliers, subcontractors, and others for supplies furnished and work performed. Invoices for the total amount of the contract price will not be accepted until all surveys are complete and required documentation has been determined complete. If the total of such payments is less than the lump sum contract price for this item, the unpaid balance will be included in the final contract payment. Payment of the lump sum contract price will constitute full compensation for completion of all work under the bid item.

**Method 2**—For items of work for which lump sum prices are established in the contract, payment is made as the work proceeds with progress payment amounts determined as a percentage of the total work planned as projected from the contractor's approved construction schedule. Payment of the lump sum contract price will constitute full compensation for completion of all work under this bid item.

**All Methods**—Payment will not be provided under this item for the purchase price of materials or equipment having a residual value.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the item to which they are made subsidiary are identified in section 9 of this specification.

## 9. Items of work and construction details

## 9. Items of Work and Construction Details

Items of work to be performed in conformance with this specification and the construction details therefore are:

### a. Bid Item 2, Construction Surveys

(1) This item shall consist of all work necessary by the Contractor to check NRCS provided surveys, perform supplemental or interim staking for the Contractor's own use, perform progress payment surveys, and computations for progress payments, and any other surveys the Contractor feels are required which are not specifically indicated to be provided by the NRCS.

(2) Under this specification the NRCS will provide basic staking utilizing NAD 83, NAVD 88, and Geoid99 datum that includes the following:

- Centerline alignment at all PI's and at 200 foot intervals for the containment dikes and berm limits. **Note: The final location of containment dike PI's may be adjusted in the field at the time of stake out by the COR.**
- Limits of the borrow area staked at all PI's
- Access route and pipeline corridor to marsh creation area at all PI's and at 200' intervals
- The location for each staff gauge in the marsh creation area
- Establish the elevation for each reflective depth gauge on each staff gauge post

a. The above staking will be provided on a one time basis by NRCS. If such posts or marks are destroyed, the Contractor will bear sole responsibility for replacement.

b. NRCS will also perform periodic construction checks.

c. Additionally NRCS will perform the before dredge and after dredge surveys of the borrow areas for purposes of computing final quantities for payment as well as performing interim surveys. NRCS surveys for interim and final quantity computations will be as defined below.

#### i. Equipment

##### 1. Vessel

The vessel performing hydrographic surveys shall be capable of providing a stable platform for the effective operation of the sounding equipment.

##### 2. Fathometer

The fathometer shall be an echo depth sounding instrument capable of recording depths from 3 to 100 feet below the transducer with an accuracy of one half of one percent (.5%) for the range. The surveys will be performed with a dual frequency transducer. The acoustic frequency shall be between 8 kHz and 28 kHz inclusive for the low frequency range and 200 kHz and 210 kHz inclusive for the high frequency range. The fathometer shall be capable of providing an electronic recording and or analog recording of the depth measurements taken during the survey. A copy of all electronic recordings shall be retained in an unedited state.

Calibration of the fathometer shall be made at a minimum of two times each day hydrographic surveys are performed. The calibration shall consist of both a sound velocity check and a bar check. Both checks shall be performed at depths of five-foot intervals to

extend to the maximum anticipated depth to be surveyed that day. The checks shall be performed prior to commencement and upon completion of each day's surveys.

A daily tide file shall be generated from a staff gauge tied to the project control benchmarks while performing the hydrographic surveys and shall be used to make corrections to the hydrographic survey data. All survey data used in quantity calculations shall be corrected for tides, differential movement of survey vessel, and any other factors affecting the final position of the water bottom points. All correction files used shall be documented and provided as part of the electronic survey data.

3. Positioning Equipment

Equipment for positioning will be by differential GPS utilizing the established control indicated on the plans. Horizontal and vertical position of the transducer will be determined using differential GPS equipment and integrated with the fathometer data utilizing the latest version of "Hypack" software to develop the horizontal and vertical position of water bottom points.

ii. Before Dredge Surveys

The entire borrow area shall be surveyed on the survey lines shown in the plans by NRCS **within 30 days before** the start of the contractor's dredging operation utilizing the equipment described above.

iii. Interim Dredge Surveys

NRCS shall perform interim surveys approximately every 200,000 cubic yards of material dredged. The estimated dredge volumes in the biweekly BOEMRE reports as well as communication between NRCS and the contractor will be used for scheduling the interim surveys. These surveys shall be performed utilizing the equipment described above. The location of the survey lines will be the same as the before dredge surveys, as shown in the plans.

A pre-dredge shallow hazards survey utilizing the equipment described above may be required after a storm event.

iv. After Dredge Surveys (Final Quantity Surveys)

Upon notification from the contractor that dredging has been completed as prescribed in Specification 21 and as concurred in by the COR, NRCS shall perform the final quantity survey **within 72 hours of notification**. This survey shall be performed utilizing the equipment described above. The location of the survey lines will be the same as the before dredge surveys, as shown in the plans.

(3) Contractor construction surveys under this specification shall be in accordance with Method 2 of Section 5, Construction Surveys, of this specification with the following additional requirements:

- a. Water elevations shall not be used as an elevation check or as the primary control for any surveys related to the containment dikes or staff gauges. Geoid99 shall be used for all surveys.

- b. Construction check and progress surveys of the containment dikes:
- i. The containment dikes shall be surveyed (centerline profile and cross sections) prior to acceptance. Surveys shall be plotted in Microstation and provided to the CO a minimum of 72 hours prior to requesting payment of a reach.
  - ii. Cross-sections of the containment dikes shall be taken at intervals not to exceed 200 feet with shots taken for the centerline profile taken at minimum of 25-foot intervals.
- c. Hydrographic surveys of the borrow area for purposes of computing quantities for progress payments shall be performed by the contractor.
- i. The contractor shall submit to the Contracting Officer at the pre-construction meeting for approval the equipment and computer software to be used, methods of surveying (with previous examples) and methods of computing quantities for purpose of determining quantities for progress payments. The approved equipment, software, and methods shall not be changed during the contract unless otherwise approved by the CO. The contractor is **strongly** encouraged to utilize like equipment and methods as described above for NRCS performed surveys.
  - ii. Any fathometer utilized and its calibration shall comply with the requirement of paragraph 9.a.(2)b.i.2. above.
  - iii. Before Dredge Survey

The contractor shall perform a before dredge survey utilizing their approved equipment and methods **within 30 days** before the start of dredging operations. The surveys shall be taken on the lines shown in the plans. The contractor shall provide the before dredge survey data to NRCS **two weeks prior** to the start of dredging operations. Volume calculations shall be performed utilizing the Philadelphia Method within Hypack. The contractor shall provide drawings in \*.dgn or \*.dxf format compatible with MicroStation. The drawings shall include a plan view with contours and all survey lines and a set of sheets showing all profile and cross sections. All raw survey data shall be provided in \*.asc or \*.dat files.

- iv. After Dredge Surveys (Progress Surveys)

The contractor shall perform after dredge surveys utilizing the same approved equipment and methods utilized for the before dredge surveys. The after dredge surveys shall be taken on the same lines as the before dredge surveys (the lines shown in the plans). The surveys shall encompass the entire area for which progress payment will be requested. Volume calculations shall be performed utilizing the Philadelphia Method within Hypack. Drawings shall be in \*.dgn or \*.dxf format compatible with MicroStation and shall include a plan view with contours and all survey lines and a set of sheets showing all profile and cross sections. All raw survey data shall be provided in \*.asc or \*.dat files.

- v. Data

Soundings shall be taken to the nearest 0.1-foot vertical and X and Y coordinates of the location should be to the nearest foot.

All data gathered for progress quantity surveys by the contractor shall be recorded as prescribed in this specification and submitted to the CO with any request for payment. The data shall include all quantity computations and shall be plotted. The contractor shall provide drawings in \*.dgn or \*.dxf format compatible with MicroStation. The drawings shall include a plan view with contours and all survey lines and a set of sheets showing all profile and cross sections. All raw survey data shall be provided in \*.asc or \*.dat files. All electronic data shall be properly recorded and processed.

From the processed data, the Contractor shall provide certain survey information taken for the purpose of computing the total amount of work to be paid for. The Contractor shall furnish the required data on a CD or by electronic transmission containing ASCII character set. The information received should be free of errors and in the following format: (a) The X-coordinate in feet of a recognized Louisiana Lambert grid system, (b) the Y-coordinate in feet of same recognized Louisiana Lambert grid system, (c) the sounding, and (d) remarks such as the survey line (i.e.: L100). The time and date the survey was taken and the gage reading applicable to the section shall also be included. The electronically recorded data files, along with a hard copy of any field notes, shall be presented to the COR onsite no later than two days after the survey is taken. Under no circumstances shall the information be edited for the purpose of eliminating incorrect soundings. The Contractor shall provide a separate file listing all incorrect soundings to be eliminated.

- (4) The Contractor shall be responsible for executing the work to the limits, lines, locations, and grades established by the NRCS. The Contractor shall also be responsible for maintaining and preserving all Permanent Benchmarks, Temporary Benchmarks and any other control marks established by the NRCS.
- (5) The Contractor shall notify the CO at least 48 hours in advance of any pending surveys to be performed by the Contractor.
- (6) Persons considered qualified by the NRCS to perform Contractor surveys shall be certified or licensed land surveyors, registered engineers, or construction personnel who are deemed qualified based on previous performance or who can demonstrate through performance that they are capable and qualified to perform any surveys required by the Contractor. The Contractor shall submit in writing to the Contracting Officer for approval resumes, experience or qualification statements and references for the individuals to be assigned Contractor survey responsibilities.
- (7) All survey notes shall conform to the requirements of Section 7, Records, of this specification with the following additions:
  - a. The contractor shall provide to the CO an example copy of the notes for each type survey the contractor plans on performing. The contractor shall not perform any surveys until the CO has approved the example field notes for each type of survey. When the example field notes have been approved by the CO the contractor shall use such format for the duration of the survey work to be performed.
  - b. Notes recorded in bound hard copy field books shall be recorded at the time of survey performance. Any errors shall be line through, not erased. Field notes generated in the office from notes taken from field notes recorded on loose leaf paper, etc., shall be rejected.
- (8) In Section 8, Payment, Method 2 shall apply. Such payment shall be considered as full compensation for this item.

# Construction Specification 23—Earthfill

## 1. Scope

The work consists of the construction of earth embankments, other earthfills, and earth backfills required by the drawings and specifications.

Earthfill is composed of natural earth materials that can be placed and compacted by construction equipment operated in a conventional manner.

Earth backfill is composed of natural earth material placed and compacted in confined spaces or adjacent to structures (including pipes) by hand tamping, manually directed power tampers or vibrating plates, or their equivalent.

## 2. Material

All fill material shall be obtained from required excavations and designated borrow areas. The selection, blending, routing, and disposition of material in the various fills shall be subject to approval by the engineer.

Fill materials shall contain no frozen soil, sod, brush, roots, or other perishable material. Rock particles larger than the maximum size specified for each type of fill shall be removed prior to compaction of the fill.

The types of material used in the various fills shall be as listed and described in the specifications and drawings.

## 3. Foundation preparation

Foundations for earthfill shall be stripped to remove vegetation and other unsuitable material or shall be excavated as specified.

Except as otherwise specified, earth foundation surfaces shall be graded to remove surface irregularities and shall be scarified parallel to the axis of the fill or otherwise acceptably scored and loosened to a minimum depth of 2 inches. The moisture content of the loosened material shall be controlled as specified for the earthfill, and the surface material of the foundation shall be compacted and bonded with the first layer of earthfill as specified for subsequent layers of earthfill.

Earth abutment surfaces shall be free of loose, uncompacted earth in excess of 2 inches in depth normal to the slope and shall be at such a moisture content that the earthfill can be compacted against them to produce a good bond between the fill and the abutments.

Rock foundation and abutment surfaces shall be cleared of all loose material by hand or other effective means and shall be free of standing water when fill is placed upon them. Occasional rock outcrops in earth foundations for earthfill, except in dams and other structures designed to restrain the movement of water, shall not require special treatment if they do not interfere with compaction of the foundation and initial layers of the fill or the bond between the foundation and the fill.

Foundation and abutment surfaces shall be no steeper than one horizontal to one vertical unless otherwise specified. Test pits or other cavities shall be filled with compacted earthfill conforming to the specifications for the earthfill to be placed upon the foundation.

## 4. Placement

Earthfill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the engineer. Earthfill shall not be placed upon a frozen surface nor shall snow, ice, or frozen material be incorporated in the earthfill matrix.

Earthfill shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed the maximum thickness specified in section 10 or shown on the drawings. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than the specified thickness before being compacted.

Hand compacted earth backfill shall be placed in layers whose thickness before compaction does not exceed the maximum thickness specified for layers of earth backfill compacted by manually directed power tampers.

Earth backfill shall be placed in a manner that prevents damage to the structures and allows the structures to assume the loads from the earth backfill gradually and uniformly. The height of the earth backfill adjacent to a structure shall be increased at approximately the same rate on all sides of the structure.

Earthfill and earth backfill in dams, levees, and other structures designed to restrain the movement of water shall be placed to meet the following additional requirements:

- (a) The distribution of materials throughout each zone shall be essentially uniform, and the earthfill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture, moisture content, or gradation from the surrounding material. Zone earthfills shall be constructed concurrently unless otherwise specified.
- (b) The surface of each layer shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.
- (c) The top surface of embankments shall be maintained approximately level during construction with two exceptions: A crown or cross-slope of about 2 percent shall be maintained to ensure effective drainage, or as otherwise specified for drainfill or sectional zones.
- (d) Dam embankments shall be constructed in continuous layers from abutment to abutment except where openings to facilitate construction or to allow the passage of streamflow during construction are specifically authorized in the contract.
- (e) Embankments built at different levels as described under (c) or (d) above shall be constructed so that the slope of the bonding surfaces between embankment in place and embankment to be placed is not steeper than 3 feet horizontal to 1 foot vertical. The bonding surface of the embankment in place shall be stripped of all material not meeting the requirements of this specification and shall be scarified, moistened, and recompactd when the new earthfill is placed against it. This ensures a good bond with the new earthfill and obtains the specified moisture content and density at the contact of the inplace and new earthfills.

## 5. Control of moisture content

During placement and compaction of earthfill and earth backfill, the moisture content of the material being placed shall be maintained within the specified range.

The application of water to the earthfill material shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary. Uniform moisture distribution shall be obtained by disking.

Material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted earthfill or a foundation or abutment surface in the zone of contact with the earthfill becomes too dry to permit suitable bond, it shall either be removed or scarified and moistened by sprinkling to an acceptable moisture content before placement of the next layer of earthfill.

## 6. Compaction

Earthfill—Earthfill shall be compacted according to the following requirements for the class of compaction specified:

**Class A compaction**—Each layer of earthfill shall be compacted as necessary to provide the density of the earthfill matrix not less than the minimum density specified in Section 10 or identified on the drawings. The earthfill matrix is defined as the portion of the earthfill material finer than the maximum particle size allowed in the reference compaction test method specified (ASTM D698 or ASTM D1557).



**Class B compaction**—Each layer of earthfill shall be compacted to a mass density not less than the minimum density specified.

**Class C compaction**—Each layer of earthfill shall be compacted by the specified number of passes of the type and weight of roller or other equipment specified or by an approved equivalent method. Each pass shall consist of at least one passage of the roller wheel or drum over the entire surface of the layer.

**Earth backfill**—Earth backfill adjacent to structures shall be compacted to a density equivalent to that of the surrounding in-place earth material or adjacent required earthfill or earth backfill. Compaction shall be accomplished by hand tamping or manually directed power tampers, plate vibrators, walk-behind, miniature, or self-propelled rollers. Unless otherwise specified heavy equipment including backhoe mounted power tampers or vibrating compactors and manually directed vibrating rollers shall not be operated within 3 feet of any structure. Towed or self-propelled vibrating rollers shall not be operated within 5 feet of any structure. Compaction by means of drop weights operating from a crane or hoist is not permitted.

The passage of heavy equipment will not be allowed:

- Over cast-in-place conduits within 14-days after placement of the concrete
- Over cradled or bedded precast conduits within 7 days after placement of the concrete cradle or bedding
- Over any type of conduit until the backfill has been placed above the top surface of the structure to a height equal to one-half the clear span width of the structure or pipe or 3 feet, whichever is greater, except as may be specified in section 10.

Compacting of earth backfill adjacent to structures shall not be started until the concrete has attained the strength specified in section 10 for this purpose. The strength is determined by compression testing of test cylinders cast by the contractor's quality control personnel for this purpose and cured at the work site in the manner specified in ASTM C 31 for determining when a structure may be put into service.

When the required strength of the concrete is not specified as described above, compaction of earth backfill adjacent to structures shall not be started until the following time intervals have elapsed after placement of the concrete.

---

Structure	Time interval (days)
Vertical or near-vertical walls with earth loading on one side only	14
Walls backfilled on both sides simultaneously	7
Conduits and spillway risers, cast-in-place (with inside forms in place)	7
Conduits and spillway risers, cast-in-place (inside forms removed)	14
Conduits, pre-cast, cradled	2
Conduits, pre-cast, bedded	1
Cantilever outlet bents (backfilled both sides simultaneously)	3

---

## 7. Reworking or removal and replacement of defective earthfill

Earthfill placed at densities lower than the specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be

reworked to meet the requirements or removed and replaced by acceptable earthfill. The replacement earthfill and the foundation, abutment, and earthfill surfaces upon which it is placed shall conform to all requirements of this specification for foundation preparation, approval, placement, moisture control, and compaction.

## **8. Testing**

During the course of the work, the contractor shall perform quality control tests, as applicable, to identify earthfill and earth backfill materials; determine the reference maximum density and optimum moisture content; and document that the moisture content of material at the time of compaction and the density of earthfill and earth backfill in place conform to the requirements of this specification.

*Determining Reference Maximum Density and Optimum Moisture Content*—For Class A compaction, the reference maximum density and optimum moisture content shall be determined in accordance with the compaction test and method specified on the drawings or in section 10.

*Documenting Specification Conformance*—In-place densities of earthfill and earth backfill requiring Class A compaction shall be measured in accordance with ASTM D1556, D2167, D2937, or D6938. Moisture contents of earthfill and earth backfill at the time of compaction shall be measured in accordance with ASTM D2216, D4643, or D6938. Values of moisture content determined by ASTM D2216 are considered the true value of the soil moisture. Values of moisture content determined by ASTM D4643 or D6938 shall be verified by comparison to values obtained by ASTM D2216. Values of in-place density and moisture content determined by these tests shall be compared to the minimum density and moisture content range specified on the drawings or in section 10.

*Correction for Oversize Particles*—If the materials to be used for earthfill or earth backfill contain more than 5 percent by dry weight of oversize rock particles (particles larger than those allowed in the specified compaction test and method), corrections for oversize particles shall be made using the appropriate procedures explained in ASTM D4718.

## **9. Measurement and payment**

For items of work for which specific unit prices are established in the contract, the volume of each type and compaction class of earthfill and earth backfill within the specified zone boundaries and pay limits is measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Unless otherwise specified in section 10, no deduction in volume is made for embedded items, such as, but not limited to, conduits, inlet structures, outlet structures, embankment drains, sand diaphragm and outlet, and their appurtenances.

The pay limits shall be as defined below, with the further provision that earthfill required to fill voids resulting from overexcavation of the foundation, outside the specified lines and grades, will be included in the measurement for payment only under the following conditions:

- Where such overexcavation is directed by the engineer to remove unsuitable material, and
- Where the unsuitable condition is not a result of the contractor's improper construction operations as determined by the engineer.

Earthfill beyond the specified lines and grades to backfill excavation required for compliance with OSHA requirements will be considered subsidiary to the earthfill bid item(s).

**Method 1**—The pay limits shall be as designated on the drawings.

**Method 2**—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the specified neat lines of the earthfill surface.

**Method 3**—The pay limits shall be the measured surface of the foundation when approved for placement of the earthfill and the measured surface of the completed earthfill.

**Method 4**—The pay limits shall be the specified pay limits for excavation and the specified neat lines of the earthfill surface.

**Method 5**—The pay limits shall be the specified pay limits for excavation and the measured surface of the completed earthfill.

**Method 6**—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work.

**Method 7**—Payment for each type and compaction class of earthfill and earth backfill is made at the contract unit price for that type and compaction class of earthfill. Such payment will constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work except furnishing, transporting, and applying water to the foundation and earthfill material. Water applied to the foundation and earthfill material is measured and payment made as specified in Construction Specification 10.

**All methods**—The following provisions apply to all methods of measurement and payment. Compensation for any item of work described in the contract, but not listed in the bid schedule is included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in section 10 of this specification.

## **10. Items of work and construction details**

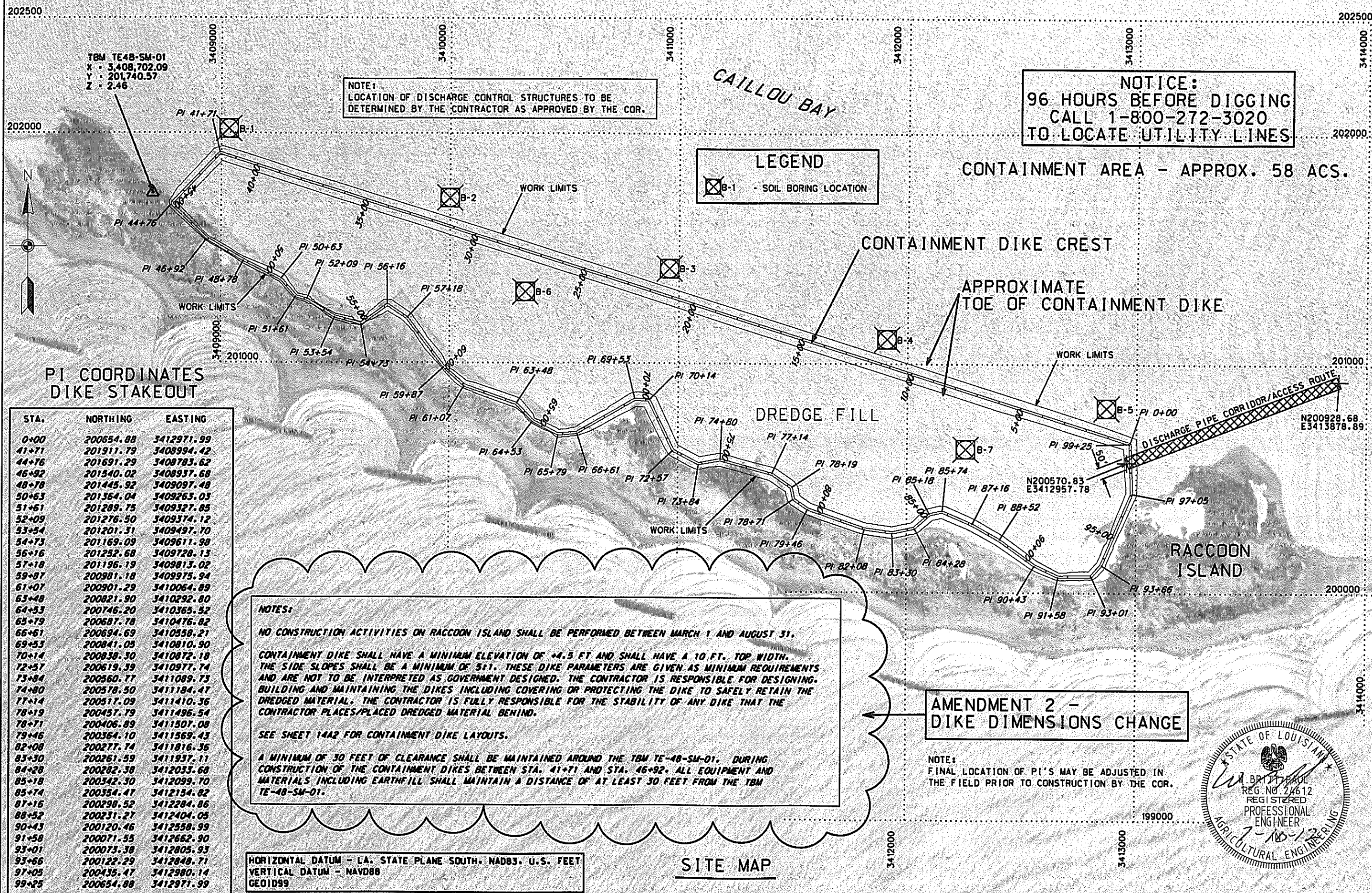
## 10. Items of Work and Construction Details

Items of work to be performed, in conformance with this specification and the construction details are:

a. Bid Item 4, Earthfill, Containment Dike

- 1) This item shall consist of all work necessary to place, shape **and maintain** the earthfill needed to complete the earthen containment dikes to be placed along the perimeter of the marsh creation area to contain the dredged fill as shown on the drawings and specified herein.
- 2) Earthfill material shall be obtained from within the containment area shown on the construction drawings. Earthfill shall be reasonably free of all organic and objectionable material, such as roots, limbs, grass and other debris.
- 3) Earthen containment dikes shall be maintained so as to contain the dredge fill for the duration of the marsh creation pumping operation. The contractor shall survey and provide to NRCS the as-built condition of the containment dike prior to beginning dredging. The drawings shall be in \*.dgn or \*.dxf format compatible with Microstation. A set of drawings showing all profile/cross sections shall be provided. Cross sections of the containment dike shall be taken at intervals not to exceed 200 feet with shots taken for the centerline profile taken at 25-foot intervals. All raw survey data shall be provided in \*.asc or \*.dat files.
- ~~4) The containment dikes from Station 0+00 to Station 44+76 and from Station 97+05 to Station 99+25 shall have a minimum elevation of +4.5 feet NAVD 88 and shall have a 15 foot top width. The side slopes shall be 6:1 on the marsh creation area side and 8:1 on the bay side of the containment dikes. See sheet 13 of the construction plans for containment dike layout.~~
- ~~5) The containment dikes from Station 44+76 to Station 66+61 shall be spot filled to a minimum elevation +4.0 feet NAVD 88 and shall have a 6 foot top width and 5:1 side slopes.~~
- ~~6) The containment dikes from Station 66+61 to Station 97+05 shall have a minimum elevation of +4.5 feet NAVD 88 and shall have a 15 foot top width. The side slopes shall be 6:1 on the marsh creation area side and 5:1 on the Raccoon Island side of the containment dikes. See sheet 13 of the construction plans for containment dike layout.~~
- 4) The containment dikes shall have minimum elevation of +4.5 feet NAVD88 and shall have a 10 foot top width. The side slopes shall be a minimum of 5:1. These dike parameters are given as minimum requirements and are not to be interpreted as government designed. The contractor is responsible for designing, building and maintaining the dikes including covering or protecting the dike to safely retain the dredged material. The contractor is fully responsible for the stability of any dike that the contractor places/placed dredged material behind.
- 5) No construction activities on Raccoon Island shall be performed between March 1 and August 31.
- 6) A minimum of 30 feet of clearance shall be maintained around the TBM TE-48-SM-01. During construction of the containment dikes between Station 41+71 and Station 46+92, all equipment and materials including earthfill shall maintain a distance of at least 30 feet from the TBM TE-48-SM-01. In the event that damage occurs to the TBM TE-48-SM-01, the contractor shall be responsible for the cost of replacing and resetting the TBM.

- 7) Section 3, Foundation Preparation, does not apply. No foundation preparation shall be required.
- 8) Section 5, Control of Moisture Content, does not apply.
- 9) Section 6, Compaction, does not apply.
- 10) Section 8, Testing, does not apply.
- 11) Section 9, Measurement and Payment, is deleted in its entirety. Payment for this item shall be made on a lump sum basis. Partial payment shall be made on the percentage of work complete as based on **the amount of dike complete to the lines and grades as shown in the plans and described in the specifications and as concurred in by the COR agreement between the COR and the contractor in the field.** Payment shall be made at 85% of the bid price upon completion of constructing the containment dike. The remaining 15% of the bid price shall be paid at the completion of Bid Item 3, Excavation, Marsh Creation Dredging. Such payment shall constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to the performance of the work and for Subsidiary Item, Excavation, Containment Dike.



**PI COORDINATES  
DIKE STAKEOUT**

STA.	NORTHING	EASTING
0+00	200654.88	3412971.99
41+71	201911.79	3408994.42
44+76	201691.29	3408783.62
46+92	201540.02	3408937.68
48+78	201445.92	3409097.48
50+63	201564.04	3409265.03
51+61	201289.75	3409327.85
52+09	201276.50	3409374.12
53+54	201201.51	3409497.70
54+73	201169.09	3409611.98
56+16	201252.68	3409728.15
57+18	201196.19	3409813.02
59+87	200981.18	3409975.94
61+07	200901.29	3410064.89
63+48	200821.90	3410292.80
64+53	200746.20	3410365.52
65+79	200687.78	3410476.82
66+61	200694.69	3410558.21
69+53	200841.05	3410810.90
70+14	200838.30	3410872.18
72+57	200619.39	3410977.74
73+84	200560.77	3411089.73
74+80	200578.50	3411184.47
77+14	200517.09	3411410.36
78+19	200457.79	3411496.54
78+71	200406.89	3411507.08
79+46	200364.10	3411569.43
82+08	200277.74	3411816.36
83+30	200261.59	3411937.11
84+28	200282.38	3412033.68
85+18	200342.30	3412099.70
85+74	200354.47	3412154.82
87+16	200298.52	3412284.86
88+52	200231.27	3412404.05
90+43	200120.46	3412558.99
91+58	200071.55	3412662.90
93+01	200073.38	3412805.95
93+66	200122.29	3412848.71
97+05	200435.47	3412980.14
99+25	200654.88	3412971.99

**NOTES:**

NO CONSTRUCTION ACTIVITIES ON RACCOON ISLAND SHALL BE PERFORMED BETWEEN MARCH 1 AND AUGUST 31.

CONTAINMENT DIKE SHALL HAVE A MINIMUM ELEVATION OF +4.5 FT AND SHALL HAVE A 10 FT. TOP WIDTH. THE SIDE SLOPES SHALL BE A MINIMUM OF 5:1. THESE DIKE PARAMETERS ARE GIVEN AS MINIMUM REQUIREMENTS AND ARE NOT TO BE INTERPRETED AS GOVERNMENT DESIGNED. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, BUILDING AND MAINTAINING THE DIKES INCLUDING COVERING OR PROTECTING THE DIKE TO SAFELY RETAIN THE DREDGED MATERIAL. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE STABILITY OF ANY DIKE THAT THE CONTRACTOR PLACES/PLACED DREDGED MATERIAL BEHIND.

SEE SHEET 14A2 FOR CONTAINMENT DIKE LAYOUTS.

A MINIMUM OF 30 FEET OF CLEARANCE SHALL BE MAINTAINED AROUND THE TBM TE-48-SM-01. DURING CONSTRUCTION OF THE CONTAINMENT DIKES BETWEEN STA. 41+71 AND STA. 46+92. ALL EQUIPMENT AND MATERIALS INCLUDING EARTH FILL SHALL MAINTAIN A DISTANCE OF AT LEAST 30 FEET FROM THE TBM TE-48-SM-01.

HORIZONTAL DATUM - LA. STATE PLANE SOUTH, NAD83, U.S. FEET  
 VERTICAL DATUM - NAVD88  
 GEOID99



**SITE MAP**

**NOTE:**  
 LOCATION OF DISCHARGE CONTROL STRUCTURES TO BE DETERMINED BY THE CONTRACTOR AS APPROVED BY THE COR.

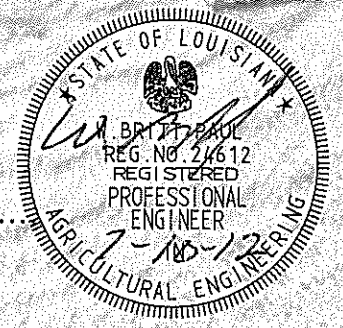
**LEGEND**  
 [Symbol] B-1 - SOIL BORING LOCATION

**NOTICE:**  
 96 HOURS BEFORE DIGGING  
 CALL 1-800-272-3020  
 TO LOCATE UTILITY LINES

CONTAINMENT AREA - APPROX. 58 ACS.

**AMENDMENT 2 -  
 DIKE DIMENSIONS CHANGE**

**NOTE:**  
 FINAL LOCATION OF PI'S MAY BE ADJUSTED IN THE FIELD PRIOR TO CONSTRUCTION BY THE COR.



DESIGNED	DRAWN	CHECKED	APPROVED
J. PELTO	D. J. WILMORE	D. GILLEN	B. PAUL

**SITE LOCATION MAP**  
 RACCOON ISLAND (TE-48)  
 PHASE B - MARSH CREATION PROJECT  
 TERREBONNE PARISH, LOUISIANA



FILE NAME	LA350
DRAWING NAME	LA350002A2.DGN
SHEET 2A2 OF	21

REVISIONS			
NO.	DATE	APPROVED	TITLE
02	07/27/2012	J.P.	D.E.

202500

202500

202000

202000

201000

201000

200000

200000

### STAFF GAUGE COORDINATES

1	N 201730	E 3408986
2	N 201651	E 3409194
3	N 201576	E 3409433
4	N 201501	E 3409671
5	N 201426	E 3409910
6	N 201352	E 3410148
7	N 201277	E 3410387
8	N 201202	E 3410625
9	N 201127	E 3410864
10	N 201052	E 3411102
11	N 200977	E 3411341
12	N 200902	E 3411579
13	N 200827	E 3411818
14	N 200753	E 3412056
15	N 200678	E 3412295
16	N 200603	E 3412533
17	N 200528	E 3412772
18	N 201113	E 3410073
19	N 201038	E 3410312
20	N 200963	E 3410550
21	N 200814	E 3411027
22	N 200742	E 3411267
23	N 200664	E 3411504
24	N 200589	E 3411743
25	N 200514	E 3411981
26	N 200439	E 3412220
27	N 200364	E 3412459
28	N 200289	E 3412697

HORIZONTAL DATUM - LA. STATE PLANE SOUTH, NAD83, U.S. FEET  
 VERTICAL DATUM - NAVD88  
 GEOID99

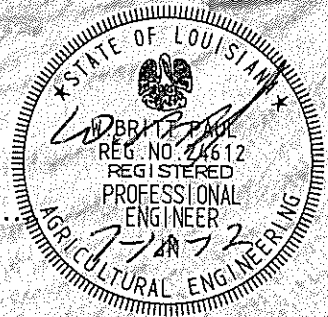
IMAGE DATE - 2009

### STAFF GAUGE MAP



**NOTICE:**  
 96 HOURS BEFORE DIGGING  
 CALL 1-800-272-3020  
 TO LOCATE UTILITY LINES

**AMENDMENT 2 -  
 DIKE DIMENSIONS CHANGE**



CAILLOU BAY

CONTAINMENT DIKE

RACCOON ISLAND

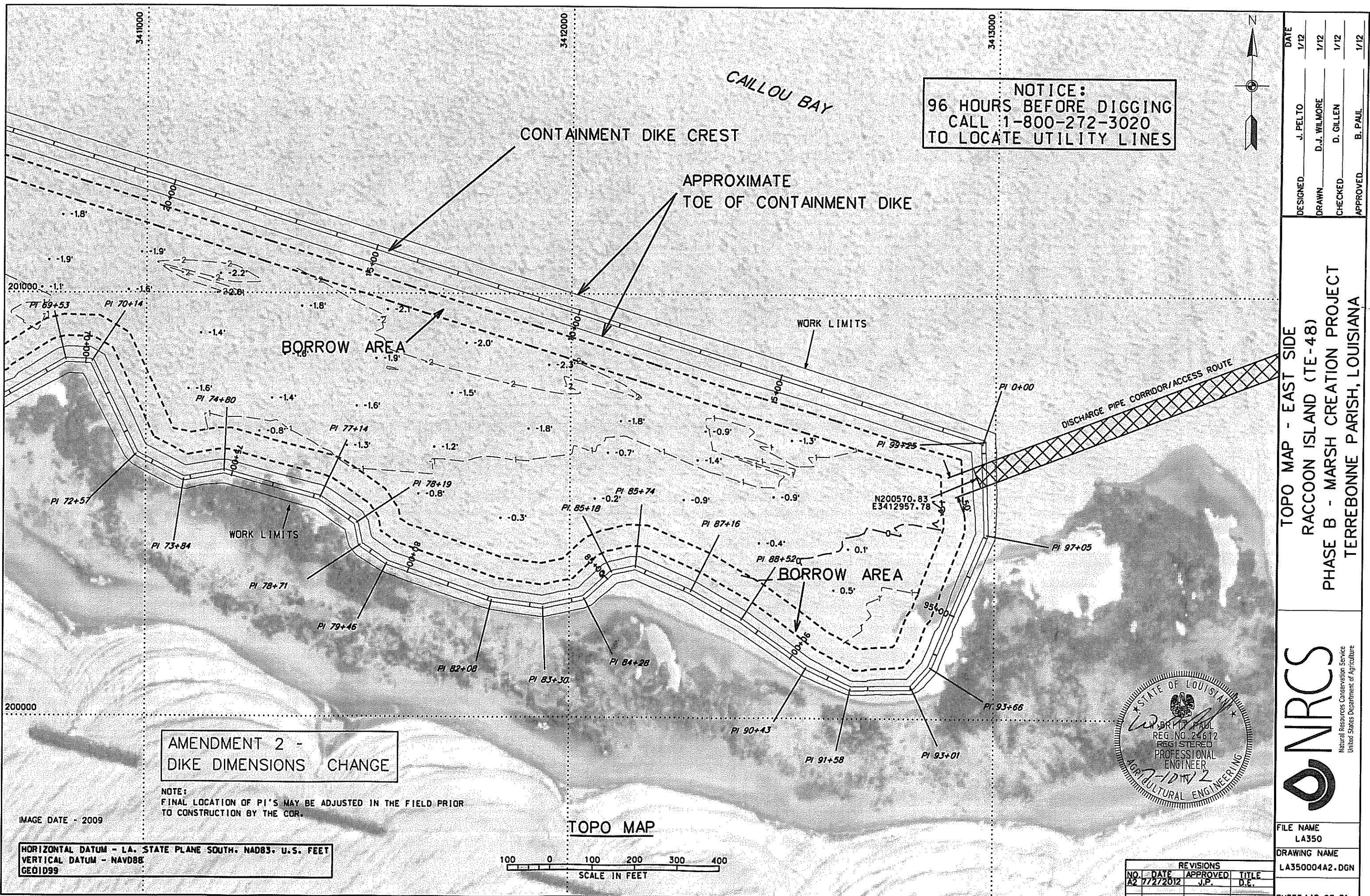
STAFF GAUGE LOCATIONS  
 RACCOON ISLAND (TE-48)  
 PHASE B - MARSH CREATION PROJECT  
 TERREBONNE PARISH, LOUISIANA

DESIGNED	J. PELTO	DATE	1/12
DRAWN	D.J. WILLMORE		1/12
CHECKED	D. GILLEN		1/12
APPROVED	B. PAUL		1/12

FILE NAME	LA350
DRAWING NAME	LA350003A2.DGN
SHEET 3A2 OF 21	

REVISIONS			
NO.	DATE	APPROVED	TITLE
A2	7/27/2012	J.P.	D.E.





**NOTICE:**  
 96 HOURS BEFORE DIGGING  
 CALL 1-800-272-3020  
 TO LOCATE UTILITY LINES



DESIGNED	J. PELTO	DATE	1/12
DRAWN	D.J. WILMORE		1/12
CHECKED	D. GILLEN		1/12
APPROVED	B. PAUL		1/12

TOPO MAP - EAST SIDE  
 RACCOON ISLAND (TE-48)  
 PHASE B - MARSH CREATION PROJECT  
 TERREBONE PARISH, LOUISIANA

**AMENDMENT 2 -  
 DIKE DIMENSIONS CHANGE**

NOTE:  
 FINAL LOCATION OF PI'S MAY BE ADJUSTED IN THE FIELD PRIOR  
 TO CONSTRUCTION BY THE COR.

IMAGE DATE - 2009

HORIZONTAL DATUM - LA. STATE PLANE SOUTH, NAD83, U.S. FEET  
 VERTICAL DATUM - NAVD88  
 GEOID99

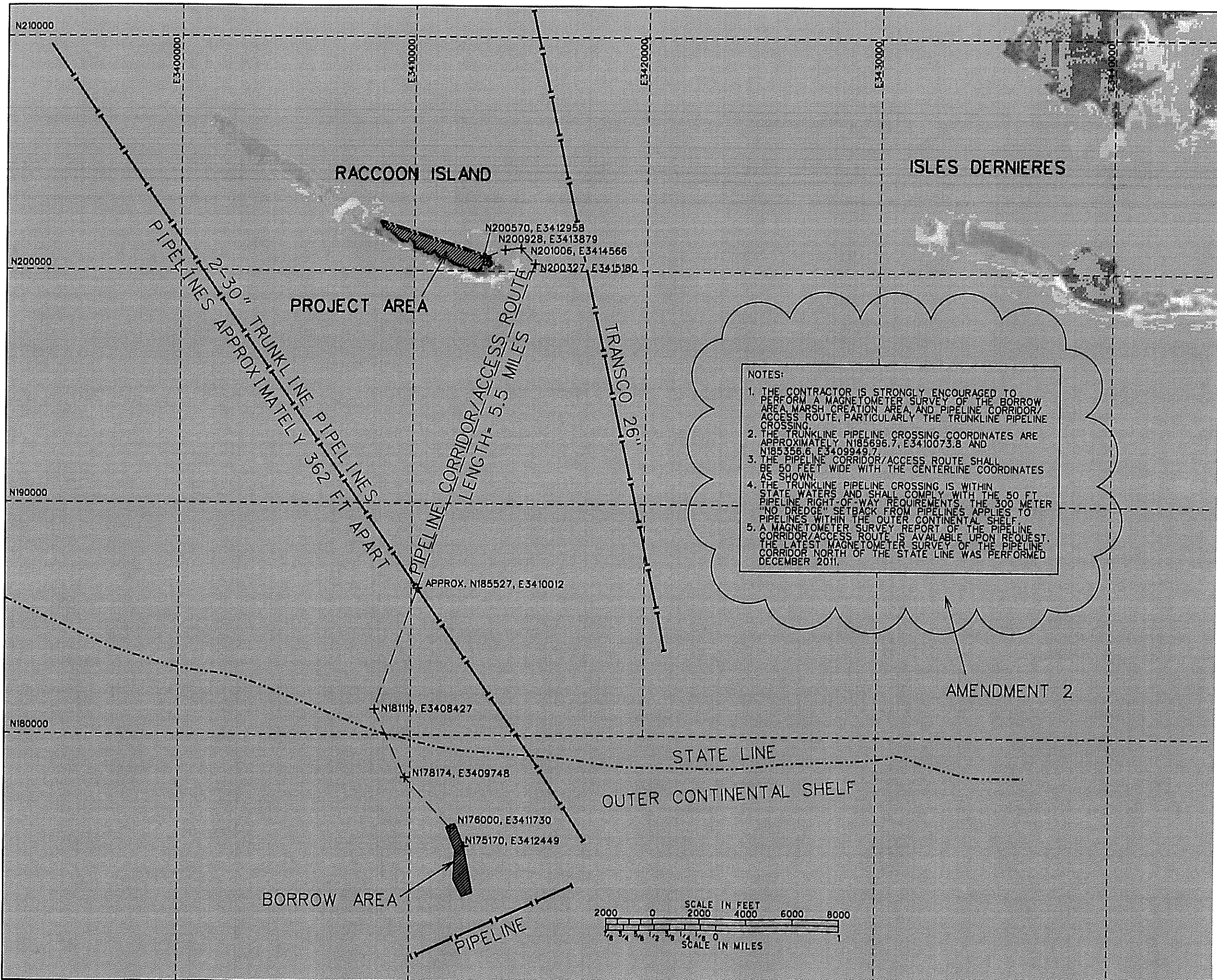
TOPO MAP



FILE NAME	LA350		
DRAWING NAME	LA350004A2.DGN		
REVISIONS			
NO.	DATE	APPROVED	TITLE
A2	7/27/2012	J.P.	D.E.



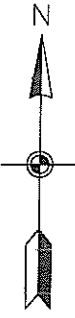
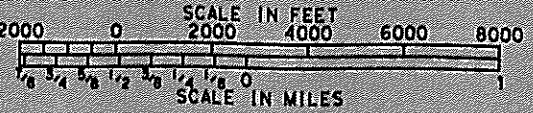




**NOTES:**

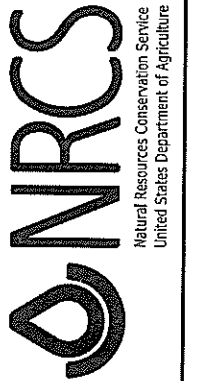
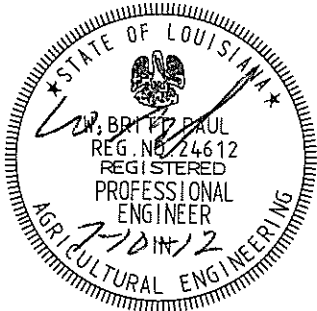
1. THE CONTRACTOR IS STRONGLY ENCOURAGED TO PERFORM A MAGNETOMETER SURVEY OF THE BORROW AREA MARSH CREATION AREA AND PIPELINE CORRIDOR/ACCESS ROUTE, PARTICULARLY THE TRUNKLINE PIPELINE CROSSING.
2. THE TRUNKLINE PIPELINE CROSSING COORDINATES ARE APPROXIMATELY N185696.7, E3410073.8 AND N185356.6, E3409949.7.
3. THE PIPELINE CORRIDOR/ACCESS ROUTE SHALL BE 30 FEET WIDE WITH THE CENTERLINE COORDINATES AS SHOWN.
4. THE TRUNKLINE PIPELINE CROSSING IS WITHIN STATE WATERS AND SHALL COMPLY WITH THE 50 FT PIPELINE RIGHT-OF-WAY REQUIREMENTS, THE 300 METER "NO DREDGE" SETBACK FROM PIPELINES APPLIES TO PIPELINES WITHIN THE OUTER CONTINENTAL SHELF.
5. A MAGNETOMETER SURVEY REPORT OF THE PIPELINE CORRIDOR/ACCESS ROUTE IS AVAILABLE UPON REQUEST. THE LATEST MAGNETOMETER SURVEY OF THE PIPELINE CORRIDOR NORTH OF THE STATE LINE WAS PERFORMED DECEMBER 2011.

AMENDMENT 2



**BORROW AREA - LOCATION MAP**  
**RACCOON ISLAND (TE-48)**  
**PHASE B - MARSH CREATION PROJECT**  
**TERREBONNE PARISH, LOUISIANA**

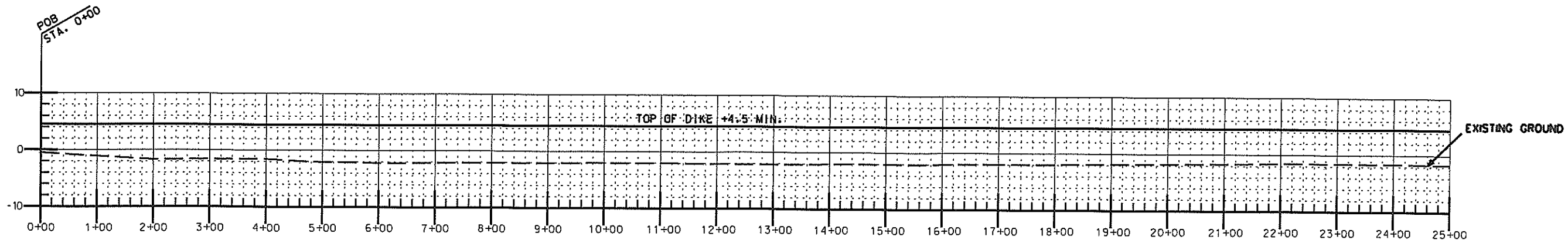
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DRAWN	D.J. WILMORE		1/12
CHECKED	D. GILLEN		1/12
APPROVED	B. PAUL		1/12



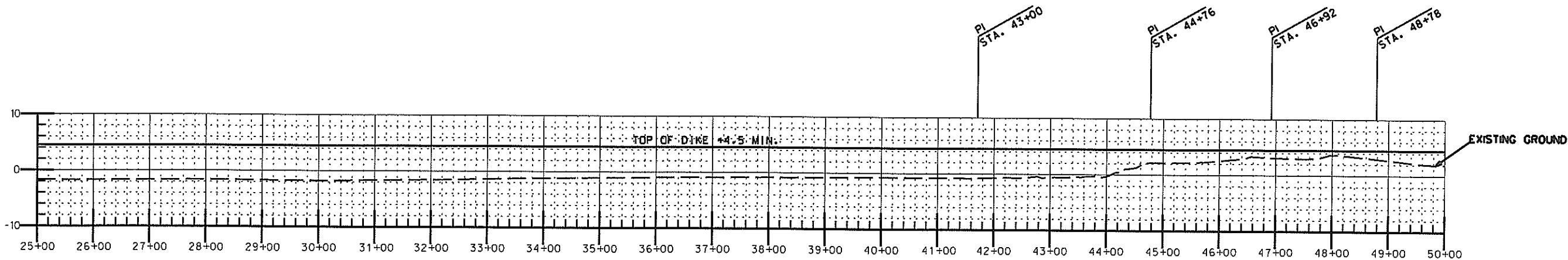
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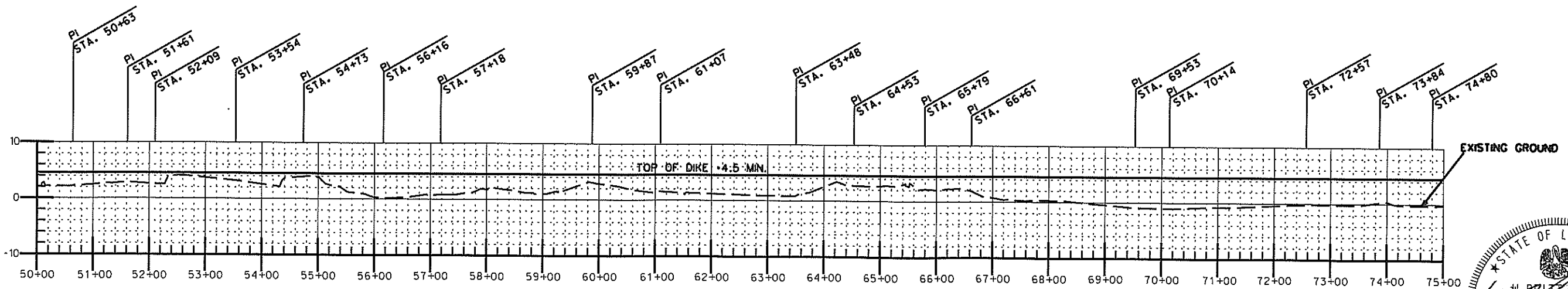




PROFILE - STA. 0+00 TO STA. 25+00

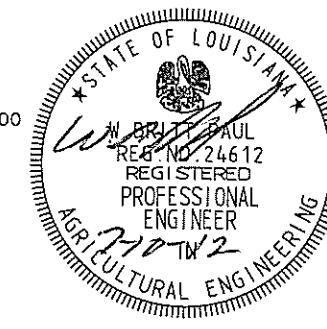


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PROFILE - STA. 50+00 TO STA. 75+00

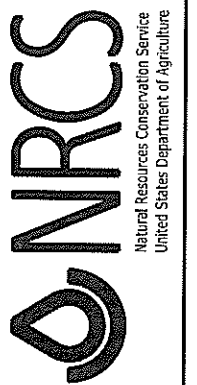
AMENDMENT 2-  
DIKE DIMENSIONS CHANGE



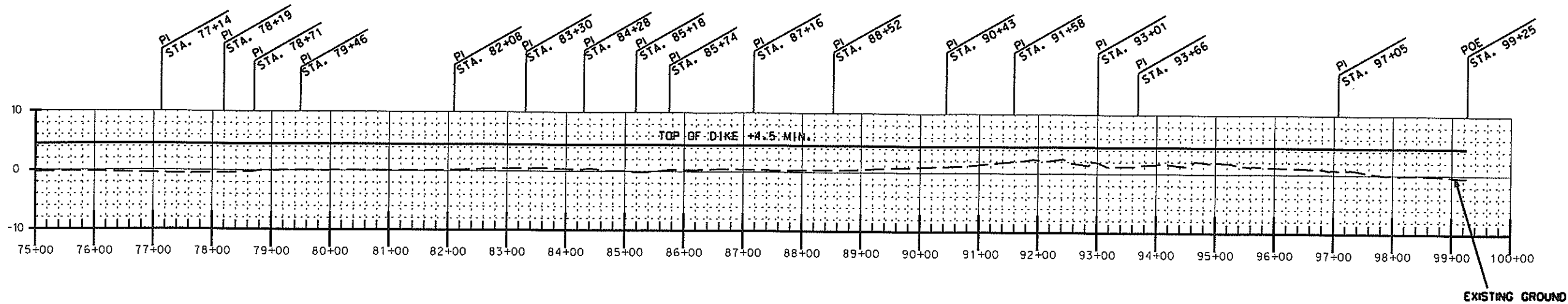
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NO.	DATE	APPROVED	TITLE
1	7/27/2012	J.P.	D.E.

DESIGNED	DRAWN	CHECKED	APPROVED	DATE
J. PELTO	D.J. WILMORE	D. GILLEN	B. PAUL	1/12
				1/12
				1/12
				1/12

CONTAINMENT DIKE - PROFILE  
RACCOON ISLAND (TE-48)  
PHASE B - MARSH CREATION PROJECT  
TERREBONNE PARISH, LOUISIANA



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DRAWING NAME  
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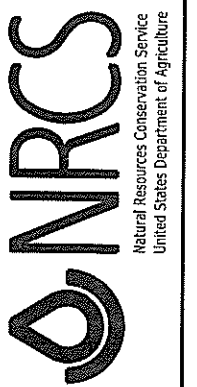
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AMENDMENT 2-  
DIKE DIMENSIONS CHANGE



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DRAWN	D.J. WILMORE		1/12
CHECKED	D. GILLEN		1/12
APPROVED	B. PAUL		1/12

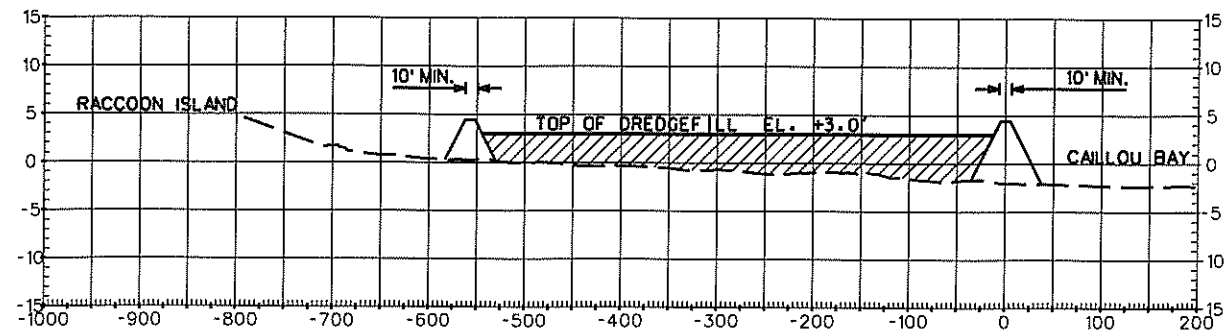
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RACCOON ISLAND (TE-48)  
PHASE B - MARSH CREATION PROJECT  
TERREBONNE PARISH, LOUISIANA



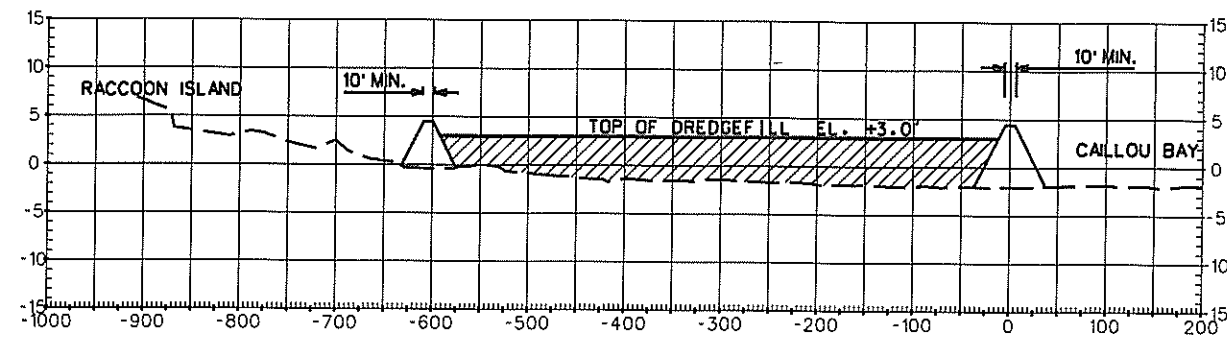
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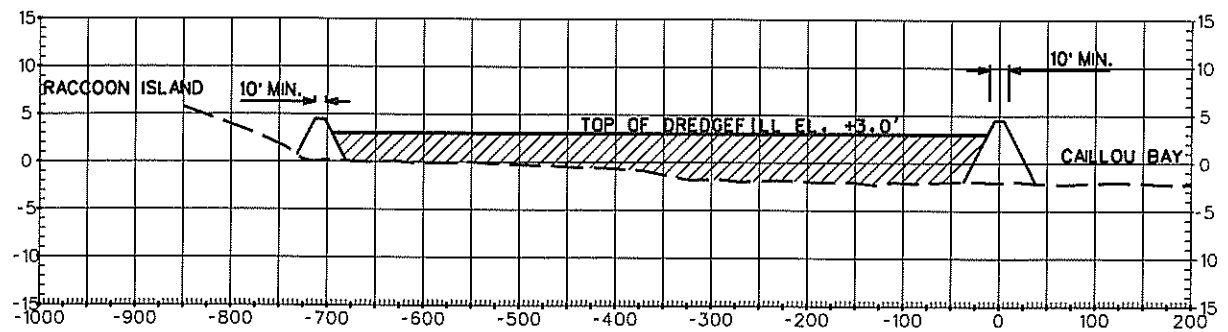
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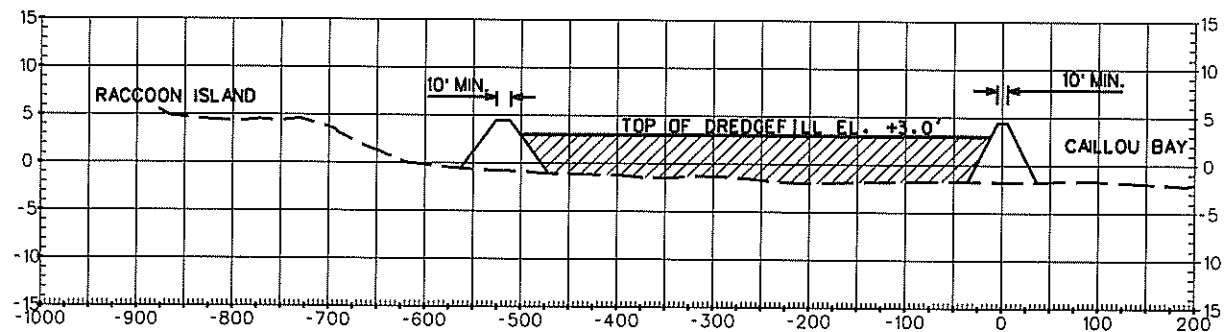
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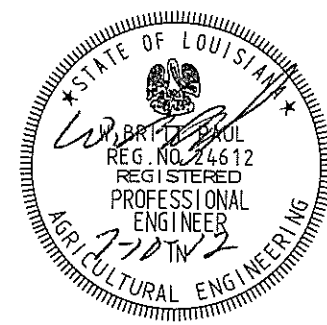


10+00



20+00

AMENDMENT 2-  
DIKE DIMENSIONS CHANGE



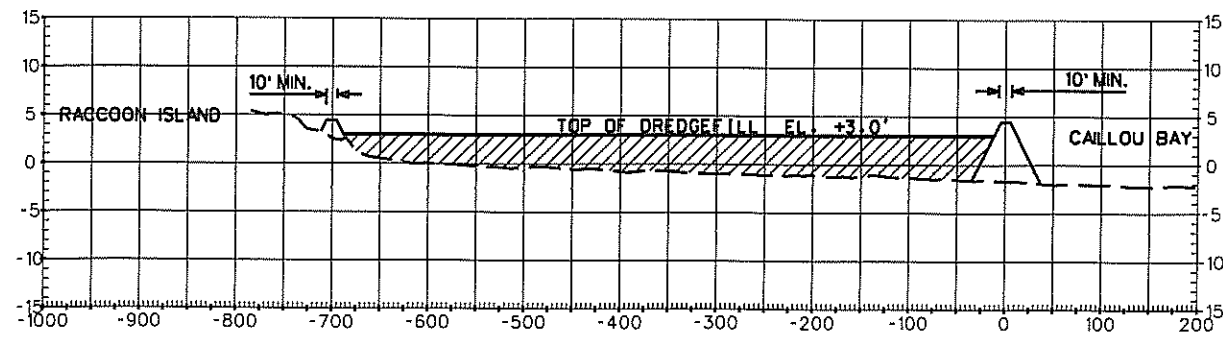
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DRAWN	D.J. WILMORE		
CHECKED	D. GILLEN		
APPROVED	B. PAUL		

SECTIONS - DREDGE FILL  
RACCOON ISLAND (TE-48)  
PHASE B - MARSH CREATION PROJECT  
TERREBONNE PARISH, LOUISIANA

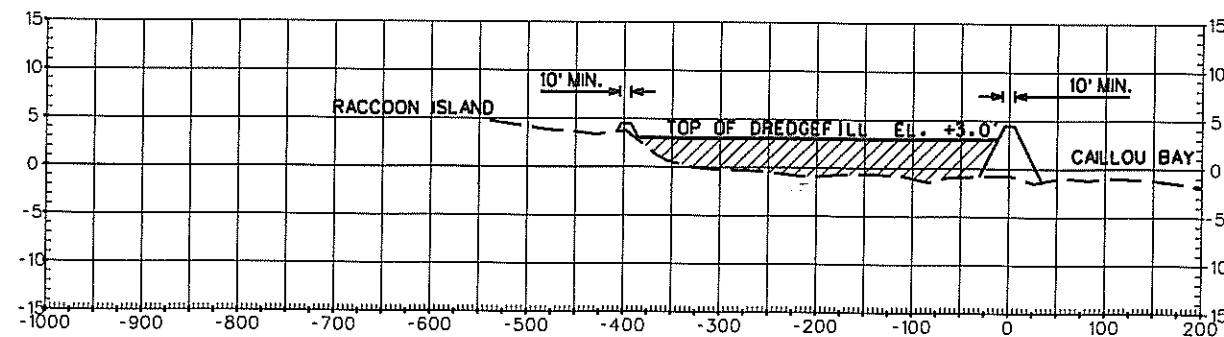


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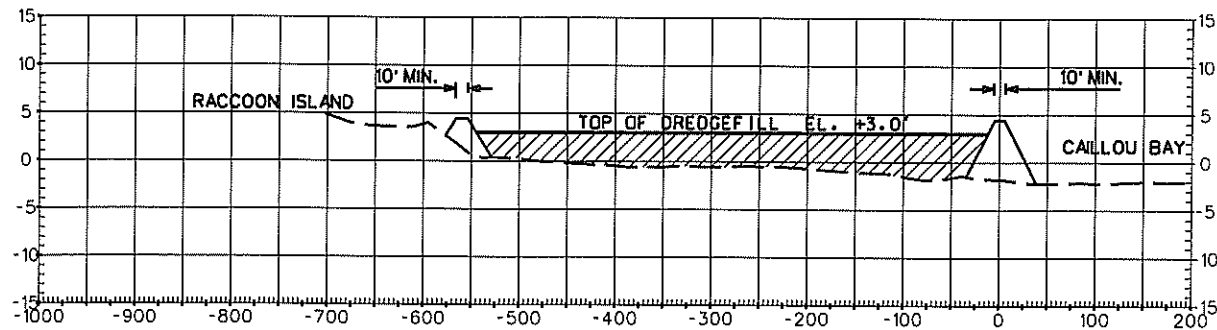
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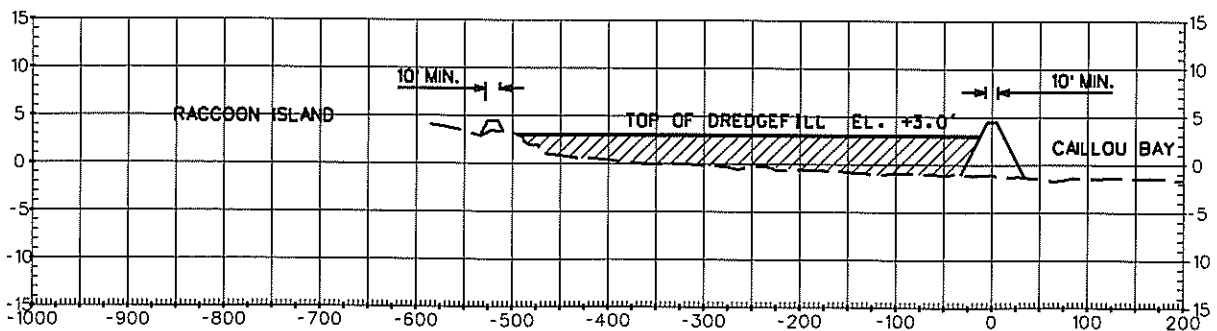
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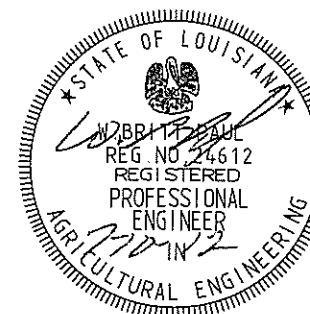


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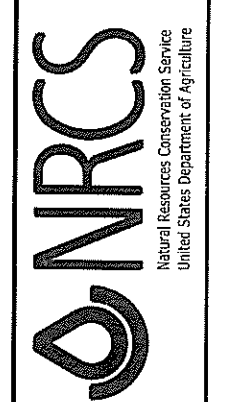
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AMENDMENT 2-  
DIKE DIMENSIONS CHANGE



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APPROVED	B. PAUL		

SECTIONS - DREDGE FILL  
RACCOON ISLAND (TE-48)  
PHASE B - MARSH CREATION PROJECT  
TERREBONNE PARISH, LOUISIANA



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DRAWING NAME  
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A2	7/27/2012	J.P.	D.E.