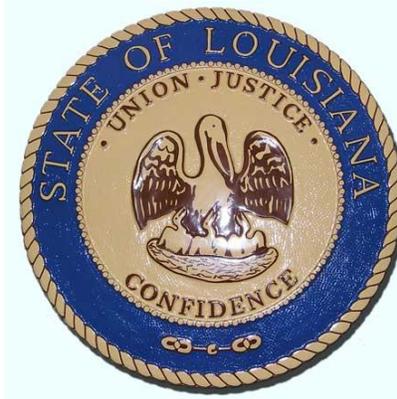


ASBUILT
BID PACKAGE
FOR

CWPPRA PROJECT CS-04A-L
RESTORATION OF THE CAMERON-CREOLE
WATERSHED LEVEE
PHASE II

CAMERON PARISH, LOUISIANA



STATE OF LOUISIANA
OFFICE OF COASTAL
PROTECTION AND RESTORATION



APRIL 2009

Prepared by:



Lonnie G. Harper
and Associates, Inc.

2746 Hwy 384, Bell City, Louisiana 70630 337.905.1079



Table of Contents

| Section | Title | Page No. |
|-----------------------------------|---|----------|
| SCHEDULE OF BID ITEMS..... | | 5 |
| PART I | GENERAL PROVISIONS..... | 6 |
| GP-1 | DEFINITION OF TERMS..... | 6 |
| GP-2 | BID REQUIREMENTS | 9 |
| GP-3 | AVAILABILITY OF PLANS AND SPECIFICATIONS..... | 9 |
| GP-4 | LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS, AND CODES | 10 |
| GP-5 | PRE-BID CONFERENCE AND SITE VISIT..... | 10 |
| GP-6 | NOTICE OF AWARD..... | 10 |
| GP-7 | NOTICE TO PROCEED AND CONTRACT TIME | 10 |
| GP-8 | WORK PLAN | 11 |
| GP-9 | PROGRESS SCHEDULE | 11 |
| GP-10 | DAILY PROGRESS REPORTS | 12 |
| GP-11 | HURRICANE AND SEVERE STORM PLAN | 13 |
| GP-12 | HEALTH, SAFETY PLAN, AND INSPECTIONS..... | 13 |
| GP-13 | PROGRESS REPORT AND SCHEDULED MEETINGS..... | 14 |
| GP-14 | PRE-CONSTRUCTION CONFERENCE | 14 |
| GP-15 | CONTRACT INTENT | 14 |
| GP-16 | ENGINEER AND AUTHORITY OF ENGINEER | 14 |
| GP-17 | CONFORMITY WITH PLANS AND SPECIFICATIONS..... | 14 |
| GP-18 | CLARIFICATIONS AND AMENDMENTS TO CONTRACT DOCUMENTS | 15 |
| GP-19 | SUBCONTRACTS..... | 15 |
| GP-20 | WORKERS, METHODS, AND EQUIPMENT | 15 |
| GP-21 | ACCIDENT PREVENTION, INVESTIGATIONS, AND REPORTING..... | 16 |
| GP-22 | PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC..... | 16 |
| GP-23 | PROTECTION OF THE WORK, MATERIALS, AND EQUIPMENT..... | 17 |
| GP-24 | LAND RIGHTS | 17 |
| GP-25 | UTILITIES | 17 |
| GP-26 | PERMITS..... | 18 |
| GP-27 | PROJECT SITE CLEAN-UP | 18 |
| GP-28 | OWNER INSPECTION..... | 18 |
| GP-29 | DUTIES OF INSPECTOR..... | 18 |
| GP-30 | CONSTRUCTION STAKES, LINES, AND GRADES | 18 |
| GP-31 | CONTRACTOR'S RESPONSIBILITY FOR WORK | 19 |
| GP-32 | CONTROL OF SILTATION AND WATER POLLUTION..... | 19 |
| GP-33 | SANITARY PROVISION | 19 |
| GP-34 | PAYMENT OF TAXES..... | 19 |
| GP-35 | RADIO TELEPHONES | 19 |
| GP-36 | NAVIGATION | 19 |
| GP-37 | OBSTRUCTION TO NAVIGATION | 20 |
| GP-38 | MARINE VESSELS AND MARINE ACTIVITIES..... | 20 |
| GP-39 | RECORDKEEPING | 20 |
| GP-40 | CERTIFICATES OF COMPLIANCE..... | 20 |
| GP-41 | SUBMITTALS | 20 |
| GP-42 | MODIFICATIONS TO THE WORK | 21 |
| GP-43 | INCREASES TO CONTRACT PRICE | 21 |
| GP-44 | EXTENSION OF CONTRACT TIME | 21 |
| GP-45 | DEFAULT AND TERMINATION OF CONTRACT | 21 |
| GP-46 | TEMPORARY SUSPENSION OF WORK | 22 |
| GP-47 | NON-CONFORMING AND UNAUTHORIZED WORK | 22 |
| GP-48 | CONTRACTOR'S RIGHT TO TERMINATE CONTRACT..... | 22 |

| | | |
|--------------------|---|-----------|
| GP-49 | BREACH OF CONTRACT | 23 |
| GP-50 | NO WAIVER OF LEGAL RIGHTS..... | 23 |
| GP-51 | LIABILITY FOR DAMAGES AND INJURIES..... | 23 |
| GP-52 | LIABILITY FOR LOSSES BY ACTS OF THE GOVERNMENT | 23 |
| GP-53 | FINAL INSPECTION AND ACCEPTANCE..... | 24 |
| GP-54 | AS-BUILT DRAWINGS | 24 |
| GP-55 | COMPLETION OF CONTRACT | 24 |
| GP-56 | CONTRACTOR’S GUARANTEE..... | 24 |
| PART II | SPECIAL PROVISIONS..... | 26 |
| SP-1 | LOCATION OF WORK | 26 |
| SP-2 | WORK TO BE DONE..... | 27 |
| SP-3 | BID AND CONTRACT DATES | 29 |
| SP-4 | DELIVERABLES..... | 29 |
| SP-5 | ADDRESSES FOR DOCUMENT DELIVERY | 30 |
| SP-6 | WORK PLAN SUPPLEMENTAL | 30 |
| SP-7 | FAILURE TO COMPLETE ON TIME | 30 |
| SP-8 | TRANSPORTATION | 31 |
| SP-9 | DREDGE DATA SHEET not applicable | 31 |
| SP-10 | BARGE DISPLACEMENT TABLE not applicable | 31 |
| SP-11 | OYSTER LEASE RESTRICTIONS | 32 |
| SP-12 | SPECIAL PERMIT CONDITIONS | 32 |
| SP-13 | OBSTRUCTION OF CHANNEL..... | 32 |
| SP-14 | OBSTRUCTION OF NAVIGABLE WATERWAYS | 33 |
| SP-15 | COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK | 33 |
| SP-16 | PIPELINES..... | 33 |
| SP-17 | RESPONSIBILITIES OF THE CONTRACTOR CONCERNING PIPELINES..... | 34 |
| SP-18 | RESPONSIBILITIES OF THE CONTRACTOR..... | 34 |
| SP-19 | OFFICE FOR OWNER (NOT REQUIRED) | 35 |
| SP-20 | TIDAL FLUCTUATIONS..... | 35 |
| SP-21 | FLOAT BOOMS | 35 |
| PART III | TECHNICAL SPECIFICATIONS | 36 |
| TS – 101 | MOBILIZATION AND DEMOBILIZATION | 36 |
| TS – 102 | APPLICABLE STANDARDS | 37 |
| TS – 103 | TEMPORARY SIGNS AND BARRICADES | 39 |
| TS – 104 | QUALITY CONTROL | 40 |
| TS – 105 | POLLUTION CONTROL..... | 43 |
| TS – 106 | SELECT FILL | 45 |
| TS – 107 | SILT FENCE | 48 |
| TS – 108 | SEEDING..... | 50 |
| TS – 109 | CLEARING AND GRUBBING | 52 |
| TS – 110 | IN-PLACE LIME STABILIZED COURSE | 55 |
| TS – 301 | ACCESS AND FLOTATION CHANNELS..... | 58 |
| APPENDIX A: | INTERPRETATION OR CLARIFICATION BY ENGINEER FORM | 59 |
| APPENDIX B: | LANDRIGHTS MEMORANDUM | 60 |
| APPENDIX C: | GOVERNMENT PERMITS | 61 |
| APPENDIX D: | DIRECTIONS TO BOAT LAUNCH..... | 62 |
| APPENDIX E: | SURVEY CONTROL..... | 65 |
| APPENDIX F: | DREDGE DATA SHEET | 68 |

APPENDIX G: SOIL BORING LOGS71

APPENDIX H: LOUISIANA WILDLIFE AND FISHERIES DOCUMENTS72

APPENDIX I: PIPELINE MAP73

SCHEDULE OF BID ITEMS

CS-04A-L Restoration of the Cameron-Creole Watershed Levee Phase II

| ITEM No. | ITEM | UNIT | QTY ¹ | UNIT PRICE ² | | EXTENDED PRICE ² |
|--|---------------------------------------|-------------|------------------|------------------------------|------------------|-----------------------------|
| | | | | USING WORDS | USING NUMBERS | USING NUMBERS |
| 1. | Mobilization and Demobilization | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 2. | Temporary Signs and Barricades | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 3. | Provide and Install Select Fill | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 4. | Provide and Install Seeding | Square Yard | 446,000 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 5. | Provide and Install Lime Treatment | Cubic Foot | 148,500 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 6. | Flotation Dredge Landing 1 | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 7. | Flotation Dredge Landing 2 | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 8. | Flotation Dredge Landing 3 | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 9. | Flotation Dredge Landing 4 | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 10. | Flotation Dredge Landing 5 | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| 11. | Temporary Signing – Flotation Channel | Lump Sum | 1 | _____ Dollars _____ Cents | \$ _____ . _____ | \$ _____ . _____ |
| TOTAL AMOUNT OF BASE BID: _____ Dollars _____ Cents | | | | | | |

1. Where the quantity of Work with respect to any item is covered by a unit price, such quantities are estimated quantities to be used when comparing bids and the right is reserved by the Owner to increase/decrease such quantities as may be necessary to complete the Work or remain within any funding limits. In the event of material under-runs/over-runs, the unit costs will be used to determine payment to the Contractor.
2. Items must be completed by the bidder. The completed sheet must be attached to the bid submitted to the Office of State Purchasing in order for the bid to be considered. The low Bidder will be determined on the basis of the Base Bid alone.

PART I GENERAL PROVISIONS

GP-1 DEFINITION OF TERMS

Whenever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to the singular or plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

- 1.1 **Acceptance**: A written approval from the Engineer which certifies that specific items of work in the Contract have been completed and/or obligations have been fulfilled by the Contractor.
- 1.2 **Addenda**: Those written or graphic documents which are issued prior to opening of Bids in accordance with the Bidding Requirements and clarify or change the bidding requirements or the proposed Contract Documents.
- 1.3 **Agreement**: The written and signed agreement between the Owner and Contractor specifying the Work to be performed and includes the Contract Documents, all addenda pertaining to the Bid, Notice of Award, Bonds, Plans, General Provisions, Special Provisions, and Technical Specifications.
- 1.4 **Application of Payment**: That form which is used by the Contractor to request partial and final payment and is deemed acceptable to the Owner. It shall be accompanied by any supporting documentation required by the Contract Documents.
- 1.5 **A.S.T.M.**: American Society for Testing Materials.
- 1.6 **Bid**: An offer or proposal submitted on the prescribed form setting forth the prices for the Work.
- 1.7 **Bidder**: The person, association of persons, firm or corporation submitting a proposal for the Work.
- 1.8 **Bidding Requirements**: The Advertisement or Invitation to Bid, Instruction to Bidders, Form of Bid Security, if any, and Bid Form with any supplements.
- 1.9 **Change Order**: A written order which is submitted to the Contractor, signed by the Owner, and authorizes an addition, deletion or revision in the Work, or an adjustment in the contract price or the contract time issued after the effective date of the Agreement.
- 1.10 **Claim**: A written demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both or other relief with respect to the terms of the Contract.
- 1.11 **Contract**: The written Agreement between the Owner and the Contractor which defines the work to be completed and shall be understood to include the Plans, Specifications, Information for Bidders, Agreement, Advertisement For Bidders, Affidavit, Bid Form, Bid Bond, Contract Bond, Notice of Award, Notice to Proceed, and Change Orders, and Claims.
- 1.12 **Contract Bond**: The approved form of security furnished by the Contractor and Surety for the faithful performance of the Work, and the payment for all labor, materials, and/ or obligations incurred by the Contractor in the prosecution thereof.

- 1.13 Contract Documents: The Agreement, all addenda which pertains to the Contract Documents, Bid Documents and specified Attachments accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award, Contractor's Bid when attached as an exhibit to the Agreement, the Bonds (Bid and Performance/Payment), General Provisions, Special Provisions, Technical Specifications, Plans, and all Field or Change Orders issued after the execution of the Agreement. Shop Drawings and other submittals by the Contractor are not Contract Documents.
- 1.14 Contract Price: The moneys payable by the Owner to the Contractor for the Work in accordance with the Contract Documents as stated in the Agreement.
- 1.15 Contract Time: The number of calendar days specified in the Agreement for completion of the Work, together with any extensions authorized through change orders.
- 1.16 Contractor: The person, association of persons, firm, or corporation entering into the duly awarded Contract.
- 1.17 Contracting Agency: The Louisiana Department of Natural Resources (DNR) acting through the Division of Administration.
- 1.18 Day: When any period of time is referred to in the Contract Documents using days, it will be computed to exclude the first day and include the last day of such period. If the last day of any such period falls on a Saturday, Sunday, or a legal holiday, that day will be omitted from the computation. A calendar day is measured as twenty-four (24) hour period starting at midnight and ending the following midnight.
- 1.19 Design Report: A written report by the Engineer which provides the design methodology for the Work.
- 1.20 Effective Date of the Agreement: The date indicated in the Agreement on which it becomes effective.
- 1.21 Engineer: The Louisiana Department of Natural Resources, Coastal Engineering Division, or its designee.
- 1.22 Equipment: All machinery, implements, and power tools, in conjunction with the necessary supplies for the operation, upkeep, maintenance, and all other tools and apparatuses necessary for the proper construction and acceptable completion of the Work.
- 1.23 Extension of Contract: Any extension of time for completion of the Work beyond the Contract Time which is granted by the Owner and recommended by the Engineer.
- 1.24 Federal Sponsor: The federal agency responsible for sponsoring the project.
- 1.25 Field Order: A written order issued by the Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or Contract Time.
- 1.26 Inspector: An authorized representative of the Engineer who is responsible to inspect the Work and materials furnished by the Contractor.
- 1.27 Laboratory: The firm, company, or corporation which is used to test materials and is approved for use by the Engineer.
- 1.28 Laws and Regulations; Laws or Regulations: Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- 1.29 Materials: Any substance used in the Work to build structures, but does not include material used in false work or other temporary structures not incorporated in the Work.
- 1.30 Milestone: A principal event specified in the Contract Documents relating to an intermediated completion date or time prior to the Contract Times.

- 1.31 Notice of Award: A written notice to the successful Bidder stating that the Bid has been accepted by the Owner and that the successful Bidder is required to execute the Contract and furnish the Contract Bond.
- 1.32 Notice to Proceed: The written notice to the Contractor by the Owner which provides the starting date for the Contract Time.
- 1.33 Owner: The Owner is the State of Louisiana (State) which acts through the Contracting Agency.
- 1.34 Plans: That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, intent, and character of the Work to be completed by the Contractor.
- 1.35 Project Site: The location where the Work is to be performed as stated in the Agreement.
- 1.36 Right-of-way: That entire area reserved for constructing, maintaining and protecting the proposed improvement, structures, and appurtenances of the Work.
- 1.37 Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portions of the Work will be judged.
- 1.38 Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work to be performed.
- 1.39 Specifications: That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the work to be performed and certain administrative details applicable thereto.
- 1.40 State: The State of Louisiana.
- 1.41 Structures: Bridges, plugs, weirs, berms, dams, levees, and other miscellaneous construction encountered during the Work and not otherwise classified herein.
- 1.42 Subcontractor: Any person, association of persons, firm, or corporation who contracts with the Contractor to perform any part of the project covered by the Contract.
- 1.43 Submittals: Certificates, samples, shop drawings, and all other project data which are submitted to the Engineer in order to verify that the correct products will be installed on the project.
- 1.44 Successful Bidder: The lowest responsible Bidder whom the Owner makes an award.
- 1.45 Special Provisions: That part of the Contract Documents which amends or supplements these General Provisions.
- 1.46 Surety: The corporate body, licensed to do business in Louisiana, bound with and for the Contractor's primary liability, and engages to be responsible for payment of all obligations pertaining to acceptable performance of the Work contracted.
- 1.47 Temporary Structures: Any non-permanent structure required while engaged in the prosecution of the Contract.
- 1.48 Written Amendment: A written statement modifying the Contract Documents which is signed by the Owner and the Contractor on or after the Effective Date of the Agreement.
- 1.49 Work: All work specified herein or indicated on the Plans.

- 1.50 Work Plan: A written plan by the Contractor that details how the Work will be provided including layout drawings, projected schedule (Initial Progress Schedule), and a list of labor hours and materials.

GP-2 BID REQUIREMENTS

The Contract and Bonds which govern the Work shall be performed in accordance with the Plans and Specifications. The Bidder understands that all quantities for performing the Work have been estimated by the Engineer, and that the Bid shall be the sum of the quantities multiplied by their respective unit rates. The Contract shall be awarded by the Owner through a comparison of all bids. It is the responsibility of each Bidder before submitting a Bid to:

- 2.1 Examine the Bidding Documents including the Plans and Specifications and any Addenda or related data identified in the Bidding Documents;
- 2.2 Visit the Project Site to become familiar with the local conditions if they are believed to affect cost, progress, or the completion of the Work;
- 2.3 Become familiar and satisfied with all federal, state, and local Laws and Regulations that may affect cost, progress, or the completion of the Work;
- 2.4 Study and correlate all information known to the Bidder including observations obtained from Bidder's visits, if any, to the Project Site, with the Bidding Documents;
- 2.5 Submit a written notice to the Engineer within three (3) days regarding any conflicts, errors, ambiguities, or discrepancies discovered in the Bidding Documents and confirm that the written resolution thereof by the Engineer is acceptable to the Bidder; and
- 2.6 All questions concerning Bid Specifications shall be submitted in writing to the Office of State Purchasing, Attention: Mr. Thomas Ketterer by fax to (225) 342-8688 or e-mail thomas.ketterer@la.gov after the Pre-Bid Conference and by the date provided in SP-3. No additional questions shall be received after this date. Oral statements will not be binding or legally effective. The Office of State Purchasing will submit addenda in response to all questions arising at the Pre-Bid Conference and site visit to all prospective Bidders on record. All prospective bidders on record may contact Thomas Ketterer at (225) 219-7839, or via e-mail;
- 2.7 Determine that the Bidding Documents are generally sufficient to convey an understanding of all terms and conditions for completing the required Work.

The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of Bid Documents. The Bidder shall comply with all other requirements specified in the Notice to Bidders.

GP-3 AVAILABILITY OF PLANS AND SPECIFICATIONS

One (1) set of Plans and Specifications shall be furnished to each Bidder. Three (3) sets of the Plans and Specifications shall be furnished to the Contractor upon award of the Contract. Additional sets may be furnished upon request from the Coastal Engineering Division of the Louisiana Department of Natural Resources, 617 North 3rd Street, 10th Floor, Baton Rouge, Louisiana 70804.

GP-4 LAWS, REGULATIONS, STANDARDS, SPECIFICATIONS, AND CODES

Bidders are required to become familiar and remain in compliance with all Federal, State, and local laws, ordinances, permits, and regulations which may affect all employees and execution of the Work. The filing of a bid will be presumptive evidence that the Bidder has complied with this requirement. The Owner will not be responsible for any inaccurate interpretations or conclusions drawn by the Contractor from information and documentation provided by the Owner.

References to standards, specifications, manuals, or codes of any technical society, organization, association, or to Laws and Regulations, whether such reference be specific or by implication, in effect at the time of opening the Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents. No provision of any such standard, specification, manual or code, or any instruction of a supplier shall be effective to change the duties or responsibilities of the Owner or Engineer, or any of their Subcontractors, consultants, agents, or employees from those set forth in the Bid Documents. No such provision shall be effective to assign to the Owner or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of the Contractor's obligations or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

The Contractor shall indemnify the Owner and its representatives against any claim or liability arising from all violations of any laws, bylaws, ordinances, codes, regulations, orders, or decrees. The obligations imposed by these specifications are in addition to and are not to be construed in any way as a limitation of any rights available to the Engineer or Owner which are otherwise imposed by any laws or regulations, or other provisions within the Contract Documents.

GP-5 PRE-BID CONFERENCE AND SITE VISIT

A mandatory pre-bid conference will be held at the location and on the date provided in the Notice to Bidders. A site visit may be required, to be held at the project Site. If a mandatory site visit is required, this will be discussed and a date established at the mandatory pre-bid conference meeting. Bidders will be required to furnish their own transportation to the Project Site. Representatives of the Owner and Engineer will attend the pre-bid conference and site visit, to discuss the Work. Bidders are required to attend the pre-bid conference and site visit (if held). Failure to attend will result in a null and void Bid.

All questions shall concerning the bid specifications shall be faxed to the Office of State Purchasing, Attention: Mr. Thomas Ketterer at (225) 342-8688, or by email thomas.ketterer@la.gov after the pre-bid conference and by the date provided in SP-3. No additional questions shall be received after this date. Oral statements will not be binding or legally effective. The Engineer will submit addenda in response to all questions arising at the Pre-Bid Conference and site visit to all prospective Bidders on record. All prospective bidders on record may contact Mr. Thomas Ketterer at (225) 342-1302, or via email thomas.ketterer@la.gov for any additional information.

GP-6 NOTICE OF AWARD

The Owner shall provide written notice to the Successful Bidder stating that the Owner will sign and deliver the Agreement upon compliance with the conditions enumerated therein and within the time specified.

GP-7 NOTICE TO PROCEED AND CONTRACT TIME

The Contractor shall start the Work and begin the Contract Time on the dates provided in the Notice to Proceed. The Work shall be conducted using sufficient labor, materials, and equipment as necessary to insure completion within the Contract Time. The Contract Time for completion of the Base Bid for the Work is provided in SP-3, unless an extension is granted to the Contract Time as specified in GP-44.

GP-8 WORK PLAN

The Contractor shall develop a written Work Plan which accounts for all of the construction activities required by the Contract Documents. The Work Plan shall include a list of the individual construction tasks to be completed and the estimated dates for beginning and completing the tasks. It shall also include all other items which are applicable to completing the Work such as, but not limited to, the following:

- 8.1 Typical report form for the weekly Progress Meetings;
- 8.2 Typical form for Daily Progress Report;
- 8.3 Hurricane and Severe Storm Plan;
- 8.4 Site-specific Health and Safety Plan;
- 8.5 The delivery method and source(s) of all construction materials (company or producer name, mailing and physical address, phone number, and name of contact person).
- 8.6 The personnel, material, subcontractors, fabricators, suppliers, and types of equipment the Contractor proposes to use for construction;
- 8.7 Shop drawings, test results, and sample submittals;
- 8.8 Survey layout and stakeout;
- 8.9 All supplemental items specified in SP-6.

The Work Plan shall be submitted to the Engineer at the Pre-Construction Conference by the date provided in SP-3. The Engineer shall review the Work Plan and have the Contractor make any necessary revisions prior to acceptance of the plan.

GP-9 PROGRESS SCHEDULE

The Contractor shall develop a written Progress Schedule which provides for an orderly progression of the Work, submittals, tests, and deliveries in order to complete the Work within the specified Milestones and Contract Time. All of the items listed in the Work Plan shall be integrated into the Progress Schedule. The format of the schedule shall be composed using Microsoft Project®, or any other software or methods deemed acceptable by the Engineer. It shall be updated weekly by the Contractor, at a minimum. The Progress Schedule shall also include, but not be limited to the following:

- 9.1 All of the elements in the Work Plan, including updates;
- 9.2 A work order issued from Louisiana One Call ordering all their subscribers in the project area to mark their utilities;
- 9.3 A telephone log verifying that all property owners and utilities have been contacted. This log should list the time, date, and names of the personnel representing the property owners, utilities, and Contractor;

The following table defines the monthly anticipated adverse weather days that are expected to occur during the Contract Time and will constitute the baseline monthly weather time for evaluations. The schedule is based upon National Oceanic and Atmospheric Administration (NOAA) or similar data for the regional geographic area.

| Monthly Anticipated Adverse Weather Calendar Days | | | | | | | | | | | |
|---|------|------|------|-----|------|------|------|------|------|------|------|
| Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| 5 | 5 | 4 | 4 | 4 | 5 | 7 | 7 | 5 | 3 | 3 | 4 |

The Progress schedule must reflect these anticipated adverse weather delays on all weather dependent activities. Adverse weather days must prevent Work for fifty percent (50%) or more of the work day and delay work critical to the timely completion of the project. The number of actual adverse weather days shall be calculated chronologically from the first to the last day of each month.

The Progress Schedule shall be submitted to the Engineer at the Pre-Construction Conference by the date provided in SP-3. The Engineer shall perform a review and have the Contractor make any necessary revisions prior to acceptance of the schedule. Acceptance will not impose responsibility on the Owner or Engineer for the sequencing, scheduling, or progression of the Work. The Contractor is fully responsible for progression of the Work in order to maintain compliance with the Progress Schedule.

GP-10 DAILY PROGRESS REPORTS

The Contractor shall record the following daily information on Daily Progress Reports:

- 10.1 Date and signature of the author of the report;
- 10.2 Dollar amount of all bid items that are fabricated, installed, backfilled, pumped, constructed, damaged, replaced, etc. The amount of material shall be expressed in the units stated in the bid;
- 10.3 Field notes of all surveys;
- 10.4 Notes on all inspections;
- 10.5 Details of Health and Safety meetings;
- 10.6 A brief description of any Change Orders, Field Orders, Claims, Clarifications, or Amendments;
- 10.7 Condition of all navigation aids (i.e., warning signs, lighted marker buoys) and any repairs performed on them;
- 10.8 Weather conditions (adverse weather day, wind speed and direction, temperature, wave height, precipitation, etc.);
- 10.9 The amount of time lost to severe weather, personnel injury, etc;
- 10.10 Notes regarding compliance with the Progress Schedule;
- 10.11 Visitor log (Instructions for format will be furnished by the Field Engineer)

The daily progress reports shall be submitted to Engineer at the Weekly Progress Meetings specified in GP-13 in both hard copy and digital format (Adobe Acrobat® Format, or approved equal). The typical form for Daily Progress Reports shall be developed by the Contractor and incorporated into the Work Plan.

GP-11 HURRICANE AND SEVERE STORM PLAN

The Contractor shall develop and maintain a written Hurricane and Severe Storm Plan. The Plan shall include, but not be limited to, the following:

- 11.1 What type of actions will be taken before storm strikes at the Project Site? The plan should specify what weather conditions or wave heights will require shutdown of the Work and removal of equipment, personnel, etc.
- 11.2 Notes from continuous monitoring of NOAA marine weather broadcasts and other local commercial weather forecasts.
- 11.3 Equipment list with details on their ability to handle adverse weather and wave conditions.
- 11.4 List of safe harbors or ports, the distance, and travel time required to transfer equipment from the Project Site.
- 11.5 Hard copies of any written approvals or operations schedules associated with the use of the safe harbors or ports.
- 11.6 Method of securing equipment at the safe harbors or ports.
- 11.7 List of tug boats and work boats with their respective length, horsepower, etc. which will adequately transfer the equipment to safe harbor or port under adverse weather conditions.
- 11.8 Methods which will be used to secure equipment left onsite during adverse weather conditions.
- 11.9 Evacuation or immediate reaction plans to be taken by personnel for sudden storm occurrences.
- 11.10 Operations procedures which will be used to secure critical dredging equipment such as spuds, swing wires, anchor wires, or tugs during adverse weather conditions.
- 11.11 Communications protocol with local law enforcement and fire and rescue agencies.

The Contractor shall incorporate the Hurricane and Severe Storm Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-12 HEALTH, SAFETY PLAN, AND INSPECTIONS

The Contractor shall develop and maintain a written Health and Safety Plan which is specific to the Project Site and allows the Work to be performed in compliance with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the safety of personnel or property. This includes maintaining compliance with the Code of Federal Regulations, Title 29, Occupational Safety and Health Administration (OSHA) and all applicable Health and Safety Provisions of the State of Louisiana.

The Contractor shall institute a daily inspection program to assure that the requirements of the Health and Safety Plan are being fulfilled. Inspections shall include the nature of deficiencies observed, corrective action taken or to be taken, location of inspection, date, and signature of the person responsible for its contents. The results of the inspections shall be recorded on Daily Progress Reports and kept at the Project Site during the Work.

The Contractor shall incorporate the Health and Safety Plan into the Work Plan. The Owner and Engineer are not responsible for the adequacy of this plan.

GP-13 PROGRESS REPORT AND SCHEDULED MEETINGS

The Engineer shall schedule meetings to review the progress of the Work, coordinate future efforts, discuss compliance with the Progress Schedule and resolve miscellaneous problems. The Engineer or Inspector, Contractor, and all Subcontractors actively working at the Project Site shall attend each meeting. Representatives of suppliers, manufacturers, and other Subcontractors may also attend at the discretion of the Contractor. The Contractor shall record the details of each meeting in a Progress Report. The format of this report shall be developed by the Contractor, approved by the Engineer and included in the Work Plan. The progress meetings and reports shall be scheduled according to SP-3.

GP-14 PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference shall be held by the Contractor, Subcontractors, Owner, Engineer, local stakeholders, and other appropriate personnel prior to starting construction on the date specified in SP-3. This conference shall establish a mutual understanding of the Work to be performed, the elements of the Progress Schedule, and Work Plan, expectations for weekly progress meetings, the Plans and Specifications, processing Applications for Payment, and any other items of concern. If any subcontractors are not present, another pre-construction conference will be required.

GP-15 CONTRACT INTENT

The Bid Documents are complementary; what is called for by one is as binding as if called for by all. Clarifications and interpretations or notifications of minor variations and deviations of the Contract Documents will be issued by the Engineer as provided in GP-16. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Bid Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided at no additional cost to the Owner.

GP-16 ENGINEER AND AUTHORITY OF ENGINEER

The Engineer will be the designated representative of the Owner, the initial interpreter of the Contract Documents, and the judge over acceptability of all the Work. Claims, disputes, and other matters relating to the acceptability of the Work, performance by the Contractor, or the interpretation of the requirements of the Contract Documents must be submitted to the Engineer in writing. Upon written request from the Contractor, the Engineer shall issue written clarifications or interpretations which are consistent with the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on the Owner and the Contractor. Either the Owner or the Contractor may make a Claim if a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times.

The Engineer has the authority to suspend the Work in whole or in part due to failure of the Contractor to correct conditions unsafe for workmen or the general public, carry out provisions of the Contract, perform work in conformance with the plans and specifications, or to carry out orders. The Engineer shall submit a written order to the Contractor for work which must be suspended or resumed. Nothing in this provision shall be construed as establishing responsibility on the part of the Engineer for safety which is the responsibility of the Contractor.

The Engineer or Inspector shall keep a daily record of weather and flood conditions and may suspend the Work as deemed necessary due to periods of unsuitable weather, conditions considered unsuitable for execution of the Work, or for any other condition or reason deemed to be in the public interest.

GP-17 CONFORMITY WITH PLANS AND SPECIFICATIONS

All work and materials involved with the Work shall conform to the lines, grades, cross sections, dimensions, and other requirements shown on the Plans or indicated in the Specifications unless otherwise approved by the Engineer.

GP-18 CLARIFICATIONS AND AMENDMENTS TO CONTRACT DOCUMENTS

The Contract Documents may be clarified or amended by the Engineer to account for additions, deletions, and revisions to the Work after the Effective Date of the Agreement. The clarifications and amendments shall be addressed by either a Change Order or a written clarification by the Engineer. The Contractor shall not proceed with the Work until the Change Order or clarification has been issued by the Engineer. The Contractor shall not be liable to the Owner or Engineer for failure to report any such discrepancy unless the Contractor had reasonable knowledge.

The Contractor may request a clarification or amendment for the following:

- 18.1 Any conflict, error, ambiguity, or discrepancy within the Contract Documents; or
- 18.2 Any conflict, error, ambiguity, or discrepancy between the Bid Documents and the provision of any Law or Regulation applicable to the performance of the Bid; or
- 18.3 Any standard, specification, manual, or code (whether or not specifically incorporated by reference in the Bid Documents); or
- 18.4 Instructions by a supplier.

The official form for a written clarification is provided in [Appendix A](#). This form shall be filled out appropriately by the Contractor and submitted to the Engineer. The Engineer shall clarify the issue in writing on either the clarification form or a Change Order and submit it to the Contractor.

GP-19 SUBCONTRACTS

The Contractor shall provide the names of all Subcontractors to the Engineer in writing before awarding any Subcontracts. The Contractor shall be responsible for the coordination of the trades and Subcontractors engaged in the Work. The Contractor is fully responsible to the Owner for the acts and omissions of all of the Subcontractors. The Owner and Engineer will not settle any differences between the Contractor and Subcontractors, or between Subcontractors. The Contractor shall have appropriate provisions in all Subcontracts to bind Subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents, as applicable to the Work of Subcontractors. The provisions should provide the Contractor the same power regarding termination of Subcontracts that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

GP-20 WORKERS, METHODS, AND EQUIPMENT

The Contractor shall provide competent, qualified, and trained personnel to perform the Work. The Contractor shall provide the names of the Subcontractors to the Engineer in writing before awarding any Subcontracts. The Contractor shall not employ any person found objectionable by the Engineer. Any person employed by the Contractor or any Subcontractor who, in the opinion of the Engineer does not perform the Work in a proper, skillful and orderly manner shall be immediately removed upon receiving a written order by the Engineer. The Engineer may also suspend the Work until the Contractor removes the employee or provides a suitable replacement. Such an employee shall not be re-employed in any portion of the Work without written approval from the Engineer.

The on-site superintendent for the Contractor shall be competent, fluent in English, and qualified to receive orders, supervise, and coordinate all Work for the Contractor and any Subcontractors. The qualifications of the superintendent must be established and approved by the Engineer prior to commencement of the Work. The superintendent shall be furnished by the Contractor regardless of how much Work may be sublet. In the performance of the Work under this Contract, the Contractor shall conduct operations to avoid interference with any other Contractors.

All equipment, products, and material incorporated into the Work shall be as specified, or if not specified, shall be new, of good quality and protected, assembled, used, connected, applied, cleaned, and conditioned in accordance with the manufacturer's instructions, except as otherwise may be provided in the Bid Documents. All equipment shall be of sufficient size and mechanical condition to meet the requirements of the Work and produce a satisfactory quality of work. Equipment shall not damage adjacent property throughout the performance of the Work.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures used to complete the Work in conformance with the Contract Documents.

The Contractor shall obtain permission from the Engineer if a method or type of equipment other than specified in the Contract is desired. The request shall be in writing and shall include a full description of the methods, equipment proposed, and reasons for the modification. A proposed item of material or equipment may be considered by the Engineer to be functionally equal to an item specified in the Contract if:

- 20.1 It is at least equal in quality, durability, appearance, strength, and design characteristics;
- 20.2 There is no increase in any cost including capital, installation, or operating to the Owner;
- 20.3 The proposed item will conform substantially, even with deviations, to the detailed requirements of the item named in the Bid Documents.

If, after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue use of the substituted methods or equipment and shall complete the Work with the specified methods and equipment. The Contractor shall remove the deficient Work and replace it with Work of specified quality or take other corrective actions as directed. No change will be made in basis of payment for construction items involved or in Contract Time as a result of authorizing a change in methods or equipment.

GP-21 ACCIDENT PREVENTION, INVESTIGATIONS, AND REPORTING

The Contractor shall be responsible to develop and maintain all safeguards and safety precautions necessary to prevent damage, injury, or loss throughout the performance of the Work. All accidents at the Project Site shall be investigated by the immediate supervisor of employee(s) involved and reported to the Engineer or Inspector within one (1) working day. A complete and accurate written report of the accident including estimated lost time days shall be submitted to the Engineer within four (4) calendar days. A follow-up report shall be submitted to the Engineer if the estimated lost time days differ from the actual lost time days.

GP-22 PRESERVATION AND RESTORATION OF PROPERTY, MONUMENTS, ETC.

The Contractor is responsible to comply with all applicable laws, ordinances, rules, and regulations of any government agency having jurisdiction over the preservation and protection of public and private property. The Contractor shall install and maintain suitable safeguards and safety precautions during the Work as necessary to prevent damage, injury, or loss to property. This responsibility shall remain with the Contractor until the Work has been completed and accepted. Any damage, injury, or loss to property which is caused by the Contractor or Subcontractors shall be repaired or replaced at the expense of the Contractor.

The Contractor shall protect all land monuments, State and United States bench marks, geodetic and geological survey monuments, and property markers from disturbance or damage until an authorized agent has witnessed or otherwise referenced their location. The Contractor shall also provide protection for all public and private property including trees, utilities, pipes, conduits, structures, etc. These items shall not be removed unless directed by the Engineer.

The Contractor shall be responsible to completely repair all damages to public or private property due to any act, omission, neglect, or misconduct in the execution of the Work unless it is due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, public enemies, or governmental authorities. The damage must be repaired at the expense of the Contractor before final acceptance of the Work can be granted by the Engineer. If the Contractor fails to repair the damage within forty-eight (48) hours, the Owner may independently proceed with the repairs at the expense of the Contractor by deducting the cost from the Contract. If the Contractor cannot provide for the cost of repairs, the Surety of the Contractor shall be held until all damages, suits, or claims have been settled.

GP-23 PROTECTION OF THE WORK, MATERIALS, AND EQUIPMENT

It shall be the responsibility of the Contractor to protect the Work, materials, and equipment from damages or delays due to inflows, tidal rise, and storm water runoff which may occur at the Project Site. The Owner shall not be held liable or responsible for these types of delays or damages.

GP-24 LAND RIGHTS

The owner is not conveying any land rights at this time. The contractor is responsible for obtaining all rights of access from all necessary landowners.

GP-25 UTILITIES

The Owner has been granted all of the temporary easements, servitudes and right-of-way agreements from public and private utilities in order to perform the Work. The utilities include, but are not limited to telephone, telegraph, power poles or lines, water or fire hydrants, water or gas mains and pipelines, sewers, conduits, and other accessories or appurtenances of a similar nature which are fixed or controlled by a city, public utility company or corporation. A land rights memorandum is provided in [Appendix B](#) which lists all responsible contacts and required stipulations.

The Contractor shall conduct the Work in such a manner as to cooperate and minimize inconveniences with utilities. Prior to commencement of the Work, the Contractor is responsible to notify all of the utilities, abide by stipulations listed in the land rights memorandum, and make any necessary adjustments. The Contractor shall also call Louisiana One Call at 1-800-272-3020 a minimum of 5 working days prior to construction to locate existing utilities at the Project Site.

Any damage to utilities that is caused by the Contractor within the Project Site shall be repaired at the expense of the Contractor. The Owner will not be responsible for any delay or damage incurred by the Contractor due to working around or joining the Work to utilities left in place or for making adjustments.

Any unidentified pipes or structures which may be discovered within the limits of the Project Site shall not be disturbed and reported to the Engineer as soon as possible. Construction or excavation shall not be performed around unidentified utilities without prior approval from the Engineer.

GP-26 PERMITS

All Federal and State permits that are required to perform the Work, such as the COE 404 Permit, Coastal Use Permit, and LDEQ Clean Water Permit, have been secured by the Owner. Copies of these permits are provided in [Appendix C](#). These permits will not relieve the responsibility of the Contractor from obtaining any additional permits which may be needed to complete the work. Copies of any special permits that are obtained by the Contractor must be submitted to the Owner. The Contractor shall conform to the requirements therein and display copies of the permits in a public setting at the Project Site at all times.

GP-27 PROJECT SITE CLEAN-UP

The Contractor shall keep the Project Site free from accumulations of waste material or trash at all times. All trash and waste materials shall be removed by the Contractor and disposed off-site in an approved waste disposal facility. In addition, all equipment, tools, and non-conforming work shall also be removed prior to the Work being accepted. No materials shall be placed outside of the Project Site.

GP-28 OWNER INSPECTION

The Owner, Inspector, and Federal Sponsor shall have the right to perform reasonable inspections and testing of the Work at the Project Site. Access shall be granted to the entire Project Site including all materials intended for use in the Work. The Contractor shall allow reasonable time for these inspections and tests to be performed. The inspections shall not relieve the Contractor from any obligation in accordance with the requirements of the Contract.

The Owner shall notify the Contractor prior to all tests, inspections, and approvals of the Work which are to be conducted at the Project Site. The Owner shall also provide the Contractor with the written results of all inspections and tests. Inspections, tests or Payments made by the Owner shall not constitute acceptance of non-conforming Work or prejudice the Owner's rights under the Contract.

GP-29 DUTIES OF INSPECTOR

An Inspector shall be assigned by the Engineer to the Project Site to observe the Contractor and monitor the progress and manner in which the Work is being performed. The Inspector will also report to the Engineer and Contractor whenever materials or work fail to comply with the Contract. The Inspector is authorized to reject any materials or suspend work which does not comply with the Contract until the issue is resolved by the Engineer.

However, the Inspector is not authorized to revoke, alter, enlarge, relax or release any requirements of the Contract, approve or accept any portion of the Work, or to issue instructions contrary to the Plans and Specifications. The Inspector shall not manage or perform duties for the Contractor.

GP-30 CONSTRUCTION STAKES, LINES, AND GRADES

The Engineer shall direct the Contractor to all control points necessary for setting stakes and establishing lines and grades as shown on the Plan Drawings. The Contractor shall be responsible for laying out all of the Work. All layouts shall be witnessed and verified by the Engineer or Inspector prior to beginning the Work. The Contractor shall be responsible for proper execution of the Work according to the layouts after receiving verification from the Engineer.

The Contractor shall be responsible for furnishing and maintaining the stakes such that the Work can be verified for acceptance. The Engineer may suspend the Work at any time if it cannot be adequately verified due to the number, quality, or condition of the stakes.

Lonnie G. Harper and Associates, Inc. (LGH) will provide the initial layout of the centerline and toe of levee system on approximately 100 foot intervals, as well as scour related survey. LGH will also provide temporary elevation benchmarks at 25 locations within the project boundaries.

GP-31 CONTRACTOR'S RESPONSIBILITY FOR WORK

The Contractor shall execute all items covered by the Contract, and shall furnish, unless otherwise definitely provided in the Contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to complete the Work. The Contractor shall pay constant attention to the progress of the Work and shall cooperate with the Engineer in every way possible. The Contractor shall maintain a complete copy of the Contract at all times, including the Plans, Specifications, and any authorized modifications.

GP-32 CONTROL OF SILTATION AND WATER POLLUTION

The Contractor shall comply with all applicable Federal and State regulations, and statutes relating to the prevention and abatement of pollution in the performance of the Contract. The Contractor shall conduct the Work in a manner that will not cause damaging concentrations of silt or pollution to water. The Contractor shall prevent fuels, oils, bituminous materials, chemicals, sewage, or other harmful contaminants from entering the land or water.

GP-33 SANITARY PROVISION

The Contractor shall provide and maintain sanitary accommodations for use by all employees and Subcontractors. Facilities shall comply with the requirements of the Louisiana State Board of Health and Hospitals and other authorities having jurisdiction. Committing public nuisance on the Project Site is prohibited.

GP-34 PAYMENT OF TAXES

The Contractor shall be responsible for all taxes and duties that maybe levied under existing State, Federal, and local laws during the completion of the Work. The Owner will presume that the amount of such taxes is included in the unit prices bid by the Contractor and will not provide additional reimbursement.

GP-35 RADIO TELEPHONES

The Contractor shall furnish and maintain radio and telephone equipment throughout the Contract Time which will allow communication between the Contractor and the Engineer or Inspector.

GP-36 NAVIGATION

All marine vessels shall comply with the following Federal Laws and Regulations:

- 36.1 The International Navigational Rules Act of 1977 (Public Law 95-75, 91 Stat. 308, or 33 U.S.C. 1601-1608); and
- 36.2 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/navrules.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."

GP-37 OBSTRUCTION TO NAVIGATION

The Contractor shall minimize all obstructions to navigation in compliance with pertinent U. S. Coast Guard regulations while conducting the Work. The Contractor shall promptly move any floating equipment or marine vessels which obstruct safe passage of other marine vessels. Upon completion of the Work, the Contractor shall remove all marine vessels and other floating equipment such as temporary ranges, buoys, piles, and other marks or objects that are not permanent features of the Work.

GP-38 MARINE VESSELS AND MARINE ACTIVITIES

All marine vessels operated by the Contractor shall possess a valid United State Coast Guard (USCG) inspection certificate and current American Bureau of Shipping (ABS) Classification. All officers and crew shall possess valid USCG licenses as required by USCG regulations. These certificates, classifications, and licenses shall be posted in a public area on board each vessel.

All marine vessels not subject to USGS certification or ABS Classification shall be inspected annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS). All inspections shall be documented using an appropriate report format. At a minimum, the inspections shall evaluate the structural integrity of the vessel and comply with the National Fire Protection Association Code No. 302 - Pleasure and Commercial Motor Craft. The most recent inspection report shall be posted in a public area on board each vessel.

GP-39 RECORDKEEPING

The Contractor shall maintain orderly records of the Progress Schedule, Daily Progress Report, Weekly Progress Meetings, correspondence, submittals, reproductions of original Contract Documents, Change Orders, Field Orders, certificates, additional drawings issued subsequent to the executed Contract, clarifications, and interpretations of the Contract Documents by the Engineer, and other related documents at the Project Site until all of the Work is accepted by the Engineer.

GP-40 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies. Each certificate shall be certified by an authorized agent of the supplying company and shall contain the name and address of the Contractor, the project name and location, the quantity, and date of shipment. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the testing date. The Contractor shall also certify that all materials and test reports conform to the requirements of the Contract. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if the material is tested and determined to be in nonconformance.

GP-41 SUBMITTALS

The contractor shall review all Submittals for compliance with the requirements of the Contract prior to delivery to the Engineer. Each Submittal shall contain a signed statement by the Contractor that it complies with the Contract requirements with any exceptions explicitly listed. The Contractor shall comply with these requirements for Submittals from Subcontractors, manufacturers, and suppliers.

All Submittals shall include sufficient data to demonstrate that the requirements of the Contract are met or exceeded. All submittals shall be legible and marked with the project title and clearly identify the item submitted. Each submittal package shall include an itemized list of the items submitted.

All submittals shall be reviewed within fourteen (14) days after being received by the Engineer. The Contractor shall allow the Engineer sufficient time for review, corrections, and resubmission of all submittals prior to beginning the associated Work. The Contract Time shall not be extended based on incorrect or incomplete Submittals.

GP-42 MODIFICATIONS TO THE WORK

The Engineer may authorize modifications, additions or deductions to the Work using Change Orders, Field Orders, or Written Amendments. The requirements and stipulations of these documents shall be binding on the Owner and Contractor throughout the remainder of the Contract.

GP-43 INCREASES TO CONTRACT PRICE

The Contractor shall complete the Work according to the Contract Price specified in the Bidding Documents. Under certain circumstances, the Contractor may request for a legitimate increase to the Contract Price using a Claim. The Claim shall justify the request for an increase in Contract Price by providing supporting data and calculations. The Claim must be submitted to the Engineer in writing within fourteen (14) days after the event occurs which necessitates the increase in contract price. If an increase in Contract Price involves an extension of Contract Time, both claims shall be submitted together. The Engineer reserves the right to accept, deny, or negotiate the Claim. If the Claim is accepted, the Engineer shall issue a Change Order. Where a change order is negotiated, the Contractor shall fully document and itemize costs, including material quantities, material costs, taxes, insurance, employee benefits, other related costs, profit, and overhead. The requirements and stipulations of Change Order shall be binding on the Owner and Contractor throughout the remainder of the Contract.

The increase in Contract Price shall be determined by the following:

- 43.1 By application of the unit prices in the Contract to the quantities of the items involved; or
- 43.2 By mutual acceptance between the Owner and Contractor of a lump sum.

If the Contractor is prevented from completing the Work according to the Contract Price due to the Owner, the Contractor may be entitled to any reasonable and necessary addition of cost as determined by the Engineer. Neither the Owner nor the Contractor shall be entitled to any damages arising from events or occurrences which are beyond their control, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, acts of war, and other like matters. The provisions of this section exclude recovery for damages caused by the Contractor and compensation for additional professional services by either party.

GP-44 EXTENSION OF CONTRACT TIME

The Contractor is expected to complete the Work within the Contract Time specified in the Bidding Documents. A legitimate increase of the Contract time may be requested by the Contractor throughout the course of the Work. This Claim must be submitted to the Engineer in writing within fifteen (15) days of the event which caused the time delay to the Contractor. If an extension of Contract Time involves an increase in Contract Price, both claims shall be submitted together. The Contractor shall justify the increase of the Contract Time in the Claim using supporting data and calculations. The Engineer may deny the claim if there is insufficient information to make a determination. If the Claim is approved, the Engineer shall issue a Change Order within thirty (30) days of the Claim. The Contract Time shall be increased on a basis that is commensurate with the amount of additional or remaining Work. For example, the Contract Time can be increased where the number of actual adverse weather days exceeds the number of days estimated in the Contract.

GP-45 DEFAULT AND TERMINATION OF CONTRACT

The Owner shall submit a written notice to the Contractor and Surety which justifies placement of the Contractor in default if:

- 45.1 The Work is not begun within the time specified in the Notice to Proceed; or
- 45.2 The Work is performed with insufficient workmen, equipment, or materials to assure prompt completion; or

- 45.3 The Contractor performs unsuitable, neglected or rejected work, refuses to remove materials; or
- 45.4 The Work is discontinued; or
- 45.5 The Work is not completed within the Contract Time or time extension; or
- 45.6 Work is not resumed within a reasonable time after receiving a notice to continue; or
- 45.7 The Contractor becomes insolvent, or is declared bankrupt, or commits, any act of bankruptcy or insolvency; or
- 45.8 The Contractor allows any final judgment to stand unsatisfied for a period of ten (10) days; or
- 45.9 The Contractor makes an assignment for the benefit of creditors; or
- 45.10 The Work is not performed in an acceptable manner.

If the Contractor or Surety does not remedy all conditions cited in the written notice within ten (10) days after receiving such a notice, the Contractor will be in default and the Owner shall remove the Contractor from the Work. If the Contractor is placed into default, the Owner may obtain the necessary labor, materials, and equipment or enter into a new Agreement and Contract in order to complete the Work. All costs incurred by the Owner for completing the Work under the new Contract will be deducted from the payment due the Contractor. If the expense exceeds the sum payable under the Contract, the Contractor and Surety shall be liable to pay the Owner the difference.

GP-46 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to temporarily suspend the Work in whole or in part. A Field Order shall be issued to the Contractor for any of the Work that is suspended for periods exceeding one (1) calendar day. The Field Order shall include the specific reasons and details for the suspension. The Contract Time shall not be extended if the Work is suspended due to failure by the Contractor to comply with a Field Order or with the Plans and Specifications. If the Work is suspended in the interest of the Owner, the Contractor shall make due allowances for the lost time.

GP-47 NON-CONFORMING AND UNAUTHORIZED WORK

Work not conforming to the Plans, Specifications, Field Orders, or Change Orders shall not be accepted or compensated. Unacceptable or unauthorized work shall be removed and replaced in an acceptable manner at the expense of the Contractor in order to obtain final acceptance of the Work.

GP-48 CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

The Contractor may terminate the Contract or Work and recover payment from the Owner for labor and materials if the Work is stopped through no act or fault of the Contractor for more than three (3) months. For example, such an occurrence could be caused by a court order or other public authority. In any case, the Contractor shall submit a written notice to the Engineer at the beginning of the occurrence, and a written Claim to the Owner at the end of the occurrence.

GP-49 BREACH OF CONTRACT

The Owner shall submit a written Claim to the Contractor regarding any breach of the Contract. The Contractor must provide a written response to the Owner regarding the breach of Contract within ten (10) days after the Claim. This response must provide either an admission to the Claim or a detailed denial based on relevant data and calculations. The failure of the Contractor to provide a proper response within ten (10) days shall result in justification of the Claim by default.

GP-50 NO WAIVER OF LEGAL RIGHTS

The Owner shall not be prevented from recovering costs from the Contractor, Surety, or both due to failure of the Contractor to fulfill all of the obligations under the Contract. If a waiver is provided to the Contractor for a breach of Contract by the Owner, it shall not apply to any other breach of Contract. Final acceptance of the Work shall not prevent the Owner from correcting any measurement, estimate, or certificate. The Contractor shall be liable to the Owner without prejudice to the terms of the Contract or any warranty for latent defects, fraud, or gross negligence.

GP-51 LIABILITY FOR DAMAGES AND INJURIES

To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, Engineer, and their affiliates from claims, costs, losses, demands, and judgments (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) caused by negligence of the Contractor or the Contractor's affiliates under this Contract, provided that it:

- 51.1 Is attributable to bodily injury, sickness, disease, death, injury to, or destruction of tangible property including the loss of use resulting there from; or
- 51.2 Is caused by negligence or omission of the Contractor or Subcontractors to furnish any of the Work in accordance with all Laws and Regulations.

The indemnification obligations of the Contractor shall not extend to the liability of the Owner, Engineer, and their affiliates arising out of the preparation or approval the Plans, Specifications, maps, opinions, reports, surveys, Change Orders, or for providing directions or instructions which are the primary cause of the injury or damage.

Should the Owner or Contractor suffer from any injury or damage due to an error, omission, or act of the other party or their legally liable affiliates, a written Claim shall be submitted to the other party within ten (10) days. The Claim shall provide all details regarding the injury or damage, the results of any investigations, and the action to be taken to prevent any reoccurrence.

GP-52 LIABILITY FOR LOSSES BY ACTS OF THE GOVERNMENT

The Owner shall not be liable for any loss or damage suffered by the Contractor arising out of a cessation of Work under this Contract due to any act or order of any local, state, or federal government agency. If this cessation occurs, the Contractor may request an extension of the Contract Time according to the provisions in GP-44.

GP-53 FINAL INSPECTION AND ACCEPTANCE

The Engineer, Owner, and Contractor shall perform a final inspection after receiving written notice from the Contractor that all of the Work is complete. If the Work is determined to be unsatisfactory, the Engineer shall notify the Contractor in writing of the deficiencies and recommended corrective actions.

Unfulfilled work or damages caused by the negligence of the Contractor or Subcontractors shall be repaired or corrected at the expense of the Contractor. All other damages to the Work which received previous acceptance by the Engineer shall be repaired at the expense of the Owner. Upon completion of the repairs or corrections, the Engineer, Owner, and Contractor shall perform another inspection. The Engineer shall submit a written notice of acceptance to the Owner after the Work has been determined to be satisfactorily completed according to the Contract.

GP-54 AS-BUILT DRAWINGS

The Contractor shall keep an accurate as-built record (red-line drawings), in a manner approved by the engineer, of all changes in the Contract Documents during construction. Before the work is accepted by the Owner, the Contractor shall furnish the Engineer a copy of this record. Any marking for changes, revisions, etc., shall be in red erasable pencil.

GP-55 COMPLETION OF CONTRACT

Completion of the Contract requires all of the Work to be complete, final inspection by the Engineer, acceptance by the Owner as recommended by the Engineer, and after final payment made. After the Contract is complete, the Contractor will then be released from further obligation except as set forth in the Contract Bond and Contractor's Guarantee.

GP-56 CONTRACTOR'S GUARANTEE

The Contractor is obligated to provide a written guarantee to the Owner that all of the Work conforms to the Contract Documents. The Work shall be guaranteed to survive for a minimum period of one (1) year after final acceptance, unless otherwise specified in the Technical Specifications.

56.1 The guarantee shall include:

- 56.1.1 A written warranty by the manufacturer for each piece of installed project equipment or apparatus furnished under the Contract.
- 56.1.2 Any necessary repair or replacement of the warranted equipment during the guarantee period at no cost to the Owner.
- 56.1.3 Satisfactory operation of installed equipment including, but not limited to, any mechanical and electrical systems furnished and constructed under the Contract during the guarantee period. The Contractor shall repair all equipment which fails due to defective materials or faulty workmanship during the guarantee period. The Contractor shall also be liable for all other ancillary expenses incurred by the Owner due to the failure.

56.2 The guarantee shall exclude defects or damage caused by:

- 56.2.1 Abuse or improper modification, maintenance, or operation by anyone other than the Contractor; or
- 56.2.2 Wear and tear under normal usage.
- 56.2.3 Hurricane Impacts

56.3 This obligation by the Contractor shall be absolute. The following actions will not constitute acceptance of non-conformance work or release the Contractor from obligation to furnish the Work in accordance with the Contract Documents:

56.3.1 Observations by the Owner or Engineer; or

56.3.2 Recommendations by the Engineer or payment by the Owner; or

56.3.3 Use of the Work by the Owner; or

56.3.4 Issuance of a notice of acceptance by the Owner pursuant to the provisions of GP-53, or failure to do so; or

56.3.5 Any inspection, test, or approval by others; or

56.3.6 Any correction to non-conforming work by the Owner.

PART II SPECIAL PROVISIONS

SP-1 LOCATION OF WORK

The CS-04A-L Project is located approximately six miles northeast of the town of Cameron, in Cameron Parish. The project is bounded on the West side by the Eastern shore of Calcasieu Lake, on the North by the Gulf Intracoastal Waterway, and on the East and South by the Sabine National Wildlife Refuge and private landowners. The project is authorized by the Coastal Wetland Planning, Protection, and Restoration Act (CWPPRA). The Natural Resources Conservation Services (NRCS) is the Federal Sponsor, with the Louisiana Department of Natural Resources (LDNR) as the local sponsor. NRCS and LADNR will review, comment, and provide input into all phases of the process covered by this document, for the CS-04A-L project.

The CS-04-A project consists of five water control structures and approximately 16.1 miles of earthen levee. All five structures and the earthen levee system are located on the Eastern shore of the Calcasieu Lake. This system controls water levels and water quality within the Cameron-Creole Watershed under the management and control of the United State Fish and Wildlife Services. The structures involved are:

- Peconi Bayou Structure, located at the juncture of Peconi Bayou and Calcasieu Lake.
- Mangrove Bayou Structure, located at the juncture of Mangrove Bayou and Calcasieu Lake.
- Grand Bayou Structure, located at the juncture of Grand Bayou and Calcasieu Lake.
- Lambert Bayou Structure, located at the juncture of Lambert Bayou and Calcasieu Lake.
- No Name Bayou Structure, located at the juncture of an un-named Bayou and Calcasieu Lake.

The Peconi and Lambert structures are identical; each structure contains four lower gates and four upper gates. The Mangrove and No Name structures are identical; each structure contains four gates. The Grand Bayou structure contains five lower gates and one upper gate. The upper gate and one of the lower gates are located at the center of the structure and allow boat passage from Calcasieu Lake to the marsh side of all structures

This levee system and water control structures received major damage as a result of Hurricanes Rita and Ike. Repairs have been made to the water control structures as well as breaches in the levee system that occurred during Hurricane Rita. The entire levee system will be restored to pre-hurricane condition in two phases. This project represents the work to be performed in Phase II which includes the Northern portion of the levee system that can be accessed by marine vessels only.

PHASE II

Phase II consists of the restoration of 14.5 miles (approximately 76,806 (linear feet) of earthen levee. This phase of the project begins at the east end of the No Name Bayou water control structure and extends to the northern terminus of the area to be restored. Fill shall be removed from a commercial pit and transported to the project site using marine vessels only. Access to the project site through Calcasieu Lake must occur along five designated access routes. The draft of all marine vessels utilizing these routes shall not exceed four feet. Deviation from these routes will result in damage to the oyster resources in the area. The Contractor will be held liable for these damages. Five staging areas located landward and adjacent to the Eastern shore of Calcasieu Lake along with a fifteen foot wide temporary workspace along the entire reach of the levee have been designated on the plans for use by the Contractor during construction. These areas must be returned to pre-project condition when the project is completed.

Flotation dredging to an of -4' NAVD 88 will be permitted along the five designated access routes near the Eastern Bank of Calcasieu Lake. These areas must also be returned to pre-project condition when the project is completed. The Plans contain a bathymetric survey of Calcasieu Lake that depicts depth contours near the project site.

SP-2 WORK TO BE DONE

The Contractor shall provide all labor, materials, and equipment necessary to perform the work associated with the restoration of the existing levee damaged by Hurricanes Rita and Ike in the Cameron-Creole Watershed defined as Phase II. The northern 76,806 linear feet of levee, defined as Phase II, shall be restored with approximately 286,123.16 CY of select fill in place to be hauled in by marine equipment, and placed on the upper surface of the existing levee by land based vehicles, or other means selected by the contractor, and approved by the engineer/owner. Construction shall be halted if the existing levee starts to show significant signs of rutting due to construction traffic affecting underlying lifts. No extra cost to the owner will be allowed if other methods and means of select fill transportation are implemented including the use of timber matting, aggregate surface course, placement of geotextile fabrics, etc. Contractor shall confine all construction activities including the placement of fill to the limits of the fill template specified on the project drawings. Any other method of construction shall be explained in detail in writing by the contractor and approved by the engineer/owner prior to award of bid.

The restored levee shall achieve a finished grade of +7.50' NAVD 88, with side slopes of 3 to 1 horizontal and vertical respectively without affecting the existing bank lines within this project. The slopes and crown of levee shall be treated with a lime stabilization course when specified by the project engineer, to achieve specified compaction ratios, and moisture contents. The finished crown and slopes shall then be seeded with specified species of plant life for the current season of year in which the project is completed.

The contractor shall use only the marine access routes provided within the project plans. Coordinates of these routes are provided on the drawings and contractor shall contact the Louisiana Department of Wildlife and Fisheries prior to, as well as have a representative from the Louisiana Department of Wildlife and Fisheries present during the initial navigation of routes, to confirm route and oyster reef locations. Flotation channels shall be dredged in accordance with the project plans and specifications to a maximum bottom width of 50' with a one on three (1:3) slope and a maximum depth of -4.00' NAVD 88, to allow for a maximum draft of 4 feet. Materials shall be placed adjacent to the channel in non-vegetated areas. Flotation channels shall be located within the project plans.

- 2.1 The Work shall be performed in accordance with these Specifications and in conformity to lines, grades, and elevations shown on the Plans or as directed by the Engineer. Layouts, shop drawings, and construction sequencing of these items shall be provided in the Work Plan. The major tasks associated with the Work are described as follows:
 - 2.1.1 Select Fill: Fill shall be hauled to project site by marine equipment. The contractor shall adhere to specified marine routes provided by the Louisiana Department of Wildlife and Fisheries, and shall contact Mr. Michael Harbison (337.491.2579) of the Louisiana Department of Wildlife and Fisheries prior to the initial navigation of these five (5) routes. The presence by the Louisiana Department of Wildlife and Fisheries is for any field adjustments that may be necessary due to existing oyster reef locations or navigable depths. Once these routes have been determined and finalized, the contractor shall not deviate from these routes unless authorized by the project engineer and or owner. The purpose of this presence is to minimize the impacts to the oyster resources in the Calcasieu Lake. The contractor shall be responsible for all damage to existing oyster reefs at no cost to the owner.
 - 2.1.2 Flotation Dredging: Contractor may dredge along the five (5) areas, along the access routes, defined as flotation channels in the project plans. These areas shown are on the project drawings and shall not be dredged to a depth and area greater than shown on the project drawings. Spoil materials shall be deposited adjacent to the channel in non-vegetated areas, as depicted on the project drawings, and shall be placed in the dredged areas upon completion of this project. There shall be no dredge material greater than 0.5 feet above original bottom contour. Only bucket dredging shall be allowed (no wheel wash allowed). There shall be temporary signing installed on a 500' spacing adjacent to the channel for location of the spoil materials as well as location of the navigation channel.

- 2.1.3 Shaping and Compacting Levee: The fill shall be placed in no more than 8 inch loose, and 6 inch compacted lifts, and spread, shaped and compacted in accordance with the project plans and specifications and by approved methods. There shall be absolutely no deliberate degradation of the levee system by the contractor for any reason whatsoever.
- 2.1.4 Seeding: Once the levee construction is complete and accepted, the disturbed soil areas shall be seeded to reduce erosion due to runoff. Seeding shall be done by approved methods and the seed selection and density shall be in accordance with project specifications for the time of year. A satisfactory method of sowing shall be employed, using approved mechanical power-drawn seeders, mechanical hand-seeders, broadcast-seeders, or other approved methods. When delays in operations extend the work beyond the most favorable planting seasons for the species designated, or when conditions are such that satisfactory results are not likely to be obtained by reason of drought, high winds, excessive moisture, etc., work shall be halted as directed by the Engineer and resumed only when conditions are favorable or when approved alternatives or corrective measures and procedures have been effected. If inspection during or after seeding operations indicates that areas have been left unplanted or other areas have been skipped, additional seed shall be applied.
- 2.1.5 Access: Once these routes have been determined and finalized, the contractor shall not deviate from these routes unless authorized by the project engineer and or owner. The maximum vessel draft shall be 4.0', and the contractor shall adhere to specified marine routes provided by the Louisiana Department of Wildlife and Fisheries. The contractor shall also contact Mr. Michael Harbison (337.491.2579) of the Louisiana Department of Wildlife and Fisheries at least four (4) days prior to the initial navigation of these five (5) routes. The contractor shall be responsible for all damage to existing oyster reefs at no cost to the owner. The Owner/Engineer gives no rights to the Contractor for the use of the Henry A. McCall Jr. boat launch.
- 2.1.6 Use of Equipment: The equipment used for the Work shall be operated within the boundaries of the Project Site and away from existing vegetated wetlands, or any other sensitive areas. Wheeled and tracked vehicles are only allowed within required construction areas as shown in the Plans. The Contractor shall be responsible for returning all disturbed wetlands to pre-existing conditions at no expense to the Owner.
- 2.1.7 Navigation Depths: Flotation channels shall be dredged and maintained to provide clear and safe navigation of all marine vessels to be used for the Work. Areas containing navigable depths shall not be impaired except as allowed by applicable laws or regulations. It is the responsibility of the Contractor to select equipment that can navigate from a navigation channel to the Project Site without dredging except for the flotation channels depicted in the Plans. All equipment shall remain floating at all times during the transit to the Project Site. The Contractor may obtain NOAA Nautical Charts and/or other charts to become familiar with the depths in the vicinity of the Project Site. The only dredging allowed within this project is floatation channel dredging landward of the 4' contour line. No dredging or prop washing shall be allowed along any of the access channels.

SP-3 BID AND CONTRACT DATES

| Milestone | Location or Recipient | Date Due |
|-------------------------------|-------------------------------|---|
| Bid Advertisement | Publications | As advertised |
| Pre-bid Conference | Provided in Notice to Bidders | Provided in Notice to Bidders |
| Questions on Bid Documents | Deliver to Purchasing | 3 days after Pre-bid Conference |
| Site Visit | Provided in Notice to Bidders | Provided in Notice to Bidders |
| Effective Date of Agreement | Contractor and Owner | Stated in Notice of Award |
| Start of Contract Time | Contractor and Owner | As stated in Notice to Proceed |
| Work Plan | Submit to Engineer | At least 14 days prior to Pre-Construction Conference |
| Progress Schedule | Submit to Engineer | At least 14 days prior to starting construction, monthly thereafter |
| Pre-Construction Conference | Contractor and Engineer | As determined by the Engineer after the Notice to Proceed is issued |
| Progress Meetings and Reports | At Project Site | As determined at Pre-Construction Conference |
| Red-Line Drawings | Deliver to Engineer | Prior to Final Inspection as scheduled by the Engineer |
| End of Contract Time | At Project Site | 360 days after Notice to Proceed |

SP-4 DELIVERABLES

4.1 Prior to Construction:

4.1.1 The Contractor shall submit the following documents to the Engineer prior to the Pre-Construction Conference specified in GP-14:

- 4.1.1.1 Work Plan as specified in GP-8;
- 4.1.1.2 Progress Schedule as specified in GP-9;
- 4.1.1.3 Copy of typical Daily Progress Report as specified in GP-10;
- 4.1.1.4 Hurricane and Severe Storm Plan as specified in GP-11;
- 4.1.1.5 Health and Safety Plan as specified in GP-12.
- 4.1.1.6 Quality Control Plan as specified in TS 104.

4.1.2 The Contractor shall provide the following information to the Engineer at the Pre-Construction Conference specified in GP-14:

- 4.1.2.1 Updates to all plans and schedules based on comments from the Engineer;
- 4.1.2.2 Potential access corridors which may be approved on an as needed basis.

4.2 During Construction: The Contractor shall deliver copies of the following documents upon request by the Engineer, or as specified in these provisions:

4.2.1 The results of all surveys and calculations;

- 4.2.2 Progress Schedule as specified in GP-9;
 - 4.2.3 Daily Progress Report as specified in GP-10;
 - 4.2.4 Copies of all inspection reports;
 - 4.2.5 All Change Orders, Field Orders, Claims, Clarifications and Amendments;
 - 4.2.6 Results of any materials testing.
- 4.3 Post Construction: The Contractor shall contact the Engineer by phone, a minimum of five (5) working days prior to the anticipated completion of the Work in order to schedule the final inspection and gain Acceptance by the Engineer. The following documents shall also be submitted to the Engineer:
- 4.3.1 Copies of all delivery slips, which shall include the source of construction materials, date of delivery, exact quantity, and size of materials delivered with each shipment to the Project Site;
 - 4.3.2 The Contractor shall furnish the Engineer with the red line drawings as specified in GP-54.

SP-5 ADDRESSES FOR DOCUMENT DELIVERY

Prior to Bid Opening Date, the contractor shall send all bid questions, and/or clarifications concerning the bid specifications to the attention of Mr. Thomas Ketterer, of the Office of State Purchasing, for further processing, and response. The address and contact information is as follows:

Mr. Thomas Ketterer
Office of State Purchasing
Post Office Box 94095
Baton Rouge, LA 70804-9095

Phone: (225)219-7839
Fax: (225)342-8688
Email: Thomas.ketterer@la.gov

After award, the contractor shall send all Contract documentation or questions to Acadian Engineers & Environmental Consultants, Inc., P.O. Box 1126, Eunice, LA 70535; Phone: (337)-457-1492.

Owner and Engineer shall deliver all written claims, notices, submittals, plans and other documents to the Contractor at the address indicated on the Bid, or as directed by the Engineer.

SP-6 WORK PLAN SUPPLEMENTAL

The following items shall be included in the Work Plan in addition to those required by GP-8:

- 6.1 Layout and schedule for temporary access and flotation channels;

SP-7 FAILURE TO COMPLETE ON TIME

For each day the Work remains incomplete beyond the Contract Time, as specified in SP-3, or Extension of Contract Time, as specified in GP-44, the sum of one thousand five hundred dollars (\$1,500) per calendar day will be deducted from any money due to the Contractor as liquidated damages. The Contractor and Surety shall be liable for any liquidated damages that are in excess of the amount due the Contractor.

SP-8 TRANSPORTATION

The Contractor shall provide a safe and reasonable means of transportation to and from the dock, staging area and Project Site for personnel from LDNR and the Federal Sponsor throughout the Work. The schedule and pickup location shall be arranged by LDNR and the Contractor prior to mobilization. Upon request, overnight room and board shall be provided to these personnel by the Contractor if adequate facilities are available. The Contractor shall provide a boat for the exclusive use of the Engineer and/or Inspector to tour the Project Site during the Work. The boat shall have the following features:

- 8.1 An enclosed cabin space;
- 8.2 Capable of maintaining 25 knots (29 mph);
- 8.3 Six (6) passenger capacity;
- 8.4 Coast Guard certified;
- 8.5 Operable marine radio;
- 8.6 All safety equipment required by the Coast Guard for the size and type of that boat;
- 8.7 Draft of two feet (2') or less.

The Contractor shall supply the fuel and maintain the boat. All mechanical malfunctions of the boat shall be repaired within twelve (12) hours. In the event that the Contractor refuses, neglects, or delays compliance with the requirements of this provision, the Owner may obtain and use other necessary boats at the expense of the Contractor. The costs associated with providing the boats shall be included in the lump sum price for Bid Item No. 1, "Mobilization and Demobilization"

SP-9 DREDGE DATA SHEET **NOT APPLICABLE**

The Contractor shall complete the data sheet in [Appendix F](#) for each dredge that is proposed to be used to perform the Work and include it in the Bid. Bids which do not have the dredge data sheet attached will not be considered for the Work by the Owner. Submittal of a dredge data sheet shall constitute a certification that the described equipment is available to, and under control of, the Contractor. The Dredge Data Sheet is for informational purposes only and will not be used as a basis for Award. The data is pertinent to the evaluation of the proposed dredges and their capability to perform the Work. The bidder may only omit data or information that is considered to be proprietary.

SP-10 BARGE DISPLACEMENT TABLE **NOT APPLICABLE**

- 10.1 The Contractor shall develop a barge displacement table for measurement and payment of rock and include it in the Work Plan. The table shall be approved by the Engineer. It shall show the name and/or number, dimensions, name of owner, and name of fabricator for each barge. The Contractor shall furnish a dimensioned drawing or sketch of each barge that is sufficient enough to verify the barge displacement table. The drawings shall show, at a minimum, the length, width, and depth of the barge, and dimensions of rake(s). All new or modified barges shall be field checked for current dimensions by the Contractor in the presence of the Engineer or the Inspector. Each table shall contain the freeboard of the barge in feet and tenths from zero (0) to the full depth of the barge and the corresponding gross displacement to the nearest ton.

- 10.2 Each barge shall be suitably marked with two displacement gauging lines along each side of the barge. Each gauging line shall be painted perpendicular to the edge of the barge and be no less than four (4) inches wide and one (1) foot long on both the deck and side of the barge. Barges with rakes shall have the displacement gauging lines placed at each corner of the box section between the rakes. If a barge has a box end or ends, the gauging lines shall be placed approximately four (4) feet from the box end. The freeboard will be measured at the four (4) gauging locations and the displacement determined by the use of the "CELMV Standard Barge Tables" from the average of these measurements. The displacement shall be determined before and after the barge is unloaded and the difference between these values shall be the quantity delivered.
- 10.3 If the barge tables were originally furnished for fresh water and the barge displacement measurements are being taken in salt water, the Contractor has the option to obtain water samples and determine the densities or unit weights of the water. Water sampling shall be performed concurrently with the measurements of the barges, both when fully loaded and empty. Water samples shall be taken by the Contractor and witnessed by the Engineer, or his representative. The water samples shall be taken in accordance with ASTM D 3370 (practice A-Grade Sample) at depths of four (4) and eight (8) feet in the area where measurements are made using a "Polypro" 2000 ml. water sampler, or approved equal.
- 10.4 Densities shall be tested by a certified testing laboratory according to ASTM D 1429 (Method D- Hydrometer Method). After review and approval of the test results by the Engineer, the average of the densities will be used to adjust the measurements. A unit weight of 62.45 pounds/cubic foot is standard for fresh water. If the Contractor does not obtain water samples and densities, then no adjustments will be applied to the displacement table and rock quantities.

SP-11 OYSTER LEASE RESTRICTIONS

- 11.1 Oyster leases are known to exist near or within the boundaries of the Project Site. Travel over these reefs shall be prohibited and the contractor will be responsible for all damages and repairs of the existing oyster reefs at no expense to the owner. The maximum vessel draft will be 4.0' and the contractor shall be required to adhere to specified marine routes, as specified on the map in the project plans, provided by the Louisiana Department of Wildlife and Fisheries and contact a representative of the Louisiana Department of Wildlife and Fisheries prior to the initial voyages of these routes for any field adjustments that may need to be made due to existing oyster reef locations. Once these routes have been determined and finalized the contractor shall not deviate from these routes unless authorized by the project engineer and or owner.
- 11.2 A plat will be provided by the Louisiana Department of Wildlife and Fisheries showing all known oyster reef locations prior to the navigation of proposed routes.

SP-12 SPECIAL PERMIT CONDITIONS

- 12.1 The Contractor shall notify the commander of the United States Coast Guard, as specified by the USACE Permit in [Appendix C](#). A copy of the Plans and the permit shall also be provided to the commander as specified in the permit.

SP-13 OBSTRUCTION OF CHANNEL

- 13.1 The Contractor will be required to conduct the work in such a manner as to obstruct navigation and drainage as little as possible, and in case the Contractor's plant so obstructs the channel as to make it difficult or endanger the passage of vessels, all plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. Upon completion of the work, the Contractor shall promptly remove his plant, including ranges, buoys, and other items placed by him under the contract in navi-

gable waters or on shore.

SP-14 OBSTRUCTION OF NAVIGABLE WATERWAYS

14.1 The Contractor shall:

- 14.1.1 Promptly recover and remove any material, plant, machinery, or appliance that the contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Engineer, may be dangerous to or obstruct navigation or drainage;
- 14.1.2 Give immediate notice, with description and locations of any such obstructions, to the Engineer;
- 14.1.3 When required by the Engineer, mark or buoy such obstructions until the same are removed.

14.2 The Engineer may:

- 14.2.1 Remove the obstructions by contract or otherwise should the Contractor refuse, neglect or delay compliance with the previous paragraph of this clause; and Deduct the cost of removal from any monies due or to become due to the Contractor; or Recover the cost of removal under the Contractor's bond.
- 14.2.2 The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in Sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et. seq.).

SP-15 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

15.1 COMMENCEMENT

- 15.1.1 After contract award and a pre-construction conference, work under this contract shall commence when a notice to proceed for the contract shall be issued.

15.2 PROSECUTION

- 15.2.1 The contractor's work shall consist of purchasing, delivery, labor, equipment, and actual placement and installation of all the project features according to the Plans and Specifications.
- 15.2.2 The Engineer shall lay out the centerline and toe of the levee.
- 15.2.3 The Contractor shall lay out his/her work from the Engineer's established baselines and benchmarks, and he/she shall be responsible for all measurements in connection with the layout and control of the work. The Contractor shall furnish, at his own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to layout any part of the work.

15.3 COMPLETION

- 15.3.1 The Contractor shall complete the work required under the contract, including final cleanup and dressing of all work sites, within the time allowed. The contract time will begin with the first date of work or within ten (10) days after receipt of Notice to Proceed, whichever is first.

SP-16 PIPELINES

- 16.1 Known pipelines and utilities are present in the project area. Some of the pipelines and utilities are shown on the project plans. 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 Engineer. The contractor shall notify Louisiana One Call at 1-800-272-3020, 48 hours prior to digging, spudding, or driving piling in order to locate utility lines.
- 16.2 A plat will be provided to all contractors showing the approximate locations of known pipelines within close proximity to this project.

SP-17 RESPONSIBILITIES OF THE CONTRACTOR CONCERNING PIPELINES

- 17.1 Contractor is responsible for any environmental cleanup, repair, mitigation, damages, etc. associated with construction-related damages to wellheads, flow lines, pipelines, or other facilities.
- 17.2 Contractor is responsible for repair or replacement in like manner of any facilities that may be damaged or destroyed during the construction of the structures and/or appurtenances installed as part of the project.
- 17.3 Contractor is also responsible for the loss of income by the owner of any wellhead, flow line, pipeline, or other facility due to construction-related damages to wellheads, flow lines, pipelines, or other facilities.
- 17.4 In some cases, it could be necessary for the pipeline owners to shut down flow lines from active production sites before the contractor can work around such lines, if existing.
- 17.5 The Contractor shall be aware of the potential for such suspensions in construction activities to assure the safety of all concerned parties. As such, the project engineer has the right to place the contractor on suspend order until such shutdowns and depressurizing of lines is accomplished. The contractor shall keep accurate records of such downtime and coordinate all construction activities with pipeline owners to minimize such downtime. The contractor shall immediately inform the project engineer any time that shut downs are perceived to be excessive because of the actions of the pipeline companies.
- 17.6 Except where specifically noted elsewhere, there is to be no excavation or placement of any construction materials within 25 feet of any flow line, 50 feet of any pipeline, or within 50 feet of any wellhead.

SP-18 RESPONSIBILITIES OF THE CONTRACTOR

- 18.1 The contractor shall be responsible for acquiring additional environmental permits, at no additional costs to the owner, for any work performed outside of the original permit drawings.
- 18.2 The contractor shall repair or replace, in like manner, any fences, roads, bridges, launches, trails, waterways, and other facilities which may be damaged or destroyed during construction.
- 18.3 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 within thirty (30) days after completion of the work.

- 18.4 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 practicable 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.
- 18.5 Access to platforms and well sites by pipeline companies shall not be hindered by the contractor, his employees, or equipment.
- 18.6 Airboats and small outboards shall be used whenever practical to reduce the usage of marsh buggies. Established trails and access canals shall be utilized whenever possible. Marsh buggy use shall be limited to the construction limits of the project.
- 18.7 The contractor shall include the State of Louisiana as an additional insured party on any and all pertinent liability insurance policies maintained by the contractor during the construction of the project.

SP-19 OFFICE FOR OWNER (NOT REQUIRED)

SP-20 TIDAL FLUCTUATIONS

- 20.1 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 or the U.S. Geological Survey. The contractor is responsible for taking the appropriate measures to ensure that tidal fluctuations do not unduly interfere with the prosecution of the contract.

SP-21 FLOAT BOOMS

- 21.1 The contractor shall have, at the project location, float booms for containing any spills.

PART III TECHNICAL SPECIFICATIONS

TS – 101 MOBILIZATION AND DEMOBILIZATION

101.1 Scope

Mobilization consist of preparatory work and operations, including those necessary for movement of personnel, equipment, supplies and incidentals to the project sites; the establishment of offices, buildings, and other facilities necessary for the work on the project; the cost of bonds and any required insurance; and other restoration expenses necessary for start of the Work, excluding the cost of construction materials.

101.2 Arbitrary Mobilization by Contractor

The Owner will pay for mobilization and demobilization only once. Should the Contractor demobilize prior to completing the project, such mobilization and subsequent remobilization shall be at no cost to the Owner.

101.3 Ratio of Mobilization and Demobilization Effort

Sixty percent (60%) of the lump sum price will be paid to the Contractor upon completion of his mobilization at the first site of Work and the remaining forty percent (40%) will be paid to the Contractor upon completion of demobilization at the last site of Work.

101.4 Justification of Mobilization Costs

In the event that the Engineer considers the amount in this item (sixty percent (60%) and forty percent (40%) which represents mobilization and demobilization respectively) does not bear a reasonable relation to the cost of the Work in this Contract, the Engineer may require the Contractor to produce cost data to justify this portion of the bid. Failure to justify such price to the satisfaction of the Engineer will result in payment of actual mobilization costs, as determined by the Engineer at the completion of mobilization, and actual demobilization costs at the completion of demobilization, and payment of the remainder of this item in the final payment under this contract. The determination of the Engineer is not subject to appeal.

101.5 Measurement and Payment

All costs associated with mobilization and demobilization as specified in the Contract Documents shall be paid for at the contract lump sum price for Bid Item No.1, "Mobilization and Demobilization".

TS – 102 APPLICABLE STANDARDS

102.1 Description

Throughout the contract documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, which establish methods for testing and reporting on the pertinent characteristics.

Where workmanship or materials are required by these contract documents to meet or exceed a specifically named code or standard, it is the contractor's responsibility to provide materials and workmanship, which meet or exceed the specifically named code or standard.

It is also the contractor's responsibility, when so required by the contract documents or by written request from the engineer, to deliver to the engineer all required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard. Such proof shall be in the form requested in writing by the engineer, and generally will be required to be copies of a certified report of tests conducted by a testing agency approved for that purpose by the engineer.

102.2 Quality Assurance

In procuring all items used in this work, it is the contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this work meet or exceed the specified requirements.

The engineer reserves the right to reject all items incorporated into the work that fail to meet the specified minimum requirements. The engineer further reserves the right, and without prejudice to other recourse the engineer may take, to accept non-complying items subject to an adjustment in the contract amount as approved by the engineer and the owner.

Applicable standards listed in these specifications include, but are not necessarily limited to standards promulgated by the following agencies and organizations:

AASHTO-American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D. C. 20004.

ACI-American Concrete Institute, Box 19150, Redford Station, Detroit, Michigan 48219.

AISC-American Institute of Steel Construction, Inc., 1221 Avenue of the Americas, New York, New York 10020.

ANSI-American National Standards Institute (successor to USASI and ASA) 1430 Broadway, New York, New York 10018.

ASTM-American Society for Testing and Materials, 1916 Race Street, Philadelphia Pennsylvania 19103.

AWS-American Welding Society, Inc., 2501 N. W. 7th Street, Miami, Florida 33125.

AWWA-American Water Work Association, Inc., 666 West Quincy Avenue, Denver, Colorado 80235.

CRSI-Concrete Reinforcing Steel Institute, 228 North LaSalle Street, Chicago, Illinois 60610.

CS-Commercial Standard of NBS, U. S. Department of Commerce, Government Printing Office, Washington, D.

C. 20402.

GMA-Flat Glass Marketing Association, 3310 Harrison, Topeka, Kansas 66611.

NAAMM-The National Association of Architectural Metal Manufacturers, 1033 South Boulevard, Oak Park, Illinois 60302.

NEC-National Electric Code (see NFPA)

NEMA-National Electrical Manufacturer's Association, 155 East 44th Street, New York, New York 10017.

NFPA-National Fire Protection Association, 740 Atlantic Avenue, Boston, Massachusetts 02210

SDI-Steel Deck Institute, 135 Addison Avenue, Elmhurst, Illinois 60125.

SSPC-Steel Structures Painting Council, 4400 5th Avenue, Pittsburgh, Pennsylvania 15213.

TCA-Tile Council of America, Inc., P. O. Box 326, Princeton, New Jersey 08540.

UL-Underwriter's Laboratory, Inc., 207 East Ohio Street, Chicago, Illinois 60611.

Fed Specs and Fed Standards-Specifications Sales (3FRI), Bldg. 197, Washington Navy Yard, General Services Administration, Washington, D.C. 20407.

MIL-SPECS-Military Specifications, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

UBC-Uniform Building Code, International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601.

Metal Building Manufacturers Association, 2130 Keith Building, Cleveland, Ohio 44115 "Recommended Design Practices Manual".

Southern Building Code, Latest Edition.

102.3 Payment

There shall be no direct payment for Applicable Standards.

TS – 103 TEMPORARY SIGNS AND BARRICADES

103.1 Scope

This item consist of furnishing, installing and maintaining all temporary construction barricades, suitable lights, traffic control signals, pavement markings and signs; providing watchmen; and complying with all other requirements regarding the protection of the work, workmen and safety of the public (FOR ROAD ACCESS AREAS). Signs and barricades shall conform to the details and specifications shown on the plans, the Manual of Uniform Traffic Control Devices (MUTCD), and these specifications.

Signs and barricades, and the arrangements thereof, as provided for in the MUTCD, are minimum requirements. Special conditions shall be treated as such and appropriate signs shall be furnished and installed as directed by the Owner or Engineer. Requirements as to proper signs and barricades are not negated by these specifications. In no way shall these specifications be construed as relieving the contractor of any of his responsibilities for the safety of the traveling public, for any liability in connection therewith, or compliance with State and Local laws or ordinances.

103.2 Measurement and Payment

All costs associated with Temporary Signs and Barricades shall be paid for at the contract lump sum price for Bid Item No.2, "Temporary Signs and Barricades".

TS – 104 QUALITY CONTROL

104.1 Scope

The work shall consist of developing, implementing, and maintaining a quality control system to ensure that the specified quality is achieved for all materials and work performed.

104.2 Equipment and Materials

Equipment and materials used for quality control shall be of the quality and condition required to meet the test specifications cited in the contract. Testing equipment shall be properly adjusted and calibrated at the start of operations and the calibration maintained at the frequency specified. Records of equipment calibration tests shall be available to the Engineer at all times. Equipment shall be operated and maintained by qualified operators, as prescribed in the manufacturer's operating instructions and the references specified. All equipment and materials used in performing quality control testing shall be as prescribed by the test standards referenced in the contract. All equipment and materials shall be handled and operated in a safe and proper manner and shall comply with all applicable regulations pertaining to their use, operation, handling, storage, and transportation.

104.3 Quality Control System

The Contractor shall develop, implement and maintain a system of quality control to provide the specified material testing and verification of material quality prior to use. The system activities shall include procedures to verify adequacy of completed work, initiate corrective action to be taken and document the final results. The identification of the quality control personnel and their duties and authorities shall be submitted to the Owner in writing within 15 calendar days after notice of award. The Contractor shall develop, implement and maintain a system adequate to achieve the specified quality of all work performed, material incorporated and equipment furnished prior to use. The system established shall be documented in a written plan developed by the Contractor and approved by the Owner. The system activities shall include the material testing and inspection needed to verify the adequacy of completed work and procedures to be followed when corrective action is required. Daily records to substantiate the conduct of the system shall be maintained by the Contractor. The quality control plan shall cover all aspects of quality control and shall address, as a minimum, all specified testing and inspection requirements. The plan provided shall be consistent with the planned performance in the Contractor's approved construction schedule. The plan shall identify the Contractor's on-site quality control manager and provide an organizational listing of all quality control personnel and their specific duties. The written plan shall be submitted to the Owner within 15 calendar days after notice of award. The Contractor shall not proceed with any construction activity which requires inspection until the written plan is approved by the Owner. The quality control system shall include, but not be limited to, a rigorous examination of construction materials, processes and operation, including testing of materials and examination of manufacturer's certifications as required, to verify that work meets contract requirements and is performed in a competent manner.

104.4 Quality Control Personnel

Quality control activities shall be accomplished by competent personnel. A competent person is: one who is experienced and capable of identifying, evaluating, and documenting that materials and processes being used will result in work that complies with the contract; and, who has authority to take prompt action to remove, replace, or correct such work or products not in compliance. Off-site testing laboratories shall be certified or inspected by a nationally recognized entity. The Contractor shall submit to the Owner, for approval, the

names, qualifications, authorities, certifications, and availability of the competent personnel who will perform the quality control activities.

104.4.1 Method 1 (**NOT APPLICABLE**)

104.4.2 Method 2

The Contractor shall submit to the Owner, for approval, the names, qualifications, authorities, certifications, and availability of the competent personnel who will perform the quality control activities. The Contractor shall meet with the Owner prior to the beginning of any work and discuss the Contractor's quality control system. The Owner and the Contractor shall develop a mutual understanding regarding the quality control system.

104.5 Records

The Contractor's quality control records shall document both acceptable and deficient features of the work and corrective actions taken. All records shall be: on forms approved by the Owner; legible; and dated and signed by the competent person creating the record. Unless otherwise specified in this specification, records shall include:

Documentation of shop drawings including date submitted to and date approved by the Owner, results of examinations, any need for changes or modifications, manufacturer's recommendations and certifications, if any, and signature of the authorized examiner.

Documentation of material delivered including quantity, storage location, and results of quality control examinations and tests.

Type, number, date, time, and name of individual performing of quality control activities.

The material or item inspected and tested, the location and extent of such material or item, and a description of conditions observed and test results obtained during the quality control activity.

The determination that the material or item met the contract provisions and documentation that the Engineer was notified.

For deficient work the nature of the defects, specifications not met, etc., corrective action taken and results of quality control activities on the corrected material or item.

104.6 Reporting Results

The results of Contractor quality control inspections and tests shall be communicated to the Engineer immediately upon completion of the inspection or test. Unless otherwise specified in these specifications, the original plus one copy of all records, inspections, and tests performed and material testing reports shall be submitted to the Engineer within one working day of completion. The original plus one copy of documentation of materials delivered shall be submitted to the Engineer prior to the use of the material.

104.7 Access

The Owner and the Engineer shall be given free access to all testing equipment, facilities, sites and related records for the duration of the contract.

104.8 Payment

There shall be no direct payment for Quality Control.

TS – 105 POLLUTION CONTROL

105.1 Construction Specification

The work shall consist of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

The contractor shall prepare and implement a SWPPP (storm water pollution prevention plan) prior to the commencement of construction activities. Notice of Intent and Notice of Termination shall be submitted by the contractor to the State of Louisiana, Department of Environmental Quality prior to the commencement of construction and after completion of the project.

Materials: All materials furnished shall meet the requirements listed in this specification.

The contractor shall prepare and implement a SWPPP (Storm Water Pollution Prevention Plan) prior to the commencement of construction activities. Notice of Intent and Notice of Termination shall be submitted by the contractor to the State of Louisiana, Department of Environmental Quality (DEQ) prior to the commencement of construction and after completion of the project.

The sequence of all construction activities shall be performed in accordance with the requirements of the SWPPP. The amount of silt fencing shall be determined by the requirements of the SWPPP permits.

105.2 Erosion and Sediment Control Measures and Works

The measures and works shall include, but are not limited to, the following:

Staging of Earthwork Activities. The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

All spoil embankments and disposal areas impacted with fresh spoil during construction of this project shall be seeded by the contractor to control erosion and slides. (See Section TS-108)

Diversion channels used to discharge water from work areas shall be removed and the area restored to its near original condition when they are no longer required.

Conduct operations in such a way to cause the least amount of turbidity and sediment dispersion into adjacent waters.

105.3 Chemical Pollution

All chemical pollutants such as drained lubricating water/oil, grease, soaps, transmission fluid etc. shall be stored in sealed containers and removed from the site. The contractor shall dispose of these containers in an approved facility. All paints and hazardous materials shall be kept in the original containers and tightly sealed with the manufacturer's label attached. These must be properly stored when not in use. They shall also be stored in a neat, orderly manner in their original containers. Disposal of surplus materials shall be in accordance with the manufacturers or State and Local regulations and recommended methods.

Containers shall be empty before disposal. Petroleum products such as fuels and lubricants will be stored in tightly sealed containers that are clearly labeled. The storage and dispensing of all petroleum products will be in accordance with part 1926.152 of the OSHA Construction Industry Safety and Health Standards. All spills will

be cleaned up on the same workday of the spill occurrence or whenever discovered.

Soils contaminated with petroleum products will be removed from the site and disposed of in accordance with Federal, State, and Local regulations.

All onsite vehicles and equipment shall be monitored for leaks and receive regular preventive maintenance to reduce the chance for leakage. Leaks shall be repaired as soon as they are identified. Contractor will be responsible for proper disposal and clean up of all leakage.

The contractor shall take all measures necessary to prevent site contamination. All equipment shall be maintained and checked for any chemical leaks (oil, gas, hydraulic oil, etc.), and shall not be allowed on site if leaks are encountered. If leaks occur during the project, the equipment shall be repaired as soon as it is discovered, and it is the responsibility of the contractor to clean all material in accordance with proper procedures at no cost to the owner. The contractor shall also have, at the project location, float booms for controlling any spills.

105.4 Air Pollution

Contractor shall adhere to all federal, state & local laws concerning air pollution.

Measures should be undertaken to prevent the start and spreading of wild fires that are related to project activities. The contractor shall initiate no burning.

All public or private haul roads used during construction of the project shall be sprinkled as required to fully suppress dust. The use of water, road primer coat, or approved equals is acceptable.

105.5 Payment

There shall be no direct payment for Pollution Control.

TS – 106 SELECT FILL

106.1 Scope

Fill material shall be a mixture of sandy clay, with a plasticity index of 12 to 22 and a liquid limit of 30 to 42, as available in the vicinity of the project. Fill material shall be stockpiled and allowed to drain thoroughly prior to hauling to job site. All material shall be free from concentrations of lumps of mud and clay. Material shall be back-dumped and evenly spread over the site with a light dozer such as a D-3, or approved equal. All dumping, spreading, and rolling shall be under the direct supervision of the engineer or his representative. There shall be no deliberate degradation of the levee system for any use whatsoever. Boring logs for the Project Site are provided in [Appendix G](#).

Prior to the placement of fill, the contractor shall be required to grub the site and remove surface vegetation. Fill material shall be placed in lifts not to exceed 8" loose and 6" compacted. Vegetation material shall be placed adjacent to the Levee along the borrow ditch side, outside of and adjacent to the fill template. Each lift shall be compacted by blading, watering, and rolling. Water trucks shall be of appropriate design to deliver water to the site and evenly spread same. Each layer shall be rolled until 90% standard proctor compaction is achieved.

Hand tamping shall be used in the compaction of fill within three feet of any structure or other drainage feature and near same where vehicular equipment cannot be used. These hand tampers shall be of the power driven, hand operated type.

All scarifiers, disks, spring-tooth or spike-tooth harrows, spreaders, power tampers, and other equipment shall be types suitable for construction of embankment and berms.

The finished elevation along the levee shall be no less than +7.5' NAVD 88 and no greater than +7.7' NAVD 88, unless otherwise specified in the project plans or specifications.

106.2 Testing

Contractor shall obtain an independent, third party certified testing facility in order to verify that all materials meet or exceed specified soil properties. Testing shall also be performed in all areas where soil is used as a structural support verifying that a 90% standard proctor compaction has been achieved. Tests shall be taken at a maximum spacing of 300 linear feet along the centerline of the levee. These tests shall be performed in such a quantity as to guarantee proper compaction throughout the project site impacted by hauled in soil materials. Six (6) copies of reports shall be provided to project engineer, prior to placement of any materials on compacted fill materials.

106.3 Select Fill

Contractor shall have a geotechnical investigation performed on proposed select fill material, and submit the geotechnical report to the Engineer for approval prior to the commencement of installation of fill.

The embankment shall be constructed of earth materials naturally occurring or Contractor-blended. Materials that are classified in accordance with ASTM D 2487 and the Unified Soil Classification System as CL is suitable for use as embankment fill. Materials classified as ML are suitable if blended to produce a material that classifies as CH or CL according to ASTM S 2487. All fill materials must be free from organic matter, sticks, branches, roots and other debris including hazardous and regulated solid wastes. As earth from the designated excavated areas may contain excessive amounts of wood, isolated pieces of wood will not be considered objectionable.

ble in the embankment provided their length does not exceed 1 foot, their cross sectional area is less than 2 inches by 2 inches, and they are distributed throughout the fill. Excessive amounts of debris shall be deposited on site, outside of, and adjacent to the marsh side of the fill template shown on the project drawings. Burning of any material, construction, organic, or otherwise, is strictly prohibited and shall not be done. Not more than 1 percent (by volume) of objectionable material shall be contained in the earth material placed in each cubic yard of the levee section. Pockets and/or zones of wood shall not be placed in the embankment. The Contractor shall notify the Engineer whenever the Plasticity Index, PI, of the material is less than 12. Material with a Plasticity Index of less than 7 shall not be used in the embankment.

106.4 Moisture Control

The Contractor shall control the moisture content of the embankment material. If the material is too wet, it shall either be stock-piled and allowed to drain and/or the wet material shall be processed by disking or harrowing, if necessary, until the moisture content is reduced sufficiently. Embankment material is considered too wet to be placed directly upon the levee if it has a moisture content value greater than plus 10 percentage points, or less than minus 10 percentage points of the optimum moisture content resulting from the Standard Proctor density test ASTM D 698. The material shall be processed within 10 percent of optimum moisture content in the borrow area or processing areas prescribed on the plans before it may be placed upon the levee for final processing. When it is discovered that wet fill has been placed over existing levee or newly constructed fill, the incident layer and previous layer will be tested in a minimum of two locations for compliance. If the material is too dry, it shall either be pre-wet at the source area, or sufficient moisture shall be uniformly distributed in each layer of compacting.

If the top or contact surface of a partial fill section becomes too dry to permit suitable bond between these surfaces and the additional fill to be placed thereon, the Contractor shall loosen the dried materials by scarifying, disking, or other approved methods, and shall re-compact this layer in accordance with the applicable requirements of paragraph 106.5. If the top or contact surfaces of a partial fill section becomes too wet to permit suitable bond between these surfaces and the additional backfill to be placed thereon, the wet material shall be scarified and permitted to dry, assisted by disking or harrowing. The material shall be re-compact in accordance with the applicable requirements of paragraph 106.5. No additional payment will be made for any moisture control required in this paragraph.

Construction shall be halted if the existing levee starts to show significant signs of rutting due to construction traffic that affects underlying lifts. No extra cost to the owner will be allowed if other methods and means of select fill transportation are implemented including the use of timber matting, aggregate surface course, placement of geotextile fabrics, etc.

106.5 Compaction

The first and each successive layer of compacted fill material shall be compacted to at least 90 percent of maximum dry density as determined by ASTM D 698 (Standard Proctor Density) at a moisture content within the limits of plus 5 to minus 3 percent of optimum moisture content determined from the Standard Proctor Density Test ASTM D 698.

106.6 Measurement and Payment

Payment will be made on a lump sum basis. Partial payments will be paid by percentage of **completed and accepted** length divided by total length (76,745). Acceptance requirements – meet compaction, meet template based upon as built survey, and approved by owner and engineer.

The contractor shall not commence hauling operations until the Engineer, or his representative, is on the job site.

All costs associated with Select Fill placement on the project site specified in the contract documents shall be paid for at the Lump Sum price indicated in Bid Item No. 3, "Provide and Install Select Fill".

TS – 107 SILT FENCE

COMPONENTS FOR SILT FENCE BARRIER

107.1 Geotextile

The geotextile shall consist of polymeric filaments which are formed into stable network such that filaments retain their relative positions. The filament shall consist of a long chain synthetic polymer composed of at least 85 percent by weight of propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure. Geotextile shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 to 120 degrees F. the geotextile shall meet the following requirements:

| GEOTEXTILE FOR SILT FENCE | | |
|--------------------------------------|----------------|--------------|
| PROPERTY | TEST PROCEDURE | VALUE |
| Grab Breaking Load, lbs. | ASTM D 4632 | 150 Minimum |
| Grab Elongation at Ultimate, Percent | ASTM D 4632 | 20 Maximum |
| Puncture Strength, lbs. | ASTM D 4833 | 130 Minimum |
| AOS, U.S. Standard Sieve No. | ASTM D 4751 | 30 – 70 |
| Permittivity, Per Second | ASTM D 4491 | 0.25 Minimum |

107.2 Wooden Posts and Steel T-Posts

The contractor may use either rounded wooden posts or steel T-posts for silt fence construction. Wooden posts utilized for silt fence construction, shall have a minimum 3-1/2 inch diameter, and shall have a minimum length of 7 feet, and shall be either oak or pine wood. Steel T-posts utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 7 feet.

107.3 Identification Storage and Handling

Geotextile shall be identified, stored and handled in accordance with ASTM D 4873. Furthermore, the mill certificate or affidavit shall list the properties of the geotextile certified, not limited to tensile strengths and apparent opening size.

EXECUTION

107.4 Installation of Silt Fence Barrier

Geotextile shall be from a continuous roll, cut to the length of the barrier to avoid the use of joints. When the joints are unavoidable, geotextile shall be spliced together at a support post, with a minimum of 6-inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the up-slope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the geotextile. The geotextile shall be attached to the land side of the post with wire or other method recommended by the manufacturer and such that a six-inch length of geotextile is left unattached at the bottom of the post, the unattached geotextile is to be embedded in the trench and the trench backfilled. It is the responsibility of the Contractor to maintain the integrity of the silt fence. The Contractor shall immediately correct deficiencies. The silt fence shall be promptly repaired or replaced should it become damaged or otherwise ineffective. The silt fence is to remain in place upon completion of the project, or as directed by the Contracting Officer. Its

maintenance shall be continual for that period of time for which excavated materials are placed in the area of the silt fence.

107.7 Measurement and Payment

All costs associated with Silt Fencing shall be paid for as a part of the lump sum price for Bid Item No.3, "Provide and Install Select Fill".

TS – 108 SEEDING

108.1 Seed

Seed labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act shall be furnished by the Contractor. Seed shall be furnished in sealed, standard containers unless written exception is granted. Seed that is wet or moldy or that has been otherwise damaged in transit or storage will not be acceptable. The specifications for seeds shall conform to, and be seeded in accordance with the following table:

Table 1

| Seeding Period and Grasses To be Used | Minimum Purity %Germination | Minimum % Lbs/Acre | Minimum Rate |
|---|-----------------------------|--------------------|--------------|
| 2 March – 14 September Hulled Common Bermuda Grass | 95 | 87 | 50 |
| 15 September – 1 March Unhulled Common Bermuda Grass | 95 | 87 | 50 |
| Ryegrass | 97 | 82 | 35 |

108.2 Water

Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass.

EXECUTION

108.3 Preparation of Ground Surface

108.3.1 General

Equipment, in good condition, shall be provided for the proper preparation of the ground and for handling and placing all materials. The Engineer shall approve equipment before preparation is started.

108.3.2 Testing

Written results of tests performed by a certified public or private agronomist to prescribe modifications or amendments to the soil, if any, to insure a satisfactory growth of grass will be required for each area ready for fertilizing and seeding.

108.3.3 Clearing

Prior to grading and tilling, vegetation and debris that interfere with fertilizing, seeding and mulching operations shall be mowed, grubbed, and raked. Vegetative debris shall be disposed of satisfactorily.

108.3.4 Grading

Previously established grades and slopes shall be maintained in a true and even condition on the areas to be fertilized, seeded and mulched. Necessary repairs to previously graded areas shall be repaired with material as

described in paragraph 106.1. The material shall be placed and compacted in accordance with 106.5. Where grades have not been established, the areas shall be graded as shown on the plans, or as directed by the Engineer, and all surfaces shall be left in a true and even condition.

108.3.5 Tillage

After the areas required to be fertilized and seeded have been brought to the specified grades, the soil shall be tilled to a depth of at least 2-inches by plowing, disking, harrowing, or other approved method until the condition of the soil is acceptable. The work shall be performed only during periods when, in the opinion of the Engineer prevail, the work shall be stopped when directed. Undulations or irregularities in the surface to be fertilized, seeded and mulched shall be dressed before the next specified operation.

108.3.6 Application of Fertilizer

Fertilizer shall be distributed uniformly over areas to be seed and shall be incorporated into the soil to a depth of at least 2-inches by disking, harrowing, or other acceptable methods.

SEEDING

108.4 General

The applicable seed shall be sown at the rate and time as indicated in Table 1. A satisfactory method of sowing shall be employed; using approved mechanical power-drawn seeders, mechanical hand-seeders, broadcast-seeders, or other approved methods. When delays in operations extend the work beyond the most favorable planting seasons for the species designated, or when conditions are such that satisfactory results are not likely to be obtained, by reason of drought, high winds, excessive moisture, etc. work shall be halted as directed by the Engineer and resumed only when conditions are favorable or when approved alternatives or corrective measures and procedures have been effected. If inspection during or after seeding operations indicates that areas have been left unplanted or other areas have been skipped, additional seed shall be applied.

108.5 Broadcast Seeding

If broadcast seeding method of seeding is used, seed shall be broadcast with approved sowing equipment and distributed uniformly over designated area. Seed shall be covered to an average depth of 1/4 – inch by brush harrow, spike-tooth harrow, chain harrow, culti-packer, or other approved devices. Seed shall not be broadcast during windy weather.

108.6 Measurement and Payment

All costs associated with seed placement on the project site specified in the contract documents shall be paid for at the unit price under Bid Item No. 4, “Provide and Install Seeding”.

TS – 109 CLEARING AND GRUBBING

109.1 Description

This work consists of required clearing, grubbing, removing, and disposing of vegetation and debris within the limits of the proposed levee template, except such items that are designated to remain and to be removed under other items.

This work consists of cutting trees, logs, brush, stumps, and debris; excavating and removing stumps, roots, submerged logs, snags, and other vegetative or objectionable material; disposing of removed material in accordance with General Construction Requirements.

109.2 General Construction Requirements

The Engineer will designate trees, shrubs, plants, and other items to remain. The contractor shall preserve the items designated to remain. Equipment, materials, and supplies shall not be stored in proximity of items designated to remain. Trees shall be removed without damaging items marked to remain. The contractor shall, at no direct pay, use a licensed landscape arborist to repair damage to bark, trunks, limbs, or roots of vegetation marked to remain using horticultural and tree surgery practices published by the American Association of Nurserymen (AAN). Trees shall not be felled outside of the project area, unless approved by the Engineer. Damage outside project area caused by the contractor's operations shall be the contractor's responsibility.

109.3 Clearing and Grubbing

Clearing and grubbing shall be done within the construction limits and to a point in fills a maximum of 5 feet beyond the toes of fore slopes and in cuts a maximum of 5 feet beyond the tops of back slopes, when width of project permits, or to the limits shown on the plans; also from areas required for outfall ditches and channel changes. Trees, stumps, roots, and other protruding vegetative obstructions not designated to remain shall be cleared and grubbed (including mowing when required by the Engineer). Some loose limbs and roots approximately 2 inches x 1 foot and smaller may be allowed to remain, however excessive amounts will not be allowed. All materials shall be in an upland area and not in a water bottom. All materials shall be placed outside and adjacent to the limits shown on the project plans. All debris materials shall be placed on the marsh side of the proposed levee, no debris materials shall be placed on lake side of the proposed levee.

109.5 Environmental Protection

The contractor shall comply with federal, state and local laws and regulations controlling pollution of the environment, including air, water and noise. The contractor shall take precautions to prevent pollution of waters and wetlands with fuels, oils, asphalts, chemicals or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The contractor certifies under penalty of law that he understands and will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit that require the discharges from construction sites be managed to prevent pollutants from entering waters of the United States in accordance with the Environmental Protection Agency (EPA) regulations for storm water discharges with respect to 33 U.S.C. §1342 (Section 402 (p) and 405 of Public Law 100-4). The contractor shall make every effort possible to protect the environment from any pollution, either from construction runoff, or any other means. Contractor shall acquire, and maintain throughout the life of the project, all necessary permits to complete this project. If the contractor fails to acquire, does not maintain, or loses a permit required to complete this project, any action taken by any regulatory group shall be the sole responsibility of the contractor for mitigating and correcting immediately at no additional cost to the

owner.

The use of erosion control features or methods other than those in the contract shall be as directed.

The Storm Water Pollution Prevention Plan shall be comprised of all components specified in the U.S. environmental Protection Agency document entitled, "Storm Water Management for Construction Activities", and shall include Section 204, Temporary Erosion control of the standard specifications along with applicable supplemental specifications, special provisions, and the plans.

Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals and other impoundments will be restricted to areas where it is necessary to perform filling or excavation to accomplish the work, and areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, streams and impoundments shall be cleared of obstructions placed therein or caused by construction operations.

Frequent fording of streams with construction equipment will not be permitted.

No residue from dust collectors or washers shall be dumped into a stream.

Attention is further directed to the federal, state and local air pollution control programs and their rules and regulations regarding air pollution, especially open burning, fugitive dust, and asphaltic concrete plant restrictions.

The contractor shall maintain and operate equipment to minimize noise and vibration. Engines shall be equipped with properly functioning mufflers. The contractor shall assure the activities near noise and vibration sensitive areas, such as churches, hospitals, and schools are not unduly disruptive.

109.6 General Construction Requirements

The contractor shall remove and dispose of all portions of structures or obstructions on the right-of-way, except utilities and those items for which other provisions have been made for removal or relocation. When specified, the contractor shall remove structures and appurtenances that extend beyond the right-of-way or that are entirely on private property. All non-wood products, including "whitegoods", shall be removed and properly disposed of in accordance with all local, State, and Federal regulations. Specified salvageable material shall be removed, without unnecessary damage, in sections which may be readily transported. Salvageable material shall be stacked at specified at specified storage areas by the contractor. Holes left by structure removal or the removal of materials associated with contaminated soils or sites, shall be filled by blading the area or backfilling with surrounding soil types or shall be compacted as directed to at least the density of the surrounding soils.

If any fuel storage tanks or to other environmentally sensitive or contaminated sites are located during construction, the contractor shall stop construction activity in the immediate vicinity of the environmentally sensitive or contaminated site and notify the project engineer, who in turn will notify the Materials and Testing Section immediately for guidance. Testing and clean-up by the contractor shall be coordinated through the Materials and Testing Section.

The Department reserves the right to eliminate work items for the removal or relocation of any structures under these items. Such elimination shall not affect contract unit prices on remaining structures to be removed or relocated or unit prices on remaining structures to be removed or relocated or unit prices on other items of the contract. The contractor will not be entitled to compensation due to such elimination.

109.7 Measurement and Payment

All costs associated with Clearing and Grubbing shall be paid for as a part of the lump sum price for Bid Item No.3, "Provide and Install Select Fill".

TS – 110 IN-PLACE LIME STABILIZED COURSE

110.1 Description

This work consists of blending, shaping and stabilizing levee material with lime in accordance with the lines, grades, thickness and sections established or shown on the plans.

For bid purposes, the estimated rate of lime required for stabilization is 10 percent by volume; however, the actual rate of lime to be used for stabilization will be determined by laboratory test. The amount of in-place lime stabilized base course required will be determined by the engineer/owner as needed to stabilize the upper surface of the levee. When the actual rate of lime differs from the estimated rate, an adjustment will be made to the unit price for in-place lime stabilization.

In order to meet air quality standards, the contractor may be required to use central plant mixing of cement stabilized mixtures in dust sensitive areas at no direct pay. The Owner will identify the dust sensitive areas on the project.

110.2 Materials

Lime shall be hydrated lime or quicklime from an approved source listed in QPL 34 and shall comply with AASHTO M 216 when tested in accordance with DOTD TR 525 with the following exceptions:

- A) Maximum free moisture shall be 1.5 percent from hydrated lime.
- B) Quicklime shall contain no more than 8 percent MgO by weight (mass) of total material. Quicklime shall be protected from contact with moisture prior to testing, shall be free flowing and graded so that 100 percent will pass a 3/8 inch sieve. When the quicklime is to be used in slurry the gradation shall be a minimum of 95 percent passing the 3/4 inch (19mm) sieve.

110.3 Equipment

Equipment necessary to produce a finished product meeting specification requirement shall be furnished and maintained by the contractor. Equipment shall be approved prior to use. Pulverization shall be accomplished by using an approved in-place mixer. Lime treatment shall be Type B*

110.4 General Construction Requirements

The levee shall be kept moist after lime has been applied during the recommended curing period. Water shall be added as needed during remixing operations, during the curing period, and prior to placement of base material on the levee. When lime is applied, precautions shall be taken to prevent injury to persons, livestock, and plants. Lime shall not be applied when the ambient temperature is less than 35 degrees Fahrenheit or the course material is frozen.

Type B* treatment shall be performed in the following sequence: Spreading the lime; initial mixing; watering; sealing and mellowing for at least 48 hours; mixing until pulverization requirements are met; compacting; finishing; and maintenance. After lime treatment, the treated soil shall have a maximum liquid limit of 40 and a maximum PI of 10.

110.5 Mixing

A unit weight of 35 pounds per cubic foot will be used to compute the application rate of lime regardless of the actual weight of the lime used. Lime may be furnished in bags or bulk and distributed, in powder form, granular or in slurry, and in the required proportion. Dry lime shall be prevented from blowing by adding water or by other suitable means. Lime shall be uniformly spread and mixed with the soil to the width and depth shown on the plans or as directed by the engineer. Any procedure, which results in excessive loss or displacement of lime from the levee, shall be discontinued. Areas to which lime is applied shall be processed on the same day as the application is made. Lime exposed to the air for more than six hours will be rejected, deducted from measured quantities, and shall be replaced by the contractor at no direct pay. After the 48-hour mellowing period, the lime treated mixture shall be kept moist and be manipulated with an in-place mixer until the pulverization requirements have been met.

110.6 Compacting and Finishing

The final finish of the area to be treated with lime shall meet grade and cross-section requirements and shall have a smooth, uniform, closely knit surface, free from ridges, waves, and loose material. The mixture shall be uniformly compacted to at least 90.0 percent of maximum dry weight density. Compaction and finishing operations shall be completed within 6 hours after meeting pulverization requirements. Density tests shall be taken along the levee by a third party with six (6) copies of all reports provided to the engineer/owner to insure that compaction requirements have been met.

110.7 Quality Control

The contractor shall control the preparation of the levee, selection, placement, lime spread, mixing, compaction, moisture content, density, thickness, width, surface finish, grade and cross slope so that the completed course is uniform and conforms to plan dimensions and other acceptance requirements as provided herein. The course shall be constructed so that contamination, segregation, soft spots, wet spots, laminations and other deficiencies are prevented. The contractor shall be responsible for taking such tests as necessary to adequately control the work.

110.8 Maintenance

The contractor shall protect the completed course from damage due to either public traffic or the contractor's operations, and shall satisfactorily maintain the completed course. The contractor at no additional costs to the owner shall repair damaged course as directed by the project engineer or owner. When patching of the course is required, in addition to removing damaged or unsound course; the contractor shall remove a sufficient width and depth of course to ensure satisfactory placement of patching material. The engineer will approve the type of patching materials before use. Patching or other repairs shall be made in such manner as to restore a uniform surface, shall conform to the requirements of the material being used and shall be completed at least 24 hours prior to construction of the next layer.

When maintenance of traffic is not required, neither public traffic nor construction traffic shall be allowed on the completed course during the 72-hour curing period. When maintenance of traffic is required, both public traffic and construction traffic shall be routed off the completed course onto suitable areas during the 72-hour curing period when conditions permit.

Prior to base course construction, the contractor shall correct deficiencies, clean the lime stabilized courses, and repair damage caused by public or construction traffic as directed at no direct pay. This work shall be completed at least 24 hours prior to construction of the next layer.

Any weak spots that develop shall be satisfactorily corrected and the course kept free from deficiencies and true to grade and cross section at no direct pay.

110.9 Weather Limitations

Mixing will not be permitted when the course material is frozen or when the ambient air temperature is below 35° F, or in the rain.

110.10 Measurement

The quantities of lime treatment for payment will be the design area as specified in the plans. The design areas will be determined by utilizing the horizontal dimensions of the completed course as shown on the plans. Design areas will be adjusted if changes are made in the field or design errors are proven.

110.11 Payment

All costs associated with Lime Treatment shall be paid for at the contract unit price for Bid Item No.5, "Provide and Install Lime Treatment".

*(Blue Book) 2006 edition. Louisiana Standard Specifications for Roads and Bridges

TS – 301 ACCESS AND FLOTATION CHANNELS

- 301.1 Scope: The Contractor shall furnish all of the materials, labor and equipment necessary to construct the access and flotation channels through removal and temporary disposal of spoil materials. The channels shall be maintained in a useable configuration throughout the duration of the Work at the expense of the Contractor.
- 301.2 Method: The access and flotation channels shall be mechanically excavated using a bucket dredge, barge mounted track hoe or approved equal. The Contractor shall use any environmentally acceptable method that will complete the Work in accordance with the drawings. The proposed dredging method must be provided in the Work Plan.
- 301.3 Excavation Limits: Access and flotation channels shall not be excavated beyond the limits and coordinates shown on the Plans without written approval from the Engineer. The minimum bottom elevation of the channels shall be -4.0' NAVD 88 (i.e. the invert of the channel shall not be lower than -4.0' NAVD 88). The maximum turning radius for transitions between access and flotation channels is 250.0 feet. The locations of the LDNR permitted channels are shown in the Plans. It shall be the responsibility of the Contractor to obtain an LDNR permit modification and prior approval from the Engineer in order to enlarge or relocate the channels. The Contractor shall also obtain and submit to the Engineer a letter of no objection from any pipeline company for the proposed excavation inside their right-of-way.
- 301.4 Spoil Disposal: Dredged material shall be temporarily deposited adjacent to the proposed access and flotation channels and conform to the elevations, grades, and lines specified in the Plans. It shall not be deposited outside of the limits shown on the Plans without written approval from the Engineer. The temporary spoil shall be backfilled into the flotation channel after the levee construction has been accepted by the Engineer and Owner. The soils beneath the temporary spoil placement areas and crown of flotation channels shall be reworked to $\pm 6"$ of the original bottom. Any material that is deposited elsewhere than indicated on the Plans or as authorized by the Engineer shall be removed and deposited in an approved location at the expense of the Contractor.
- 301.5 Maintenance: The access and flotation channels shall be maintained according to the dimensions shown on the Plans in order to transport equipment and materials to the Project Site throughout construction. Maintenance excavation shall be performed at the expense of the Contractor.
- 301.6 Restoration: The contractor shall restore the dredged areas with the stored dredge materials. The soils beneath the temporary spoil placement areas and crown of flotation channels shall be reworked to $\pm 6"$ of the original bottom. This restoration shall be done in such a way as to minimally impact the surrounding aquaculture resources. Any adverse impacts of the restoration activities shall be the sole responsibility of the contractor to correct.
- 301.7 Measurement and Payment: The Contractor shall submit an Application for Payment for the costs incurred to construct and maintain the flotation and access channels as denoted in the Contract Documents. The Engineer shall review the final elevation of the backfilled channels on the Red-Line Drawings in order to determine acceptance. Upon acceptance by the Engineer, an invoice shall be paid for at the contract lump sum price for Bid Items No. 6 through 10. No invoice will be paid for demobilization until the temporary spoil is successfully backfilled into the access and flotation channels and the bottom depth of the temporary disposal and storage areas are restored to within $\pm 6"$ of the original bottom depth.

APPENDIX A: INTERPRETATION OR CLARIFICATION BY ENGINEER FORM

PROJECT CS 04 – A – L CAMERON CREOLE WATERSHED

Interpretation or Clarification by Engineer

Number (____)

DATE:

SUBJECT:

SUMMARY OF MATTER BY CONTRACTOR

INTERPRETATION OR CLARIFICATION OF MATTER BY ENGINEER

APPENDIX B: LANDRIGHTS MEMORANDUM

(NOT APPLICABLE FOR THIS PROJECT)

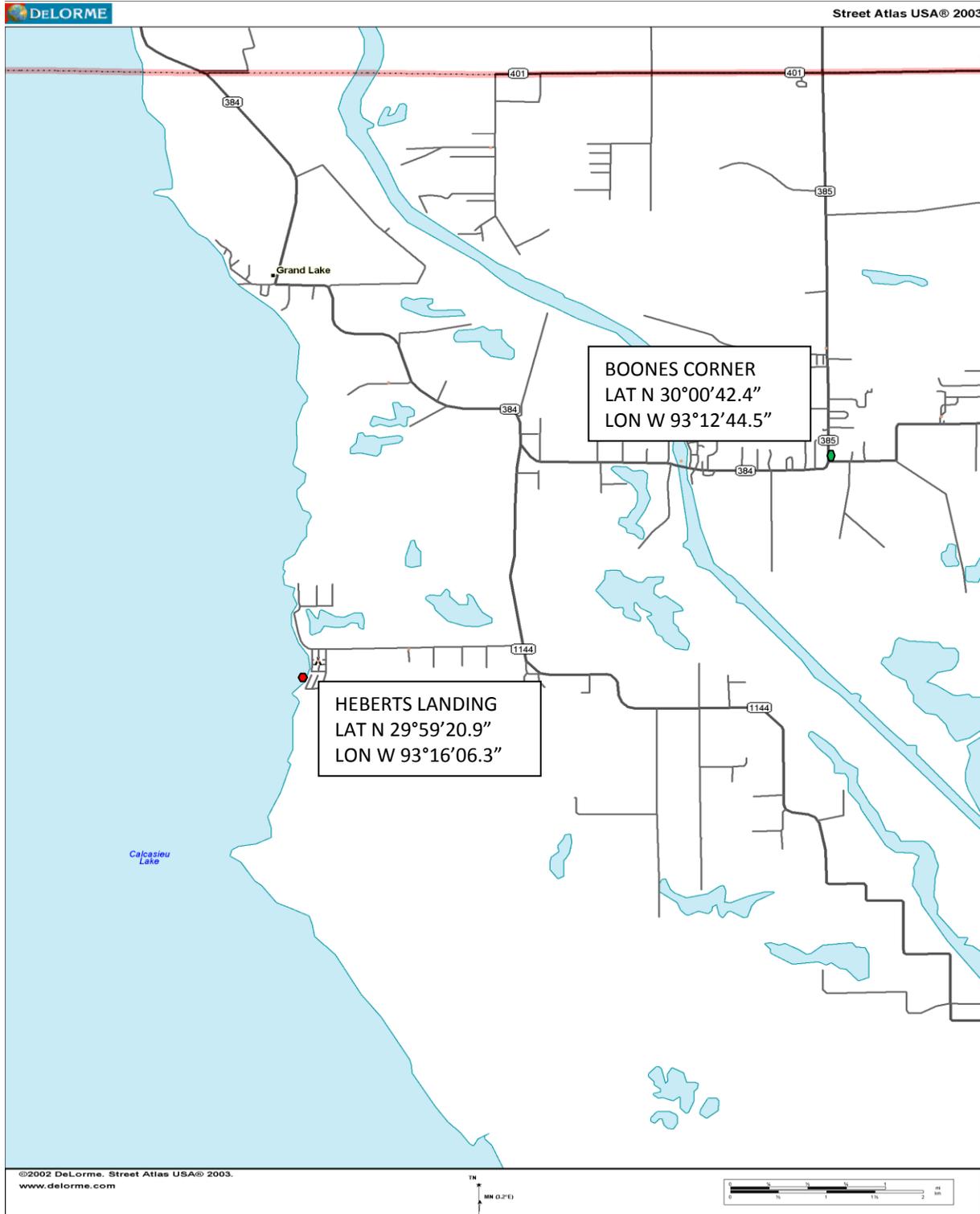
APPENDIX C: GOVERNMENT PERMITS

PERMITS PENDING

APPENDIX D: DIRECTIONS TO BOAT LAUNCH

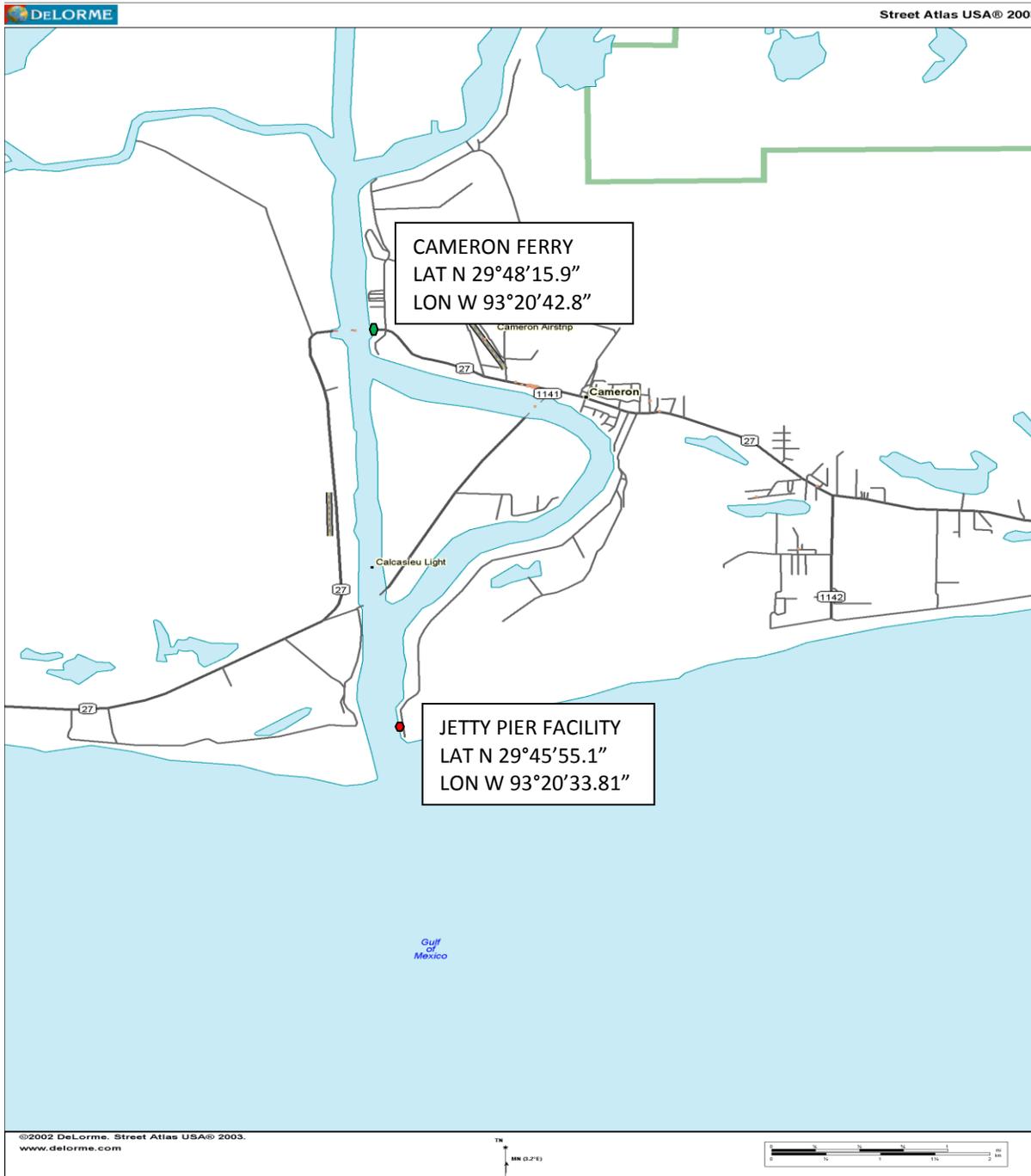
Directions to Launch at Hebert's Landing

From Boone's Corner (intersection of LA-384 and LA-385) in Grand Lake, LA, travel west on LA-384 approximately 2.0 miles. Turn left at Big Pasture Rd and travel 1.4 miles, and turn right at Hebert Camp Rd/Parish Rd 406 and travel 1.4 miles. Turn left at Martin Hebert St and go approximately 0.2 miles, then continue on West Harbor Dr until arriving at boat launch.



Directions to Launch at the Jetty Pier

From the East bank of the Calcasieu River at the Cameron Ferry, head east approximately 1.5 miles on LA-27/LA-82/Marshall St toward LA-1141/Lebouef Rd and turn right at Davis Rd. Travel approximately 2.8 miles south until arriving at the Jetty pier Facility.



APPENDIX E: SURVEY CONTROL



VICINITY MAP Not to Scale

Image Reproduced from Google Earth Pro ©2006 Google™

Station Name: "CRMSCS-SM-10"

Monument Location: This station is located in Cameron Parish and is situated on the eastern shoreline of Calcasieu Lake adjacent to a water control structure, approximately 7 miles southerly from Hebert's Marina boat landing at Grand Lake, Louisiana. Access to the location is by boat only.

Monument Description: NGS Style floating sleeve monument; 9/16" stainless steel rods driven 80 feet to refusal, set in a sand filled 6" PVC pipe with access cover set flush with the ground.

Stamping: CRMSCS-SM-10

Date of Survey: August 2007

Monument Established By:
John Chance Land Surveys, Inc.

Adjusted NAD83 Geodetic Position (NSRS2007)

Lat. 29° 53' 37.96232"N
Long. 93° 13' 52.39454"W

Adjusted NAD83 Datum L.S.Z. (1702) Ft. (NSRS2007)

N= 511,880.48
E= 2,679,479.75

Adjusted NAVD88 Height (2006.81)

Elevation = 3.41 feet (1.039 mtrs)

Ellipsoid Height = -25.875 mtrs.

Geoid03 Height = -26.914 mtrs. (2004.65)

OPUS Average for Comparison Only

*NAVD88 Height (2004.65)
Elevation = 3.64 feet (1.108 mtrs)*



Adjusted Position Established John Chance Land Surveys, Inc. for Louisiana Department of Natural Resources, Coastal Engineering Division



VICINITY MAP Not to Scale

Image Reproduced from Google Earth Pro ©2006 Google™

Station Name: "CRMSCS-SM-10A"

Monument Location: This station is located in Cameron Parish and is situated on the eastern shoreline of Calcasieu Lake adjacent to a water control structure, approximately 4.8 miles southerly from Hebert's Marina boat landing at Grand Lake, Louisiana. Access to the location is by boat only.

Monument Description: NGS Style floating sleeve monument; 9/16" stainless steel rods driven 80 feet to refusal, set in a sand filled 6" PVC pipe with access cover set flush with the ground.

Stamping: CRMSCS-SM-10A

Date of Survey: August 2007

Monument Established By: John Chance Land Surveys, Inc.

Adjusted NAD83 Geodetic Position (NSRS2007)

Lat. 29° 55' 34.28249"N
 Long. 93° 14' 14.27483"W

Adjusted NAD83 Datum LSZ (1702) Ft (NSRS2007)

N= 523,660.97
 E= 2,677,749.38

Adjusted NAVD88 Height (2006.81)

Elevation = 3.28 feet (1.000 mtrs)

Ellipsoid Height = -25.974 mtrs.

Geoid03 Height = -26.974 mtrs. (2004.65)

OPUS Average for Comparison Only

*NAVD88 Height (2004.65)
 Elevation = 3.24 feet (0.987 mtrs)*



Adjusted Position Established John Chance Land Surveys, Inc. for Louisiana Department of Natural Resources, Coastal Engineering Division

APPENDIX F: DREDGE DATA SHEET

(NOT APPLICABLE FOR THIS PROJECT)

DREDGE DATA SHEET

DREDGE INFORMATION:

Owned: _____ Leased: _____ Leased From: _____

Dredge name: _____

Minimum width of channel in which dredge can successfully operate and make a 180 degree turn: _____

Maximum draft of dredge: _____

Loaded freeboard: _____

Minimum depth in which the dredge can successfully operate: _____

Depth range to which dredge will dig:

Maximum _____ Minimum: _____

Maximum effective dredge swing, in degrees: _____

Length of dredge spuds: _____

Length and beam of dredge hull: _____

Length of dredge ladder: _____

Length of suction and boat lines: _____

Inside diameter of pump discharge: _____

Inside diameter of pump suction inlet: _____

Suction lift (Elevation of main dredge pump relative to the water surface level): _____

Diameter of pump impeller eye: _____

Outside diameter of pump impeller: _____

Brake horsepower and corresponding engine RPMs (during dredging operations) applied to pump impeller at rated drive of the prime mover, during dredging operations: _____

Cutter head type and diameter: _____

Brake horsepower applied to cutter head during dredging operations: _____

Pump engine(s) horsepower and corresponding RPM: _____

Completion date of each dredge pump engine re-build: _____

DREDGE DATA SHEET

Type(s) of production rate monitoring equipment on-board the dredge (measuring cy/hr of material dredged): _____

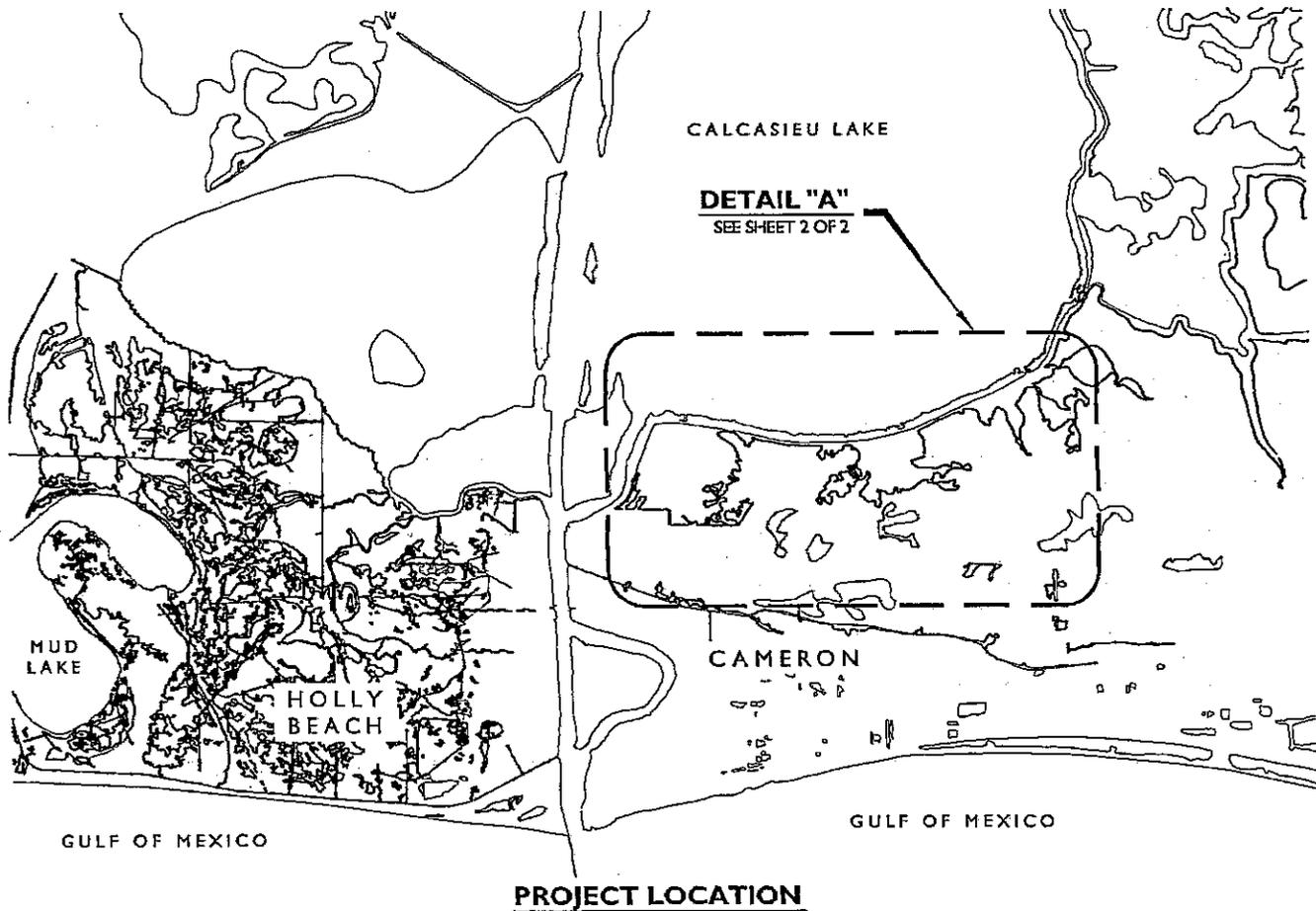
THE DREDGE MAY BE INSPECTED AT (List location of equipment):

DREDGE OWNER INFORMATION:

Firm name _____
Point of contact _____
Title _____
Business address:
Street _____
City _____
Parish/County _____
State _____ Zip+4 _____
Telephone no. () _____ Facsimile no. () _____

APPENDIX G: SOIL BORING LOGS

CAMERON PARISH, LOUISIANA



PREPARED BY:



LONNIE G. HARPER
and Associates, Inc.

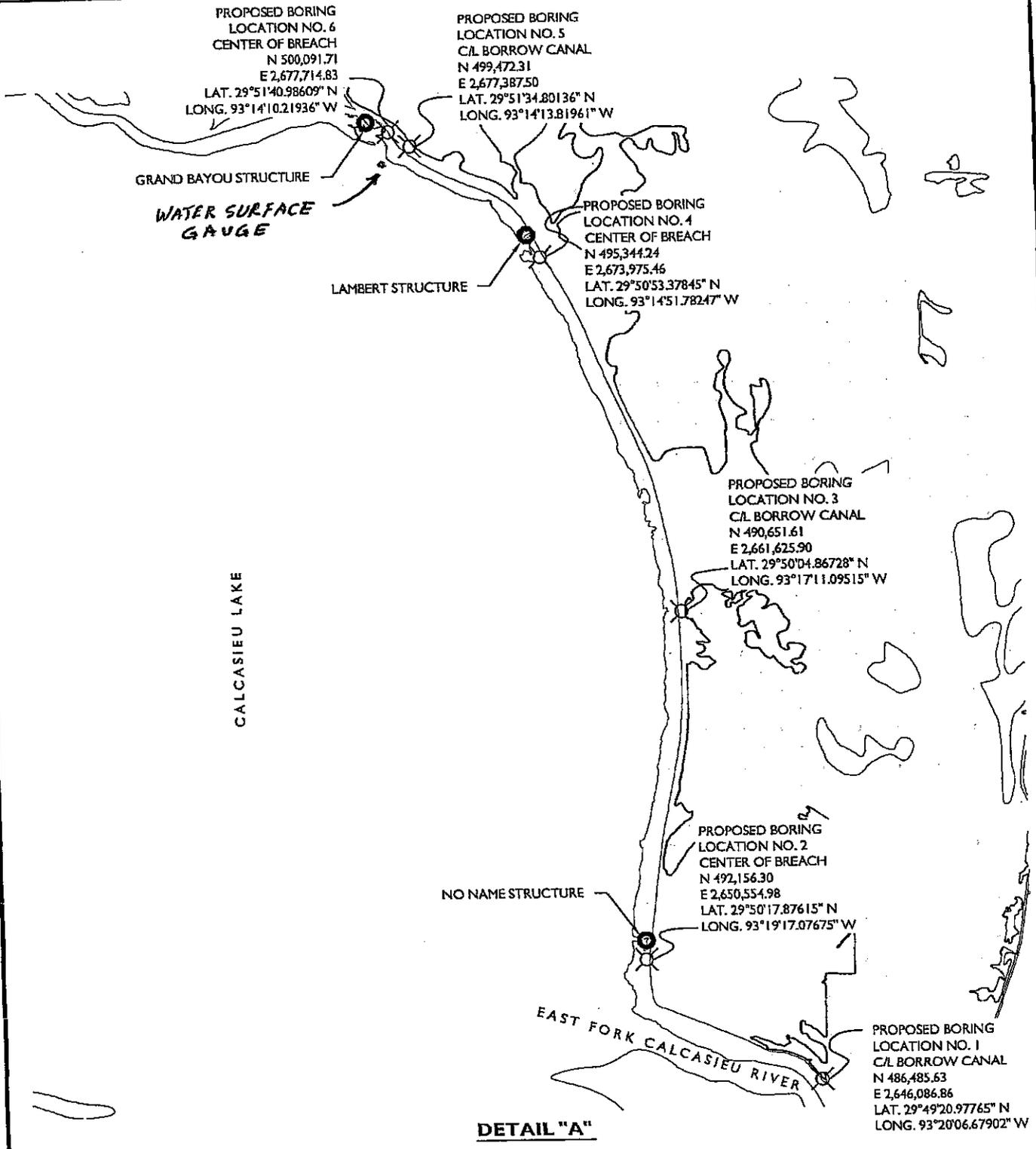
POST OFFICE BOX 229 GRAND CHENIER, LOUISIANA 70643
PHONE (337) 338-2563 FAX: (337) 338-2596

PROJECT VICINITY MAP
CAMERON CREOLE WATERSHED
PROPOSED GEOTECHNICAL
INVESTIGATION

PROJECT
LOCATION

SCALE: 1" = 12,000'

CAMERON PARISH, LOUISIANA



DETAIL "A"

PREPARED BY:



LONNIE G. HARPER
and Associates, Inc.

POST OFFICE BOX 229 GRAND CHENIER, LOUISIANA 70643
PHONE (337) 538-2563 FAX (337) 538-2596

PROJECT VICINITY MAP CAMERON CREOLE WATERSHED PROPOSED GEOTECHNICAL INVESTIGATION

DETAIL "A"

SCALE: 1" = 4500'

FIELD AND LABORATORY ANALYSES

Borings. Six borings - ranging in depth from 32 to 66 feet and designated 1 through 6 - were taken between 4 and 19 December 2006 at the locations shown on sheet 2. Boring depths are from the top of casing, which was set above the marine platform surface. Drilling for borings 2 through 6 was performed with our Failing 1500 skid-mounted rotary type drill rig mounted on a shallow draft jack-up barge. Boring 1 was accomplished using an airboat rig due to shallow water conditions. Water elevations were taken from a gauge located in Calcasieu Lake near boring 5. See sheet 2. The borings were advanced with a wet drilling process. The top 20 feet of each boring was sampled continuously. All other sampling was performed on 5 foot centers. Undisturbed samples of cohesive soils, suitable for laboratory analyses, were obtained by hydraulically pushing a 30 inch long, 3 inch O.D. thinwall Shelby tube sampler into the ground a distance of 24 inches at a time. Classification samples of cohesionless soils (sand and gravel) were extracted via the Standard Penetration Test - i.e. SPT blow counts. The SPT technique entailed driving a 24 inch long, 2 inch O.D., steel spoon into the ground with blows from a 140 pound hammer falling 30 inches. The resulting penetration resistance was the number of blows required to advance the penetrometer spoon 12 inches after first seating it for 6 inches.

The samples were classified in the field by our technician and then the Shelby tubes were prepared for transport. The tubes were sealed and stored/transported in a vertical position with the bottom of the sample (tube) downward. Immediately upon completion of sampling, the boreholes were backfilled as per statutory requirements. The detailed boring logs are attached at the back of this report. Summarized boring data is as follows:

| <u>Boring Number</u> | <u>Total Depth (Feet)</u> | <u>Continuous Sampling (Feet)</u> | <u>Sampling at Depths >50 Feet (Feet)</u> | <u>Grout Plug Length (Feet)</u> |
|----------------------|---------------------------|-----------------------------------|--|---------------------------------|
| 1 | 32 | 20 | -- | 25 |
| 2 | 62 | 20 | 12 | 25 |
| 3 | 40 | 20 | -- | 25 |
| 4 | 66 | 20 | 16 | 25 |
| 5 | 42 | 20 | -- | 25 |
| 6 | 66 | 20 | 16 | 25 |
| Totals | 308 | 120 | 44 | 150 |

Expenses incurred included: 16 hours rig-up/rig-down, 23 hours difficult access and standby, 29½ hours and 1232 miles crew travel, 10 days rental of shallow draft jack-up barge, 1 day rental of airboat, plus 11 days crew living expenses.

Laboratory. All soil samples in the Shelby tubes from the above field operations were taken to our soil mechanics laboratory where additional analyses were performed. The samples were each tested with a mini vane instrument and extruded. Laboratory testing included 35 unconfined and 49 unconsolidated undrained triaxial compression tests with moisture content and density determinations, 1 remolding of slickensided clay specimens, 84 miniature vane shear tests, 10 hydrometer analyses, 7 organic content determinations, 2 separate moisture content determinations, plus 19 Atterberg limit determinations. Six specific gravity tests were performed.

In addition 84 sample extrusions from Shelby tubes and 84 preserving extruded samples were done at our office.

The miniature vane shear and compression tests provided the strength properties of the soil. The moisture content and density, hydrometer analyses, plus Atterberg limit determination data furnished additional soil classifications to supplement field methods and provided other design parameters. Remolding/retesting slickensided clay samples indicated soil sensitivity. The results of these analyses are on tables 1 through 7 and Figures 1 through 70. Also included are 85 stress versus strain curves in an appendix.

Field and laboratory analyses provide the bases, along with our expertise and experience, for evaluating this site for the proposed project. All field and laboratory testing conformed to appropriate ASTM standards.

LOG OF BORING LEGEND

LJC&A: 06-161

1. SPT = Standard Penetration Test (4/6/9) where 4 is the blows to seat and 15 is blows (N) for 12 inch penetration.
2. UU (TSF) = Unconsolidated undrained triaxial, one point test

0.05 @ 0.12 is the compressive strength in tsf which is twice the cohesion and @ means the confining pressure at tsf.
Note: tests without @ values following are for unconfined compression shear tests.
3. WC (%) = In situ water content
4. Dry Wt. (PCF) = The dry unit weight of soil
5. LL = Liquid Limit (%)
6. PI = Plasticity Index (%)
7. MV (KSF) = Miniature vane strength test done in end of sample in the Shelby tube and value is the cohesion in KSF.

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 1
 File: 06-161
 Date: 19-Dec-06
 Technician: GM

| Depth Feet | SAMPLES | Description | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | Boring Depth: 32 Feet | | |
|---------------|---------|--|------------|------------|-------|---------------|---|-----|---------|
| | | | | | | | LL | PI | MV(KSF) |
| | | Undisturbed Sample Standard Penetration Test Classification Sample (SLS) Slickensided | | | | | N 29° 49'20.98" W 93° 20'06.68" Cement-bentonite grout backfill top 25 feet below mudline | | |
| 0 | | Zero = top of casing Water depth = 1 foot (El. +0.3 feet) Mudline El. -0.7 feet, NAVD 88 | | | | | | | |
| | | Very soft gray organic clay (OH) | 75.0 | .05 @ .12 | 262 | 21.0 | | | .05 |
| 5 | | Very soft gray organic clay (OH) | 67.0 | .11 @ .19 | 249 | 21.6 | | | .04 |
| | | Very soft gray organic clay (OH) | 85.0 | .02 @ .30 | 223 | 21.9 | 217 | 159 | .04 |
| | | Very soft gray organic clay (OH) | 82.0 | .03 @ .40 | 232 | 23.2 | | | .07 |
| 10 | | Very soft gray organic clay (OH) | 87.5 | .02 @ .52 | 243 | 22.2 | | | .045 |
| | | Very soft gray clay with shells (CH) | 76.0 | .18 @ .65 | 64 | 60.3 | | | .25 |
| 15 | | Soft gray clay with sand (CH) streaks and pockets | 95.0 | .29 | 63 | 60.6 | | | .185 |
| | | Very soft gray slightly silty clay (CL) with sand streaks and pockets | 69.0 | .17 @ .86 | 50 | 68.8 | | | .260 |
| | | Very soft gray clay with sand (CH) streaks, pockets, and shells (SLS) | 81.0 | .16 @ .99 | 62 | 62.6 | | | .285 |
| 20 | | Very soft gray clay with shells (CH) | 51.0 | .22 @ 1.09 | 57 | 66.2 | | | .290 |
| | | | | | | | | | |
| 25 | | Very soft gray clay with shells (CH) | 84.0 | .18 @ 1.40 | 57 | 65.1 | 78 | 52 | 0.25 |
| | | | | | | | | | |
| 30 | | Very soft gray clay (SLS) (CH) | 82.0 | .19 @ 1.68 | 54 | 66.7 | | | 0.22 |
| | | | | | | | | | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 2
 File: 06-161
 Date: 7-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
|---------------|---------|--|------------|--------------------|-------|---------------|-----|-----|---------|
| | | N 29° 50'17.88" W 93° 19'17.08" | | | | | | | |
| | | Cement-bentonite grout backfill top 25 feet below mudline Boring Depth: 62 Feet | | | | | | | |
| 0 | | Zero = top of casing Water depth = 4 feet (El. -0.5 feet) | | | | | | | |
| 5 | | | | | | | | | |
| 10 | | | | | | | | | |
| | | Mudline El. -4.5 feet, NAVD 88 | | | | | | | |
| | | Very soft gray organic clay (OH) | 46.0 | .03 @ .06 | 192 | 26.9 | | | .08 |
| 15 | | Very soft gray organic clay with shells (OH) | 42.0 | .02 @ .19 | 244 | 23.1 | 227 | 166 | .04 |
| | | Gray clay with shells (CH) | 75.0 | | 55 | | | | .04 |
| | | Very soft gray clay with (CH) shells and organic matter | 65.0 | .17 @ .40 | 53 | 69.3 | 61 | 43 | .17 |
| 20 | X | Medium gray silty clay (CL) 4 blows per foot (1/2/2) | | | | | | | |
| | | Medium gray slightly silty clay (CL) | 47.0 | .50 @ .65 | 23 | 104.4 | | | .75 |
| 25 | | Stiff tan and gray slightly sandy (CL) clay with sand pockets | 53.0 | 1.55 | 22 | 108.4 | | | 1.56 |
| | | Stiff greenish gray sandy clay (CL) with sand streaks and pockets | 27.0 | 1.45 | 20 | 109.2 | | | 1.28 |
| | | Stiff greenish gray clay with (CH) sand streaks and pockets | 65.0 | 1.47 | 22 | 106.3 | | | 1.30 |
| 30 | | Medium greenish gray very sandy clay with sand streaks and pockets (CL) | 29.0 | .71 | 22 | 109.9 | 34 | 11 | .47 |
| | | Firm tan and gray clayey sand (SC) | 61.0 | 1.14@1.28 | 24 | 105.2 | | | .53 |
| 35 | | | | | | | | | |
| | | Soft tan and gray clay with (CH) sand streaks and 1 1/2" sand layer | 94.0 | .36@1.56 | 23 | 103.6 | | | .27 |
| 40 | | | | | | | | | |
| | | Stiff tan and gray clay with (CH) sand streaks and pockets | 81.0 | 1.58 | 42 | 79.6 | | | 2.07 |
| 45 | | | | | | | | | |
| | | Medium tan and gray clay (SLS) (CH) | 96.0 | .80 & .96 (remold) | 43 | 77.3 | | | 1.44 |
| 50 | | | | | | | | | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 3
 File: 06-161
 Date: 6-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | <input type="checkbox"/> Undisturbed Sample <input checked="" type="checkbox"/> Standard Penetration Test <input type="checkbox"/> Classification Sample (SLS) Slickensided | | N 29° 50'04.87" W 93° 17'11.10" Cement-bentonite grout backfill top 25 feet below mudline Boring Depth: 40 Feet | | | | | | | | |
|---------------|---------|--|---------------------------|--|---------------|-------|-----|---------|--|--|-----|--|
| | | SPT Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) | | | | |
| 0 | | Zero = top of casing | | | | | | | | | | |
| | | Water depth = 4 feet (El. 0.0 feet) | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 10 | | Mudline El. -4.0 feet, NAVD 88 | | | | | | | | | | |
| | | Very soft gray slightly organic clay(OH) | 52.0 | .18 @ .06 | 89 | 47.6 | | | | | .22 | |
| | | Very soft gray organic clay (OH) | 77.0 | .13 @ .19 | 195 | 29.7 | 150 | 109 | | | .20 | |
| 15 | | Very soft gray slightly organic clay (OH) | 65.0 | .16 @ .30 | 95 | 52.0 | | | | | .15 | |
| | | Very soft gray clay with (CH) sand streaks and pockets | 79.0 | .16 @ .40 | 64 | 61.6 | | | | | .11 | |
| 20 | | Soft gray slightly silty clay (CL) | 92.0 | .29 @ .52 | 28 | 94.6 | 51 | 34 | | | .23 | |
| | | Very soft gray slightly (CL) silty clay with shells | 74.0 | .16 @ .65 | 43 | 76.5 | | | | | .22 | |
| | | Stiff tan and gray clay with (CH) sand streaks and pockets | 50.0 | 1.83 | 24 | 102.7 | | | | | .57 | |
| 25 | | Medium greenish gray clay with sand streaks, pockets, and (2) 1" sand layers (CH) | 30.0 | 0.71 @ .86 | 20 | 101.7 | | | | | .62 | |
| | | Firm gray clayey sand with 6" sand layer at top (SC) | 65.0 | .56 @ .99 | 25 | 100.4 | 27 | 6 | | | .43 | |
| 30 | X | Firm gray clayey sand (SC) | 15 blows per foot (4/6/9) | | | | | | | | | |
| 35 | | Medium tan and gray clay (CH) with 3" clayey sand layer | 61.0 | .71 | 21 | 97.8 | | | | | .31 | |
| 40 | | Stiff tan and gray clay with sand (CH) streaks, pockets, and lenses (SLS) | 88.0 | 1.08 | 36 | 86.1 | | | | | .69 | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 4
 File: 06-161
 Date: 10-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | <input type="checkbox"/> Undisturbed Sample <input checked="" type="checkbox"/> Standard Penetration Test <input type="checkbox"/> Classification Sample (SLS) Slickensided | | N 29° 50'53.38" W 93° 14'51.78" Cement-bentonite grout backfill top 25 feet below mudline Boring Depth: 66 Feet | | | | Recovery % UU(TSF) WC(%) Dry Wt. (PCF) LL PI MV(KSF) | | | |
|---------------|---------|--|--|--|------|------------|----|--|----|----|------|
| | | 0 | | Zero = top of casing | | | | | | | |
| | | Water depth = 11 feet (El. -0.6 feet) | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 15 | | Mudline El. -11.6 feet, NAVD 88 | | | | | | | | | |
| | | | | Gray clay with shells (CH) | 19.0 | -- | 51 | -- | -- | -- | .41 |
| | | | | Very soft gray clay with shells (CH) | 80.0 | 0.22 @ .19 | 66 | 61.7 | 92 | 62 | .09 |
| 20 | | | | Very soft gray clay (CH) | 65.0 | .15 @ .30 | 62 | 62.6 | | | .19 |
| | | | | Very soft gray clay (CH) | 63.0 | .16 | 68 | 60.8 | 91 | 62 | .17 |
| 25 | | | | Soft gray slightly organic (OH) clay with shells (SLS) | 87.0 | .31 @ .52 | 79 | 53.8 | | | .22 |
| | | | | Very soft gray slightly organic (OH) clay with shells | 98.0 | .16 @ .65 | 93 | 49 | | | .10 |
| | | | | Soft gray clay with shells (CH) | 48.0 | .26 @ .75 | 44 | 80.1 | | | .18 |
| 30 | | | | Soft gray clay with shells (SLS) (CH) | 66.0 | .36 @ .86 | 45 | 74.5 | 66 | 44 | .15 |
| | | | | Soft gray clay with shells (CH) | 78.0 | 0.33 | 38 | 83.4 | | | .27 |
| 35 | | | | Very soft gray clay with shells (CH) | 38.0 | .15 @ 1.09 | 47 | 72.5 | | | .08 |
| | | | | Soft tan and gray clay (CH) | 88.0 | 0.42 | 47 | 81.1 | | | .65 |
| 40 | | | | Very soft tan and gray clay with shells (CH) | | .21 @ 1.6 | 40 | 78.0 | | | |
| | | | | Stiff tan and gray clay (CH) | 73.0 | 1.04 | 41 | 79.3 | | | 1.59 |
| 45 | | | | Stiff tan and gray clay (CH) with sand lenses (SLS) | 86.0 | 1.50 | 36 | 85.3 | | | 2.07 |
| 50 | | | | | | | | | | | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 4
 File: 06-161
 Date: 11-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | | | | | | | Boring Depth: 66 Feet |
|---------------|--|------------|---------|-------|---------------|----|----|-----------------------|
| | | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
| 50 | | | | | | | | |
| 55 | Stiff tan and gray clay (CH) with sand lenses | 49.0 | 1.93 | 33 | 89.3 | | | 2.19 |
| 60 | Stiff tan and gray clay with sand (CH) lenses and 1/2" sand layer (SLS) | 94.0 | 1.18 | 41 | 80.9 | | | 1.12 |
| 65 | Medium tan and gray clay (CH) with sand streaks and pockets | 42.0 | .56 | 38 | 83.9 | | | 0.55 |
| | | | | | | | | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 5
 File: 06-161
 Date: 5-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | N 29° 51'34.80" W 93° 14'13.82" | | | | | | |
|---------------|---------|---|------------|-------|---------------|----|----|---------|
| | | Cement-bentonite grout backfill top 25 feet below mudline Boring Depth: 42 Feet | | | | | | |
| | | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) |
| 0 | | Zero = top of casing | | | | | | |
| | | Water depth = 4 feet (El. -0.5 feet) | | | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| | | Mudline El. -4.5 feet, NAVD 88 | | | | | | |
| | | Very soft dark gray (OH) slightly organic clay | | | | | | |
| | | 53.0 | .09 @ .06 | 126 | 37.3 | | | .02 |
| 15 | | Very soft gray (CH) clay with organic matter | | | | | | |
| | | 61.0 | .15 @ .19 | 61 | 64.0 | 59 | 38 | .01 |
| | | Very soft gray slightly organic clay(OH) | | | | | | |
| | | 31.0 | .11 @ .30 | 64 | 56.4 | | | .00 |
| | | Very soft gray clay with shells (CH) | | | | | | |
| | | 69.0 | 0.23 @ .40 | 39 | 77.0 | | | .01 |
| 20 | | Very soft gray clay with shells (CH) | | | | | | |
| | | 23.0 | .17 @ .52 | 44 | 71.3 | | | .038 |
| | | Very soft gray clay (CH) | | | | | | |
| | | 94.0 | .18 @ .65 | 50 | 72.6 | | | .18 |
| 25 | | Soft gray slightly silty (CL) clay with sand streaks | | | | | | |
| | | 92.0 | .24 @ .75 | 32 | 92.9 | | | .10 |
| | | Very soft gray silty clay (CL) with sand pockets | | | | | | |
| | | 88.0 | .23 @ .86 | 28 | 96.3 | | | .28 |
| | | Soft gray sandy clay (CL) | | | | | | |
| | | 79.0 | .30 @ .99 | 27 | 96.4 | | | .24 |
| 30 | | Firm gray clayey sand with clay pockets and 1½" clay layer (SC) | | | | | | |
| | | 63.0 | .64 @ 1.07 | 26 | 98.1 | | | .31 |
| | | Medium tan and gray very sandy clay (CL) | | | | | | |
| | | | 0.52 | 26 | 95.7 | | | |
| 35 | | Medium tan and gray sandy clay with sand streaks, pockets, lenses, 2" sand layer and 1" sand layer (CL) | | | | | | |
| | | 75.0 | .63 | 30 | 88.9 | 38 | 17 | .64 |
| | | Medium tan and gray silty clay with sand streaks, pockets, lenses, and two ½" sand layers (CL) | | | | | | |
| | | 81.0 | 0.68 | 31 | 92.2 | | | .55 |
| 40 | | Stiff tan and gray clay with sand streaks, pockets, and lenses (CH) | | | | | | |
| | | 40.0 | 1.03 | 30 | 90.2 | | | .72 |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 6
 File: 06-161
 Date: 11-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | <input type="checkbox"/> Undisturbed Sample <input checked="" type="checkbox"/> Standard Penetration Test <input type="checkbox"/> Classification Sample (SLS) Slickensided | | N 29° 51'40.99" W 93° 14'10.22" Cement-bentonite grout backfill top 25 feet below mudline Boring Depth: 66 Feet | | | | | | |
|---------------|---------|--|---------|--|---------------|-----|-------|---------|-----|------|
| | | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | LL | PI | MV(KSF) | | |
| 0 | | Zero = top of casing | | | | | | | | |
| | | Water depth = 9 feet (El. -0.6 feet) | | | | | | | | |
| 5 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | Mudline El. -9.6 feet, NAVD 88 | | | | | | | | |
| | | Very soft gray organic clay (OH) | | 50.0 | .06 @ .06 | 182 | 27.6 | 169 | 123 | .05 |
| | | Very soft gray organic clay (OH) | | 83.0 | .09 @ .19 | 176 | 28.9 | | | .04 |
| 20 | | Very soft gray clay (CH) | | 67.0 | .15 @ .15 | 50 | 69.3 | 65 | 39 | .09 |
| | | Very soft gray organic (OH) clay with shells | | 71.0 | .10 @ .40 | 165 | 33.5 | 129 | 91 | .08 |
| 25 | | Very soft gray clay (CH) | | 85.0 | .16 @ .52 | 35 | 85.3 | | | .54 |
| | | Medium tan and gray clay ((CH) with sand streaks and pockets | | 31.0 | 0.92 | 25 | 101.0 | | | 1.00 |
| | | Stiff tan and greenish gray clay (CH) with sand streaks and pockets | | 42.0 | 1.14 | 19 | 108.5 | | | .98 |
| 30 | | Medium tan and gray slightly sandy clay with sand streaks, pockets, & lenses (CL) | | 79.0 | 0.57 | 30 | 93.9 | 42 | 22 | .23 |
| | | Medium tan and gray very sandy clay (CL) with sand streaks, pockets, & lenses | | 44.0 | 0.53 | 30 | 93.1 | | | .21 |
| 35 | | Medium tan and gray very sandy clay with sand streaks, pockets, & lenses (CL) | | 59.0 | 0.93 | 35 | 89.6 | | | 1.20 |
| | | Stiff tan and gray slightly silty clay with silt streaks, pockets, & lenses (CL) | | 74.0 | 1.47 | 33 | 91.5 | | | 2.19 |
| 40 | | | | | | | | | | |
| | | Stiff tan and gray clay (CH) with sand lenses (SLS) | | 79.0 | 1.42 | 35 | 88.0 | | | 1.45 |
| 45 | | | | | | | | | | |
| | | Medium gray slightly silty clay (CL) with sand streaks, pockets, & lenses | | 85.0 | 0.89 | 34 | 90.8 | | | .98 |
| 50 | | | | | | | | | | |

LOG OF BORING

Project: Cameron-Creole Structures
 Cameron Parish, Louisiana
 Louisiana Department of Natural Resources (CWPPRA C5-04A)
 For: Sigma Consulting Group
 Baton Rouge, Louisiana

Boring: 6
 File: 06-161
 Date: 11-Dec-06
 Technician: JP

| Depth Feet | SAMPLES | | Recovery % | UU(TSF) | WC(%) | Dry Wt. (PCF) | Boring Depth: 66 Feet | | |
|---------------|---------|--|------------|---------|-------|---------------|-----------------------|----|---------|
| | | | | | | | LL | PI | MV(KSF) |
| 50 | | | | | | | | | |
| 55 | | Stiff gray clay (SLS) (CH) | 78.0 | 1.23 | 43 | 70.8 | | | .88 |
| 60 | | Stiff tan and gray clay (CH) with sand streaks | 85.0 | 1.89 | 23 | 94.7 | | | 1.40 |
| | | ← Shell layers encountered from 60 to 65 feet | | | | | | | |
| 65 | | Soft gray clay with sand sand pockets and shell (CH) | 63.0 | .25 | 39 | 81.6 | | | .57 |

APPENDIX H: LOUISIANA WILDLIFE AND FISHERIES DOCUMENTS



BOBBY JINDAL
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE & FISHERIES

ROBERT J. BARNHAM
SECRETARY

June 9, 2009

Karl Morgan, Acting Administrator
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 44487
Baton Rouge, LA 70804-4487

RE: *Consistency Number: C20070054 (Modification)*
Applicant: Cameron Parish Gravity Drainage District 3 / NRCS
Notice Date: May 1, 2009
Location: Calcasieu Lake

Dear Mr. Morgan:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the public notice referenced above. The following recommendations have been provided by the appropriate biologist(s):

Ecological Studies:

We have no objection to the proposed activity.

Marine Fisheries:

1. Applicant shall be liable for, and shall compensate the state for, any damages to the oyster seed grounds caused by Applicant or Applicant's contractors during any work done under this permit. Prior to commencement of the permitted activity, Applicant will also provide LDWF with the name of an individual in authority who can be contacted regarding any work done under the permit.
2. Compensation for impacts to the public oyster seed grounds shall be in the form of the planting of cultch material (i.e. crushed concrete, limestone, oyster shell, etc) at the rate of 1 cubic yard per acre of impacted area for barren, non-supportive areas of the seed grounds, 50 cubic yards per acre of impacted area for supportive areas, and 187 cubic yards per acre of impacted area for reef areas plus the value of any living oyster resources destroyed. Applicant shall bear the expense of acquisition and deposition of cultch. The cultch shall be deposited by the Applicant, Applicant's contractor, or sub-contractor, under the direct supervision of LDWF, and shall be deposited at a time, place, and in a manner prescribed by the Department. In lieu of planting cultch material, the Applicant may make payment directly to the Public Oyster Seed Ground Development Account.

Page 2
Application Number: C20070054
June 9, 2009

3. Applicant shall not discharge any drilling and/or workover effluent except for flocculated filtered water into the waters in the areas of the proposed activity. Discharge rate of water shall not exceed the rate of filtering.
4. Applicant shall not discharge any produced waters into the waters in the areas of proposed activity.
5. Applicant, Applicant's contractors and sub-contractors shall not discharge any human waste from any vessel that does not meet or exceed the requirements of the Department of Health and Hospitals.
6. If access route traverses a currently productive public oyster area, the Applicant shall secure approval of the access route from LDWF and shall ingress and egress to the project location only along the approved route.
7. Applicant shall establish and maintain, until the project is complete, along the access route appropriate access route markings for vessels traveling to and from the project location. These markings may be subject to applicable local, state, and federal navigation requirements. These markings shall be sufficient to be used during day and night operations as well as in any climatic and sea condition which may occur during permitted activities.
8. Applicant shall provide legal representation and indemnification to LDWF for any and all lawsuits and legal claims that may be filed or made against LDWF as a result of the activities by Applicant.
9. This permit specifically does not authorize prop washing, wheel washing, dredging, or jetting beyond what is shown in the application and drawings. Any changes or variances in the location, access route, volume of material moved and/or magnitude of the area of impact shall require formal application to, and prior written authorization from, the Department of Natural Resources (DNR). The decision by DNR whether to authorize those changes will require consultation by DNR with LDWF in strict adherence to all applicable provisions of the February 3, 2005 Memorandum of Agreement between those two agencies.
10. Applicant shall have at the project location float booms for containing any spills.
11. At the discretion of the Secretary or Deputy Assistant Secretary of the Louisiana Department of Wildlife and Fisheries, any activities may be suspended until more favorable conditions prevail.
12. Applicant shall provide a letter of completion and as-built drawings of the completed project to the Department no later than 60 days following completion of the permitted activity.
13. At the discretion of LDWF, a post-project bottom contour and side-scan survey may be required. The results of these surveys will be made available to the Department upon request.
14. Applicant shall remove or spread any dredged material which is greater than 0.5 feet above original bottom contours.

Page 3

Application Number: C20070054

June 9, 2009

15. At the discretion of LDWF, the Applicant may be required to return all or part of water bottoms to pre-project conditions.
16. All vessels utilized under this permit shall be of such size and loaded in such a manner as to not impact the water bottoms over which they pass.
17. Vessels utilized during this project shall not draft more than 5 feet fully loaded.
18. Movement of heavy equipment (i.e. rigs, tugs, barges, etc.) across the public oyster seed ground is only authorized with a gauge reading of 1.0 foot or greater on the Calcasieu River at Cameron gauge (USGS 08017118) which can be accessed from <http://la.water.usgs.gov/hydrowatch.htm>. Movement to and from the work area through the public oyster seed grounds is only authorized during an outgoing tide to prevent suspended sediment from moving over the LDWF cultch plant area.
19. Applicant shall notify Mike Harbison at mharbison@wlf.louisiana.gov at least 5 days prior to moving heavy equipment (i.e. rigs, tugs, barges, etc.) through the public oyster seed grounds.
20. Applicant shall stay at least 100 feet away from the 2009 LDWF cultch plant area. The cultch plant boundary is marked with 2" white PVC pipes painted with black and orange stripes and a black 'LDWF' stencil.

The Louisiana Department of Wildlife and Fisheries appreciates the opportunity to review and provide recommendations to you regarding this proposed activity. Please do not hesitate to contact LDWF Permits Coordinator Dave Butler at 225-763-3595 should you need further assistance.

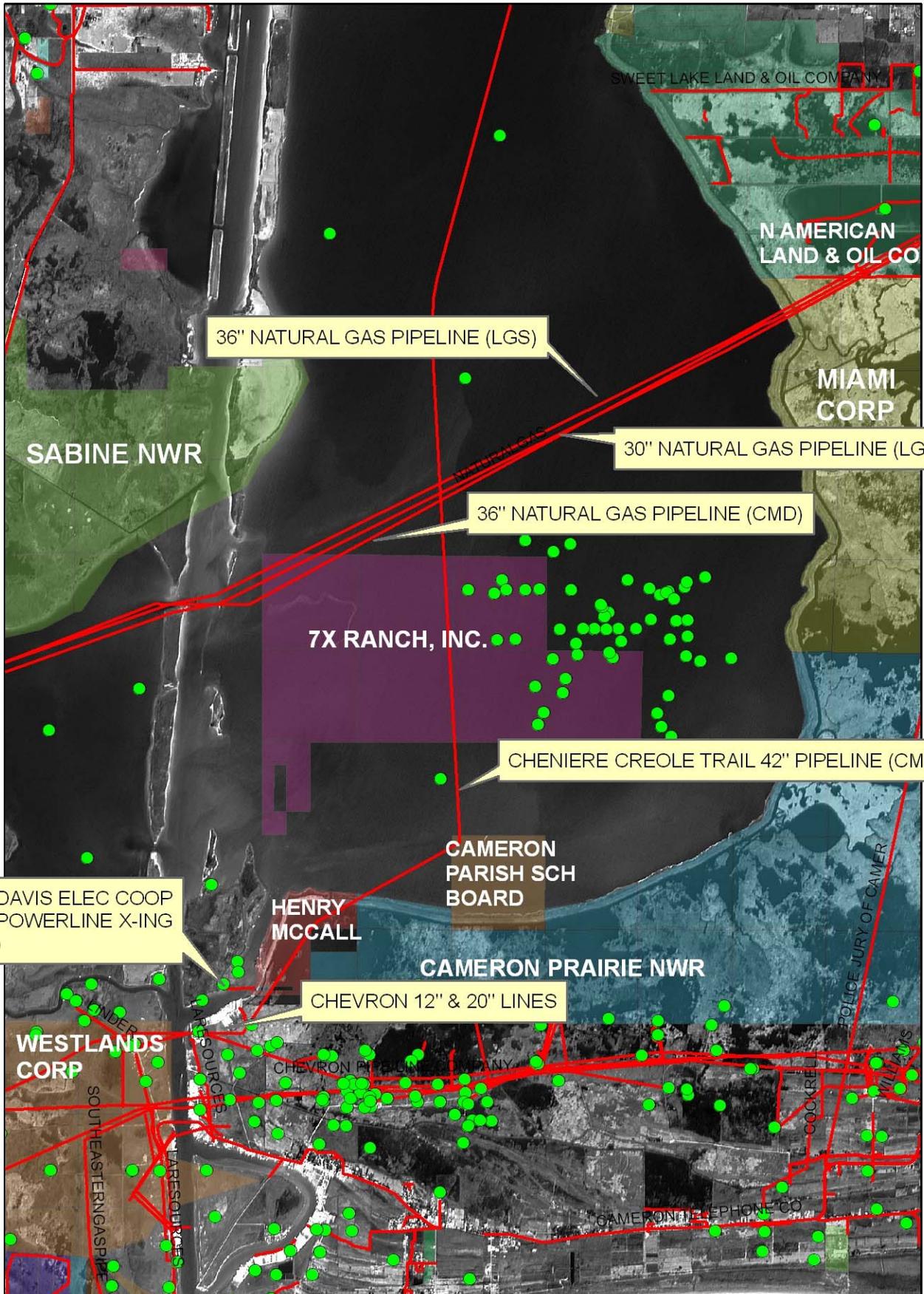
Sincerely,



Kyle F. Balkum
Biologist Program Manager

c: Chris Davis: Biologist
Christy Lavergne, Biologist Supervisor

APPENDIX I: PIPELINE MAP



SWEET LAKE LAND & OIL COMPANY

N AMERICAN LAND & OIL CO

MIAMI CORP

SABINE NWR

36" NATURAL GAS PIPELINE (LGS)

30" NATURAL GAS PIPELINE (LGS)

36" NATURAL GAS PIPELINE (CMD)

7X RANCH, INC.

CHENIERE CREOLE TRAIL 42" PIPELINE (CMD)

JEFF DAVIS ELEC COOP SUB- POWERLINE X-ING (CMD)

CAMERON PARISH SCH BOARD

HENRY MCCALL

CAMERON PRAIRIE NWR

CHEVRON 12" & 20" LINES

WESTLANDS CORP

SOUTH EASTERN GAS PIPE

PARSOURCES

CHEVRON PIPELINE COMPANY

POLICE JURY OF CAMERON

CAMERON TELEPHONE CO

COCKRELL

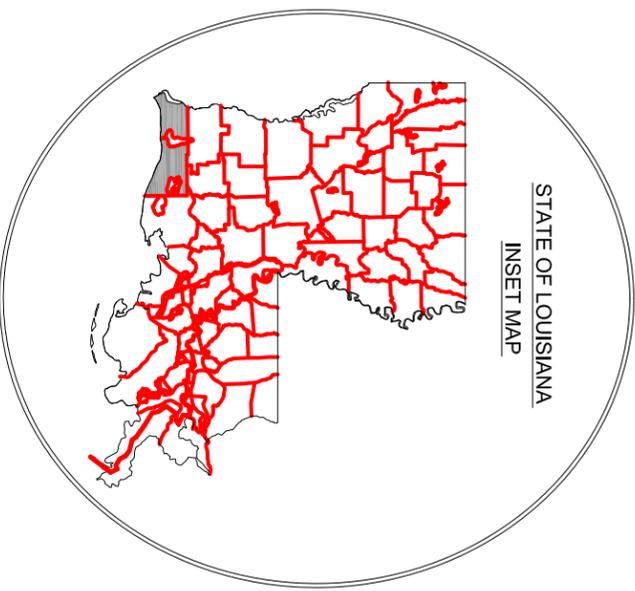
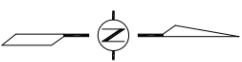
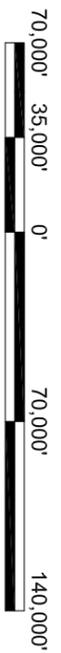
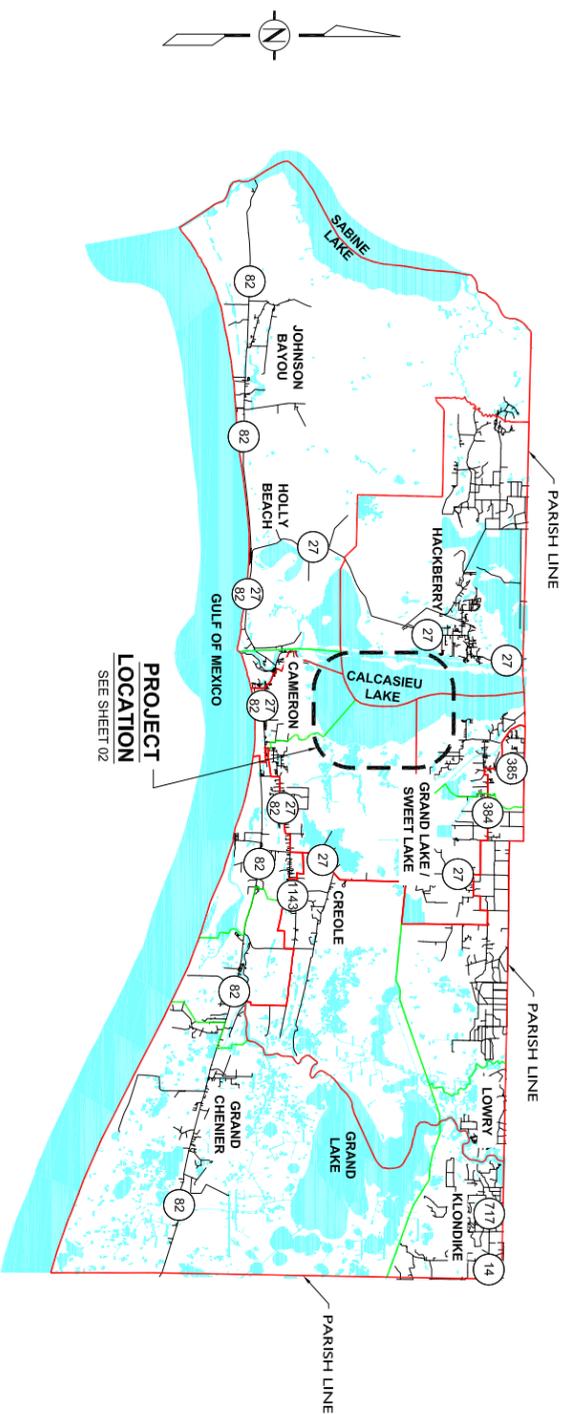
WILLIAMS

STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

RESTORATION OF THE CAMERON
CREOLE WATERSHED LEVEE - PHASE II
STATE PROJECT NO. CS-04A-L
CAMERON PARISH

INDEX TO SHEETS
SHEET NO. DESCRIPTION

| | |
|----|---|
| 1 | TITLE SHEET |
| 2 | PROJECT LOCATION |
| 3 | PLAN AND PROFILE - DETAIL "A" |
| 4 | PLAN AND PROFILE - DETAIL "B" |
| 5 | PLAN AND PROFILE - DETAIL "C" |
| 6 | PLAN AND PROFILE - DETAIL "D" |
| 7 | PLAN AND PROFILE - DETAIL "E" |
| 8 | PLAN AND PROFILE - DETAIL "F" |
| 9 | PLAN AND PROFILE - DETAIL "G" |
| 10 | PLAN AND PROFILE - DETAIL "H" |
| 11 | PLAN AND PROFILE - DETAIL "I" |
| 12 | PLAN AND PROFILE - DETAIL "J" |
| 13 | PLAN AND PROFILE - DETAIL "K" |
| 14 | PLAN AND PROFILE - DETAIL "L" |
| 15 | PLAN AND PROFILE - DETAIL "M" |
| 16 | PLAN AND PROFILE - DETAIL "N" |
| 17 | PLAN AND PROFILE - DETAIL "O" |
| 18 | PLAN AND PROFILE - DETAIL "P" |
| 19 | PLAN AND PROFILE - DETAIL "Q" |
| 20 | PLAN AND PROFILE - DETAIL "R" |
| 21 | PLAN AND PROFILE - DETAIL "S" |
| 22 | PLAN AND PROFILE - DETAIL "T" |
| 23 | PLAN AND PROFILE - DETAIL "U" |
| 24 | PLAN AND PROFILE - DETAIL "V" |
| 25 | PLAN AND PROFILE - DETAIL "W" |
| 26 | PLAN AND PROFILE - DETAIL "X" |
| 27 | PLAN AND PROFILE - DETAIL "Y" |
| 28 | PLAN AND PROFILE - DETAIL "Z" |
| 29 | PLAN AND PROFILE - DETAIL "AA" |
| 30 | PLAN AND PROFILE - DETAIL "BB" |
| 31 | PLAN AND PROFILE - DETAIL "CC" |
| 32 | PLAN AND PROFILE - DETAIL "DD" |
| 33 | PLAN AND PROFILE - DETAIL "EE" |
| 34 | PLAN AND PROFILE - DETAIL "FF" |
| 35 | PLAN AND PROFILE - DETAIL "GG" |
| 36 | PLAN AND PROFILE - DETAIL "HH" |
| 37 | PLAN AND PROFILE - DETAIL "II" |
| 38 | CROSS SECTIONS - STA. 90+20 - STA. 131+64 |
| 39 | CROSS SECTIONS - STA. 136+55 - STA. 201+76 |
| 40 | CROSS SECTIONS - STA. 204+93 - STA. 263+17 |
| 41 | CROSS SECTIONS - STA. 266+10 - STA. 330+11 |
| 42 | CROSS SECTIONS - STA. 335+16 - STA. 389+83 |
| 43 | CROSS SECTIONS - STA. 391+49 - STA. 441+75 |
| 44 | CROSS SECTIONS - STA. 446+77 - STA. 497+66 |
| 45 | CROSS SECTIONS - STA. 500+63 - STA. 539+20 |
| 46 | CROSS SECTIONS - STA. 544+18 - STA. 606+27 |
| 47 | CROSS SECTIONS - STA. 609+22 - STA. 661+04 |
| 48 | CROSS SECTIONS - STA. 666+03 - STA. 731+62 |
| 49 | CROSS SECTIONS - STA. 736+60 - STA. 800+95 |
| 50 | CROSS SECTIONS - STA. 806+52 - STA. 867+73 |
| 51 | CROSS SECTION - STA. 867+87 & MARINE ACCESS ROUTE |



RESTORATION ENGINEERING CHIEF _____
ENGINEER MANAGER _____
PROJECT ENGINEER _____

TYPE OF CONSTRUCTION

CLASSIFICATION III (HEAVY CONSTRUCTION)
CAMERON CREOLE WATERSHED PROJECT
LEVEE RESTORATION

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

| | |
|--|------------------|
| RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II | VICINITY MAP |
| STATE PROJECT NUMBER: CS-04A-L | DATE: 10/17/2011 |
| FEDERAL PROJECT NUMBER: | SHEET 01 OF 51 |
| APPROVED BY: | |



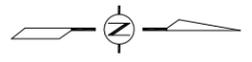
NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10."
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle Chere, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076



NOTE:

REFER TO SHEET 51 FOR ALL ACCESS ROUTE LOCATIONS.

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

**RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II**

STATE PROJECT NUMBER: CS-04A-L

FEDERAL PROJECT NUMBER:

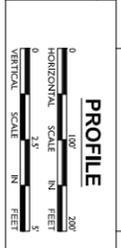
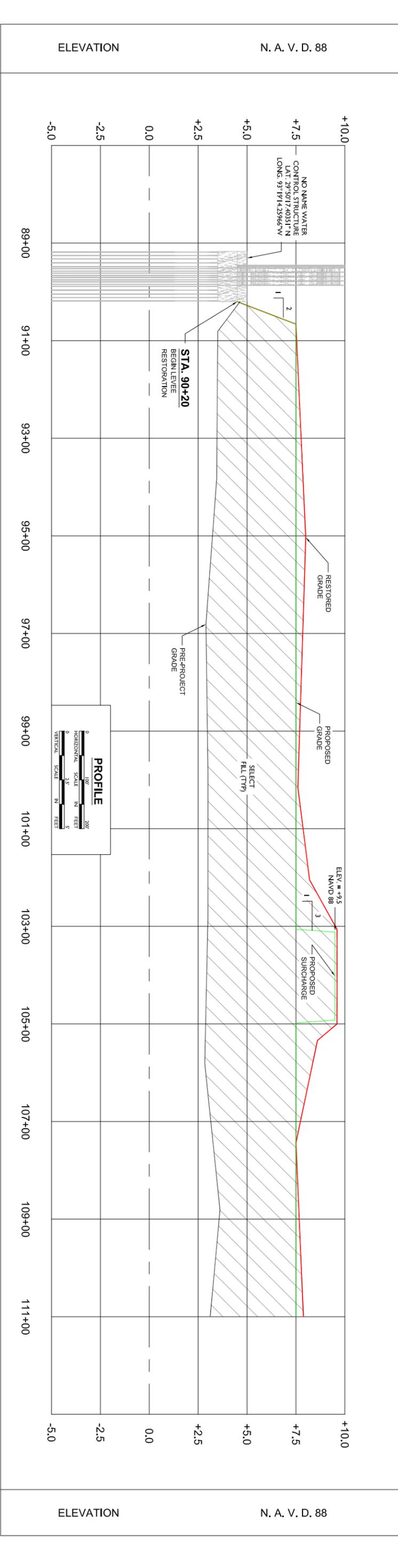
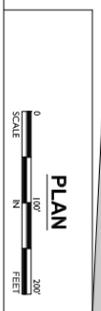
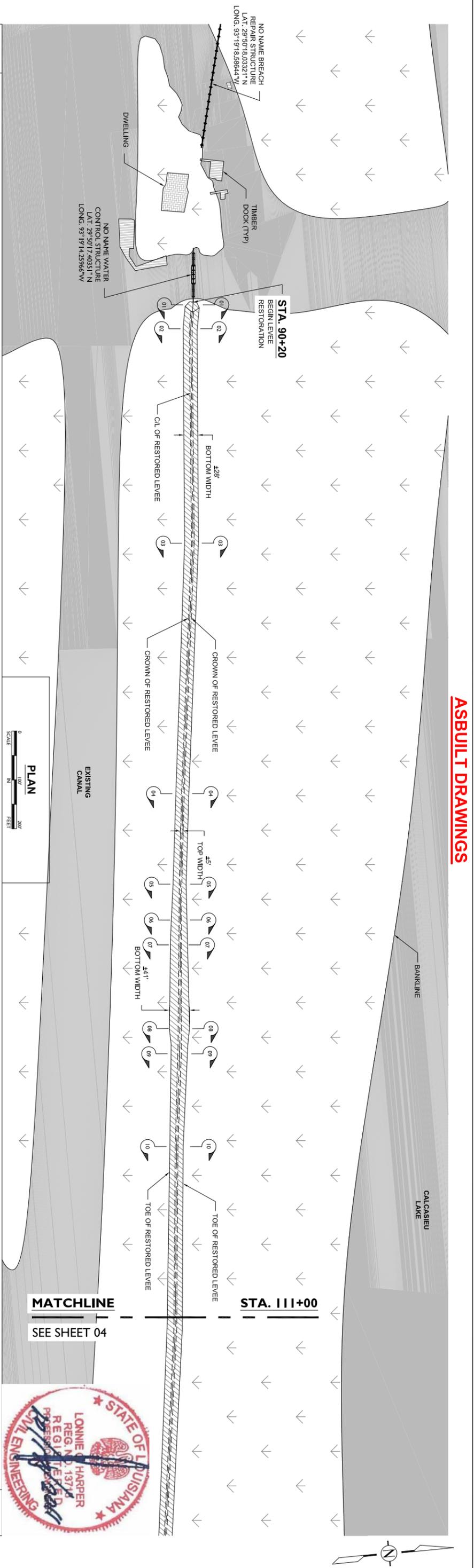
**PROJECT
 LOCATION**

DATE: 10/17/2011

SHEET 02 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Baton Rouge, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

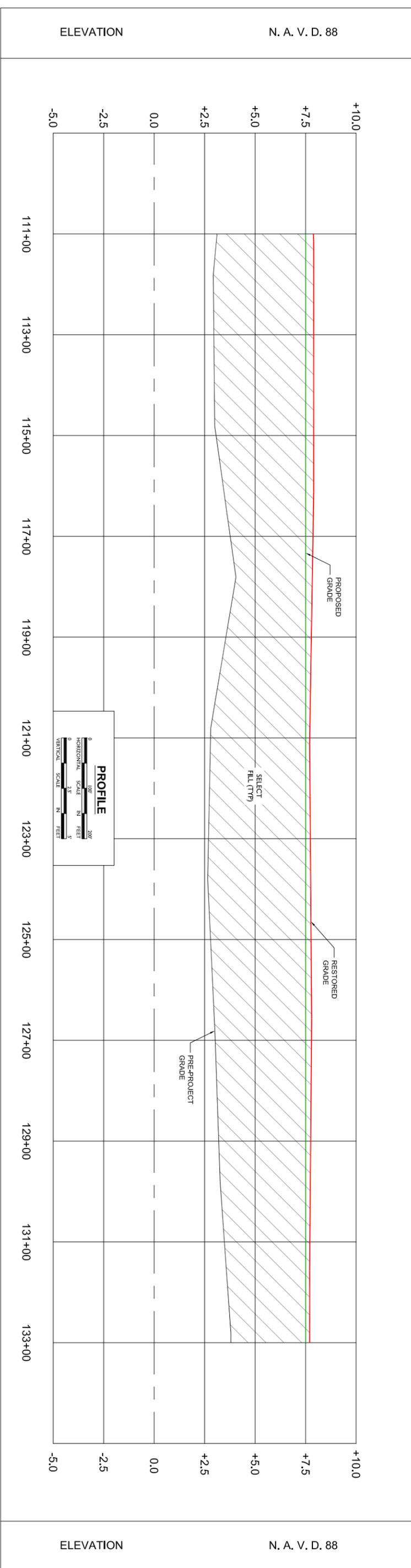
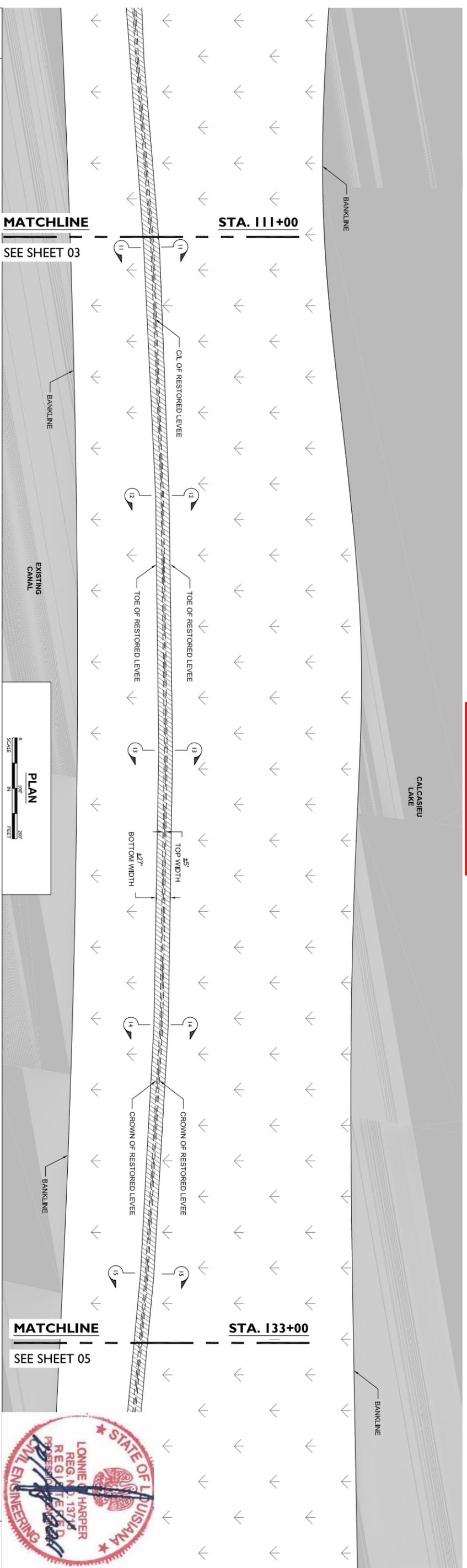
COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:
 DATE: 10/17/2011
 SHEET 03 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle Chere, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

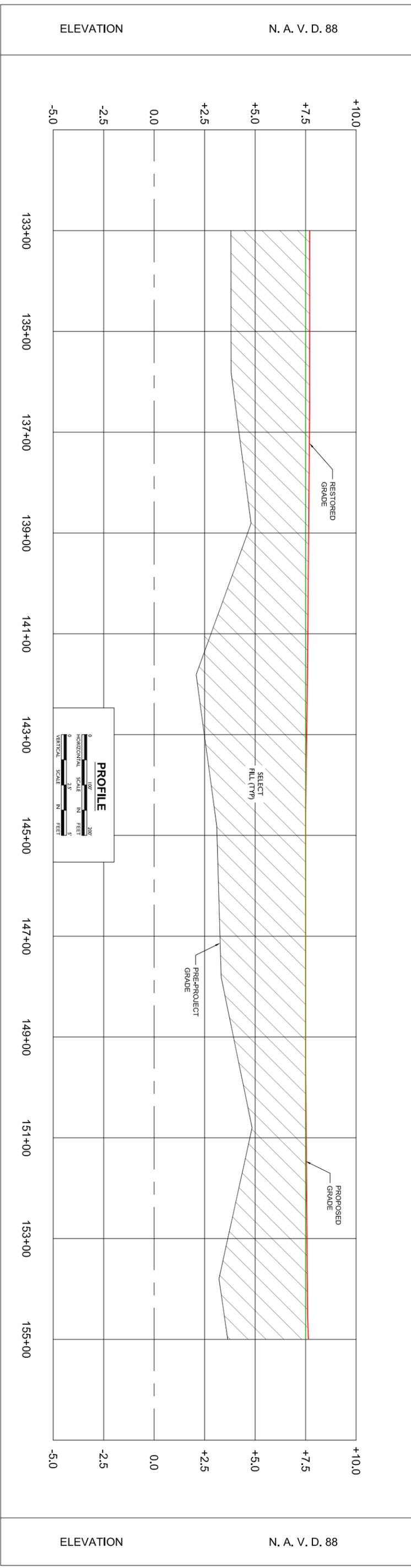
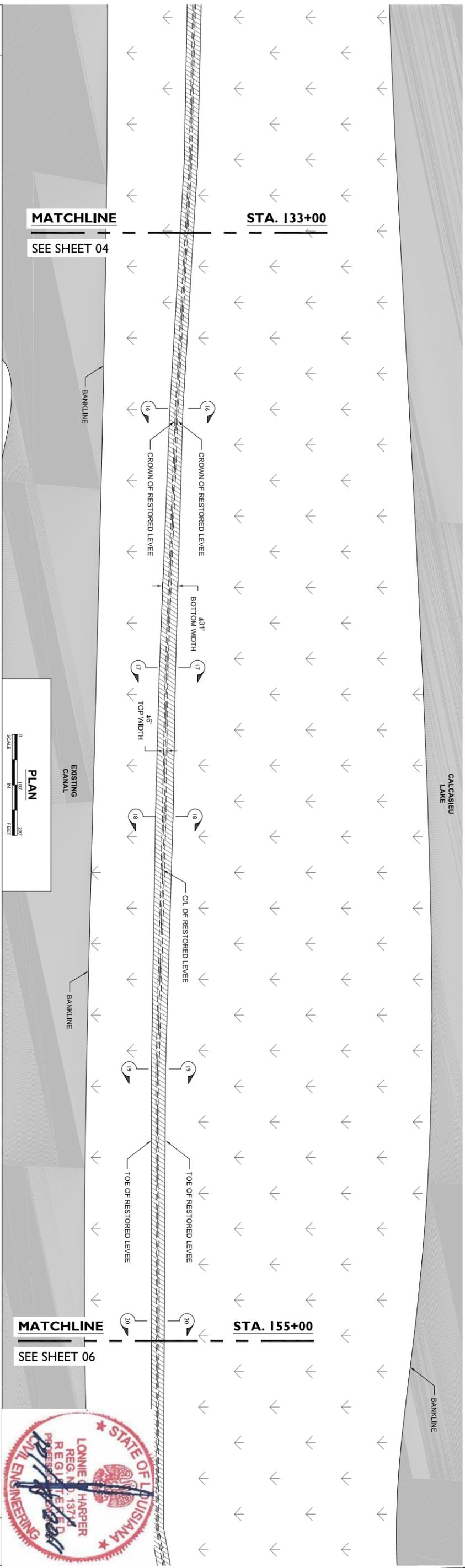
**PLAN & PROFILE
 DETAIL "B"**

DATE: 10/17/2011

SHEET 04 OF 51



CALCASIEU LAKE



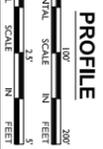
NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076



COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

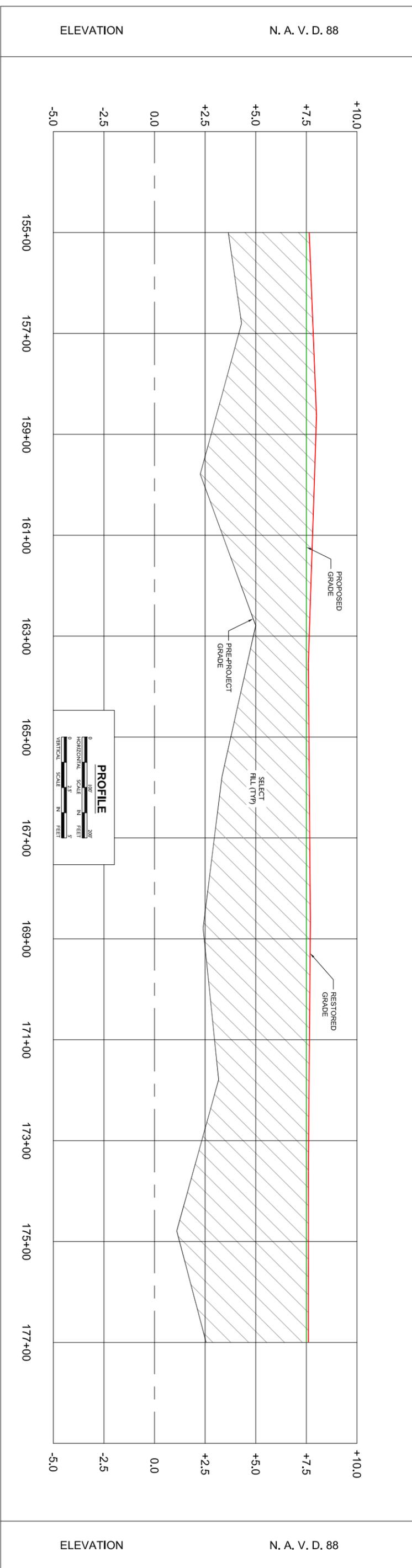
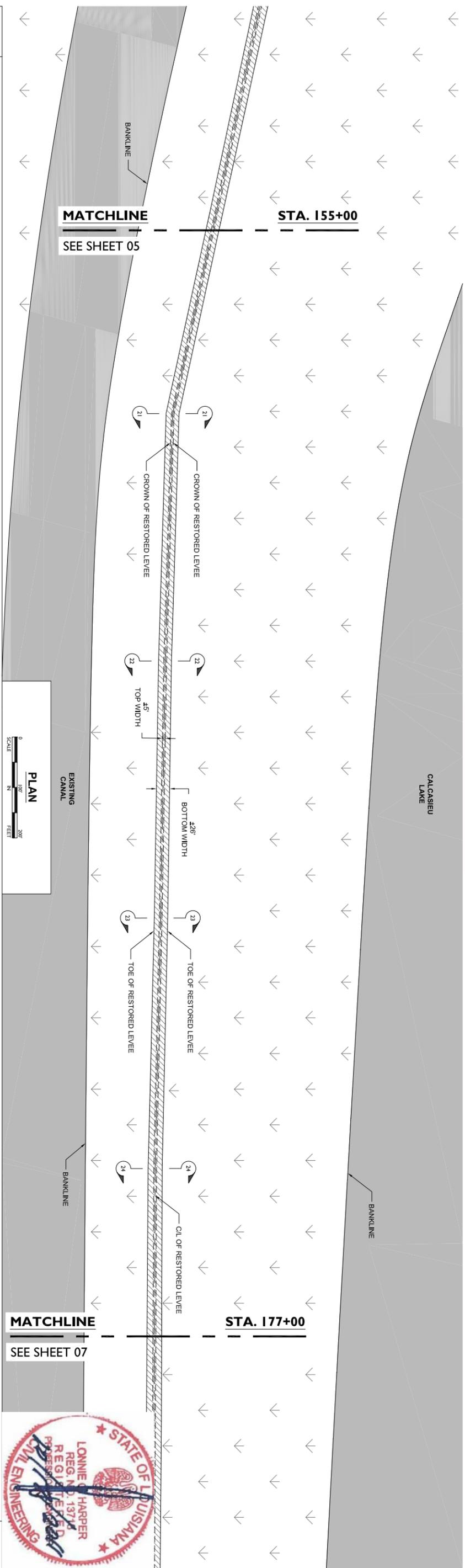
RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLAN & PROFILE
 DETAIL "C"

DATE: 10/17/2011

SHEET 05 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

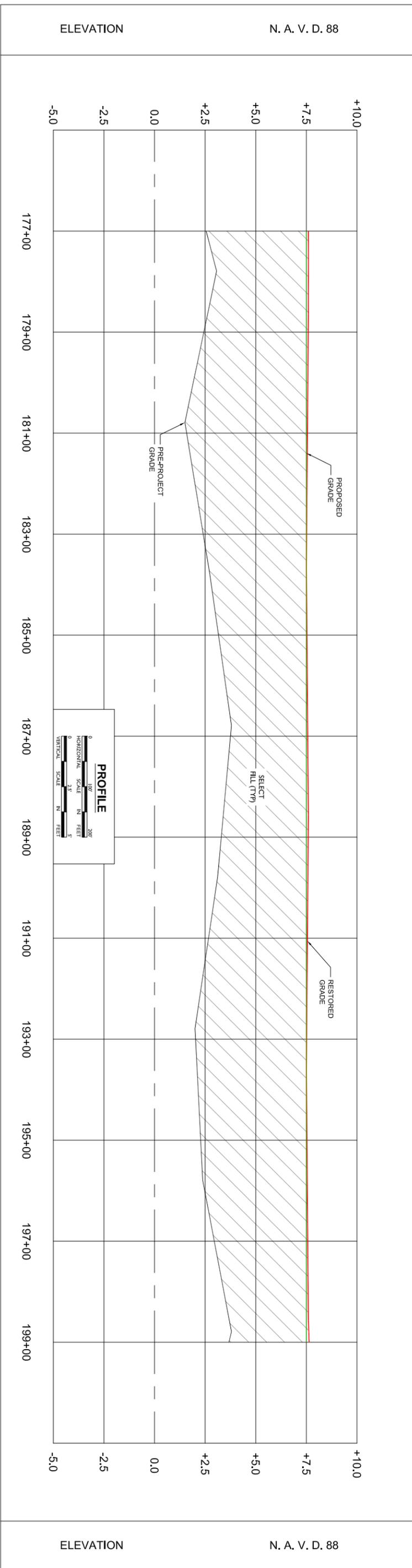
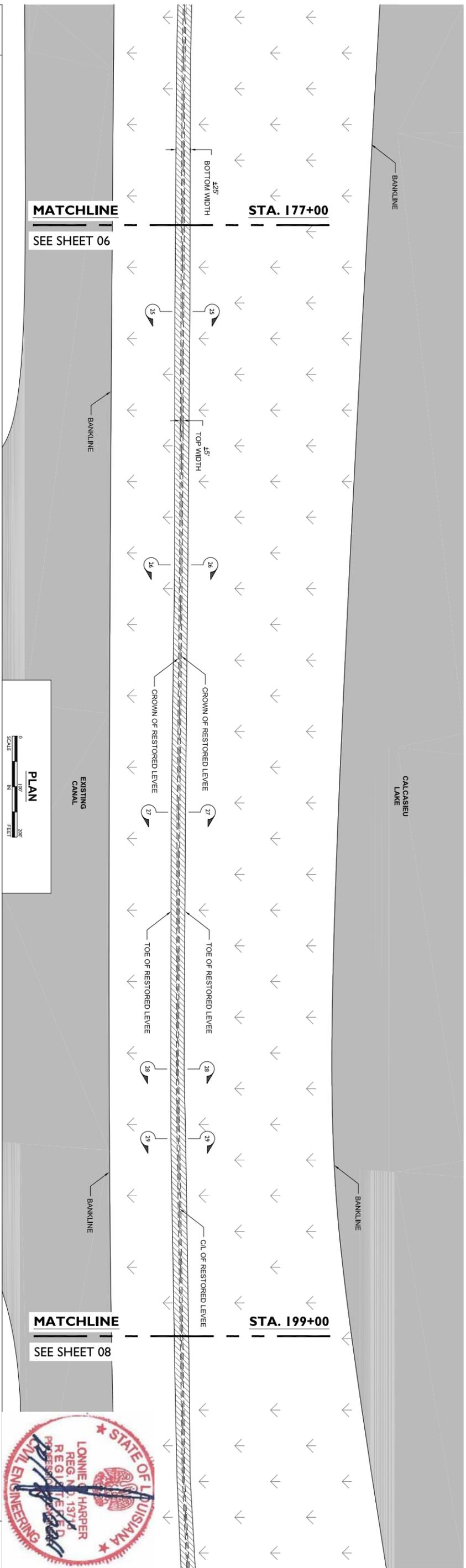
APPROVED BY:

**PLAN & PROFILE
 DETAIL "D"**

DATE: 10/17/2011

SHEET 06 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

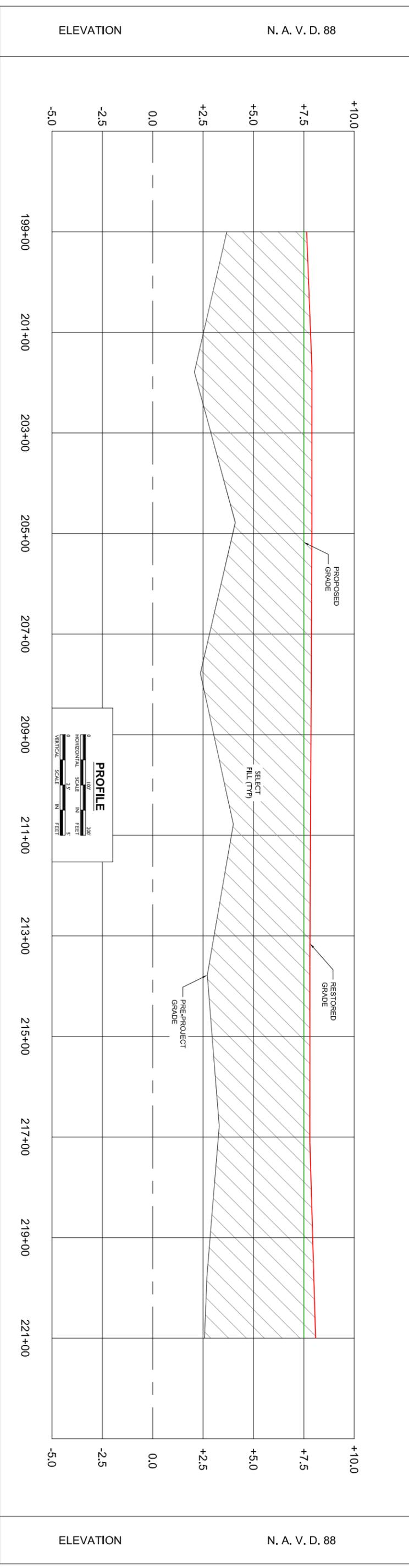
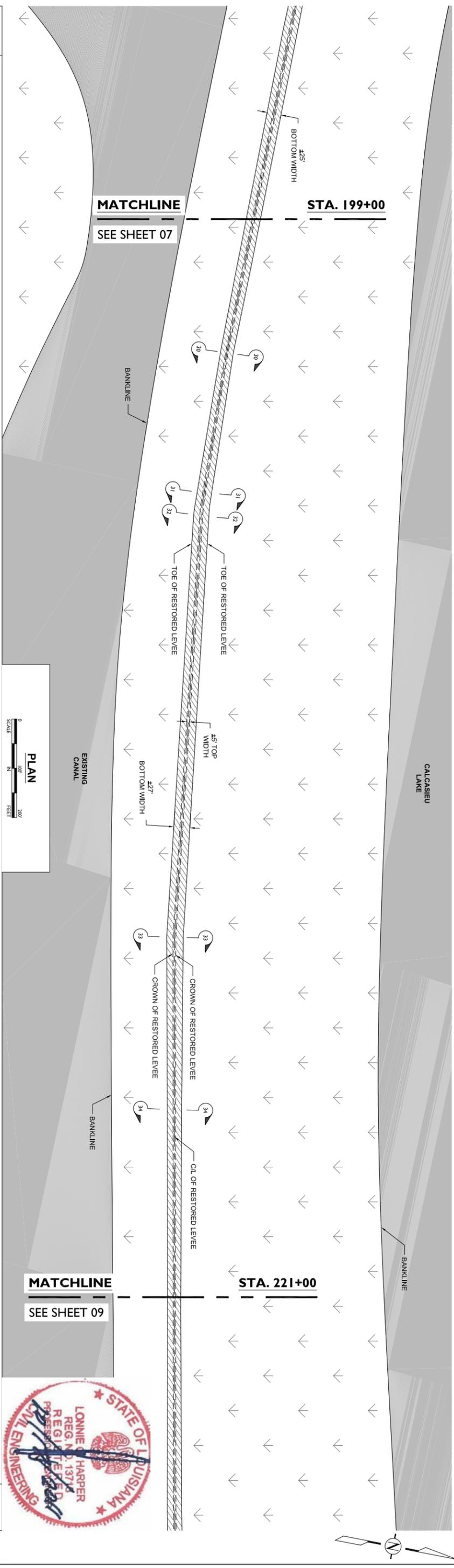
LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Baton Rouge, Louisiana 70801
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLAN & PROFILE DETAIL "E"
 DATE: 10/17/2011
 SHEET 07 OF 51



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Bell City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II

STATE PROJECT NUMBER: CS-04A-L

FEDERAL PROJECT NUMBER:

PLAN & PROFILE
DETAIL "F"

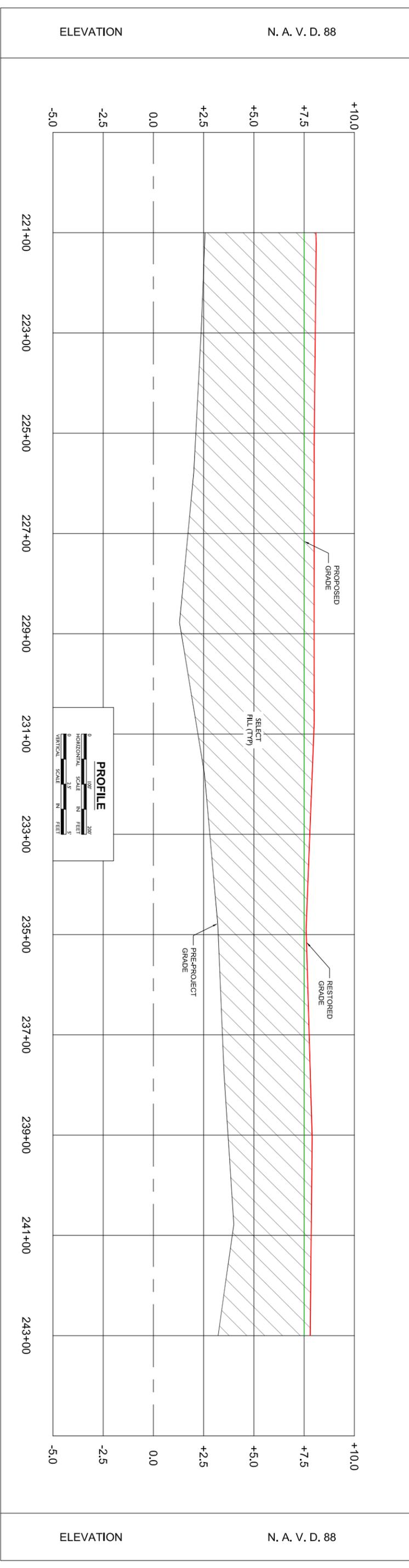
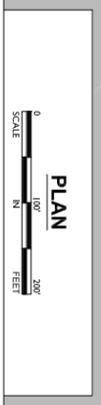
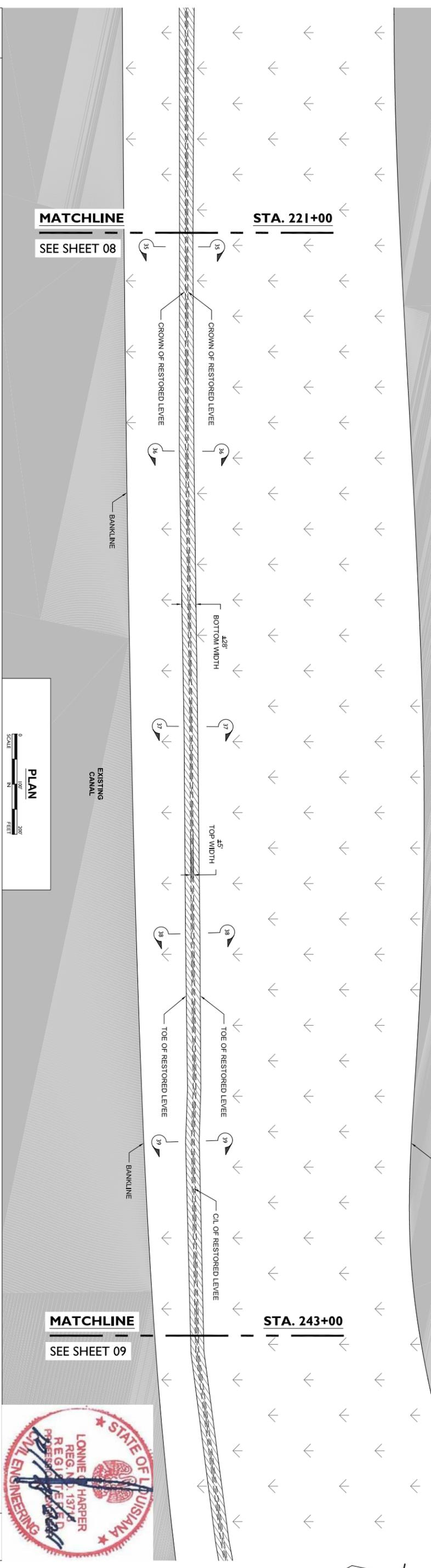
DATE: 10/17/2011

SHEET 08 OF 51



CALCASIEU LAKE

BANKLINE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Bldg City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

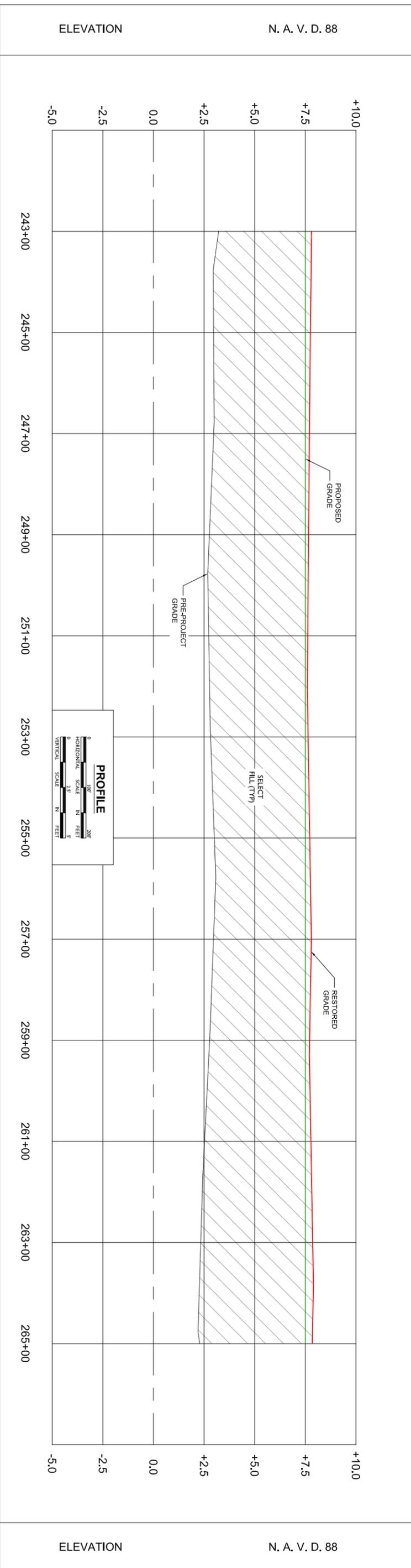
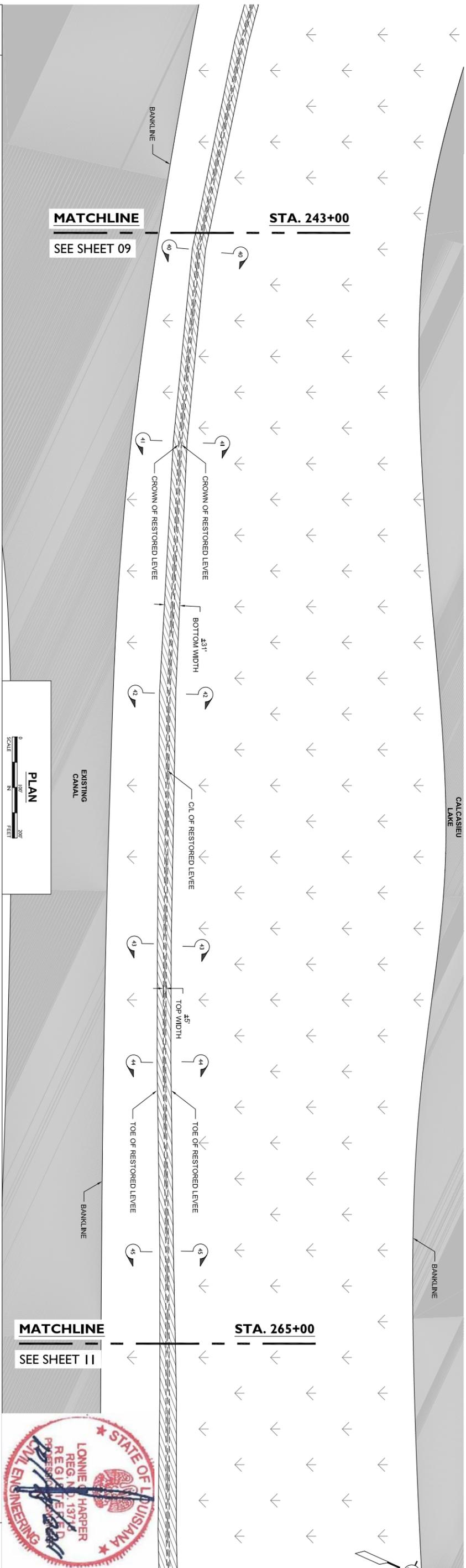
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

PLAN & PROFILE
DETAIL "G"
DATE: 10/17/2011
SHEET 09 OF 51



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle Chere, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

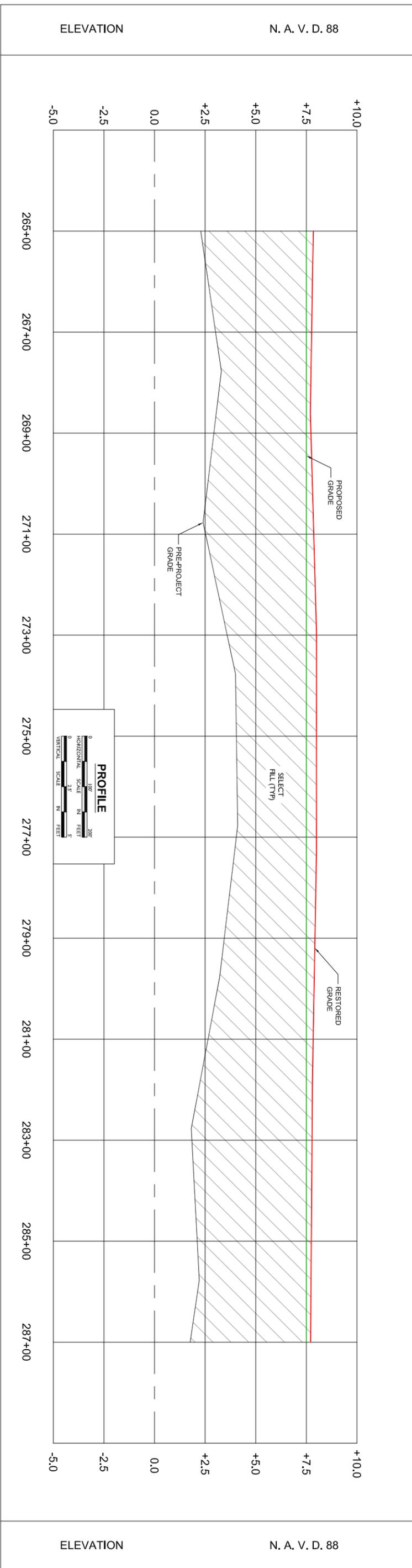
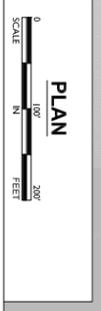
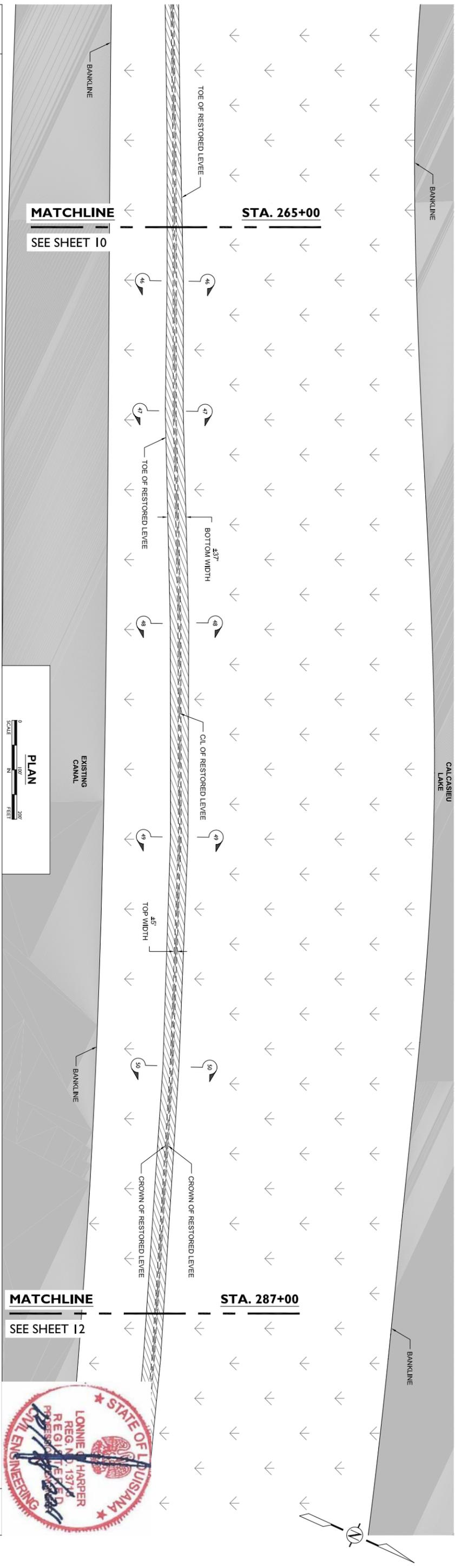
PLAN & PROFILE
 DETAIL "H"

DATE: 10/17/2011

SHEET 10 OF 51



CALCASIEU LAKE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

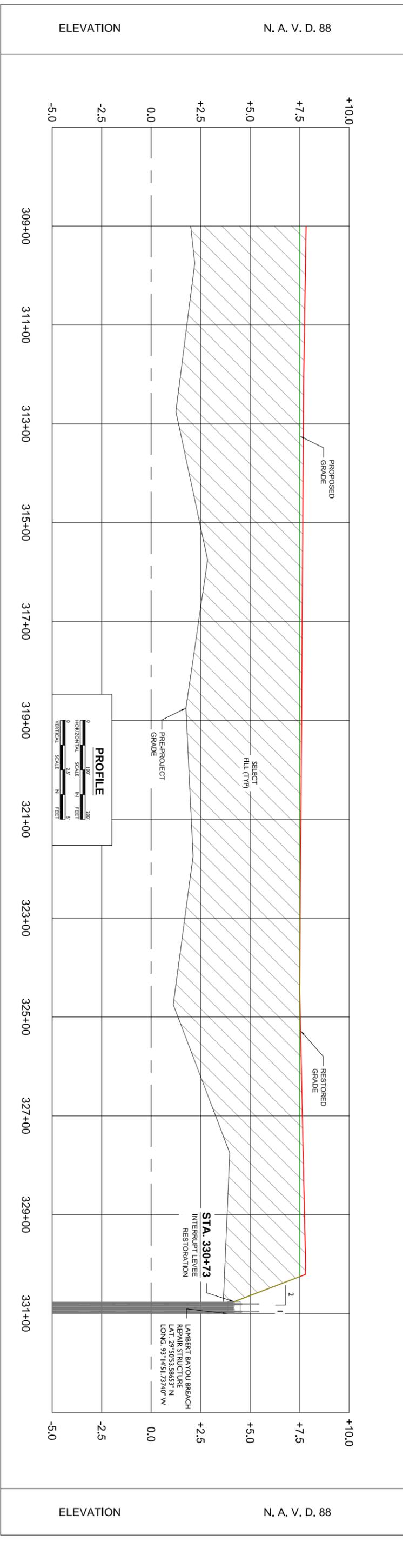
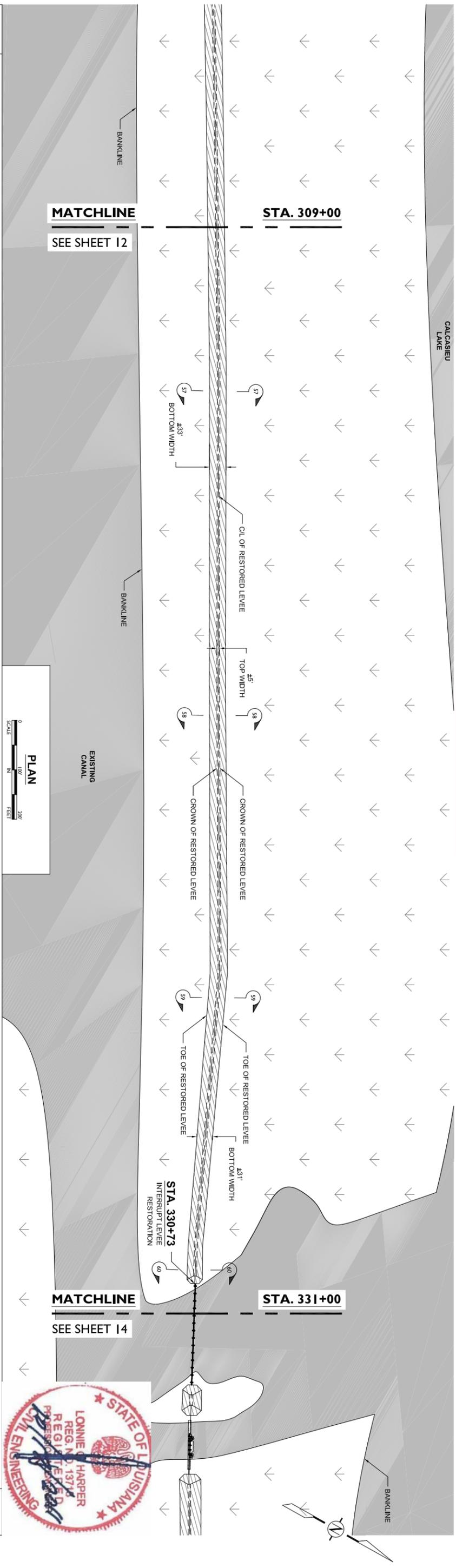
PLAN & PROFILE
 DETAIL "P"

DATE: 10/17/2011

SHEET 11 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN 83/16 INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Belle Meade, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II

STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

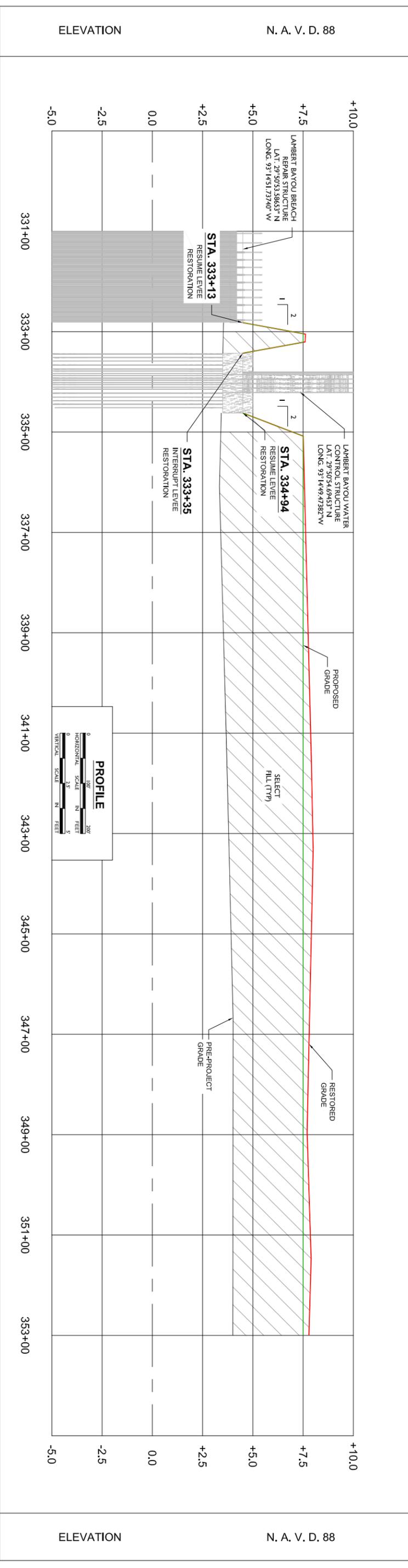
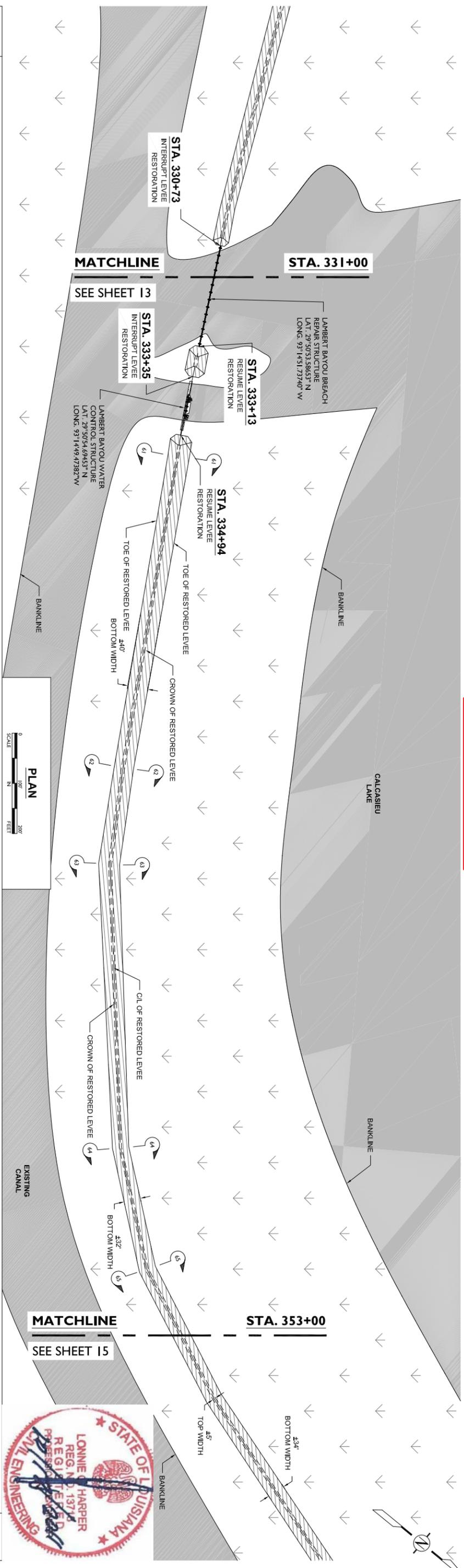
APPROVED BY:

PLAN & PROFILE DETAIL "K"

DATE: 10/17/2011

SHEET 13 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C14, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

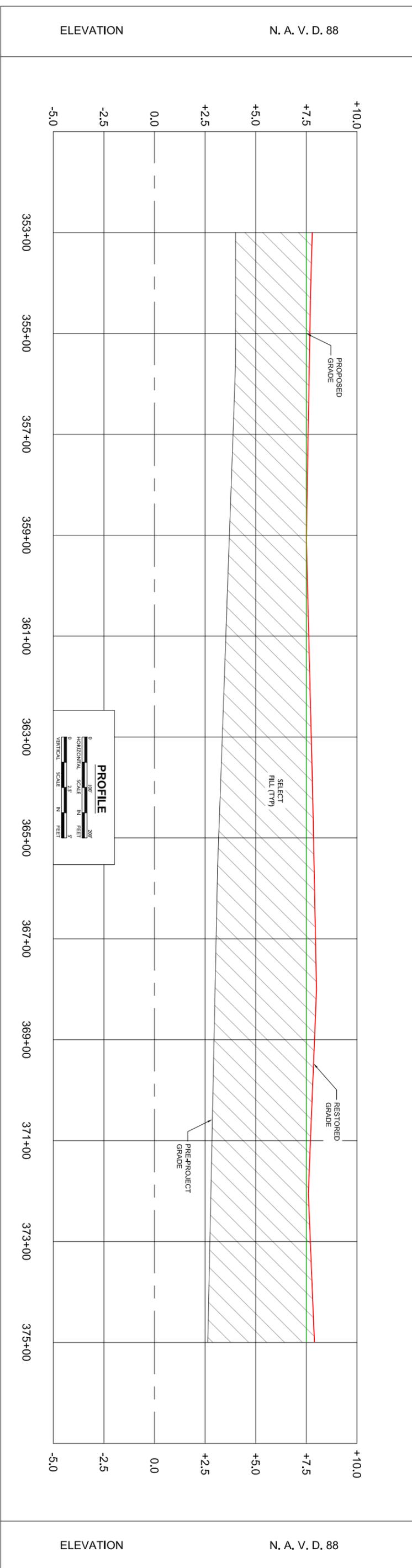
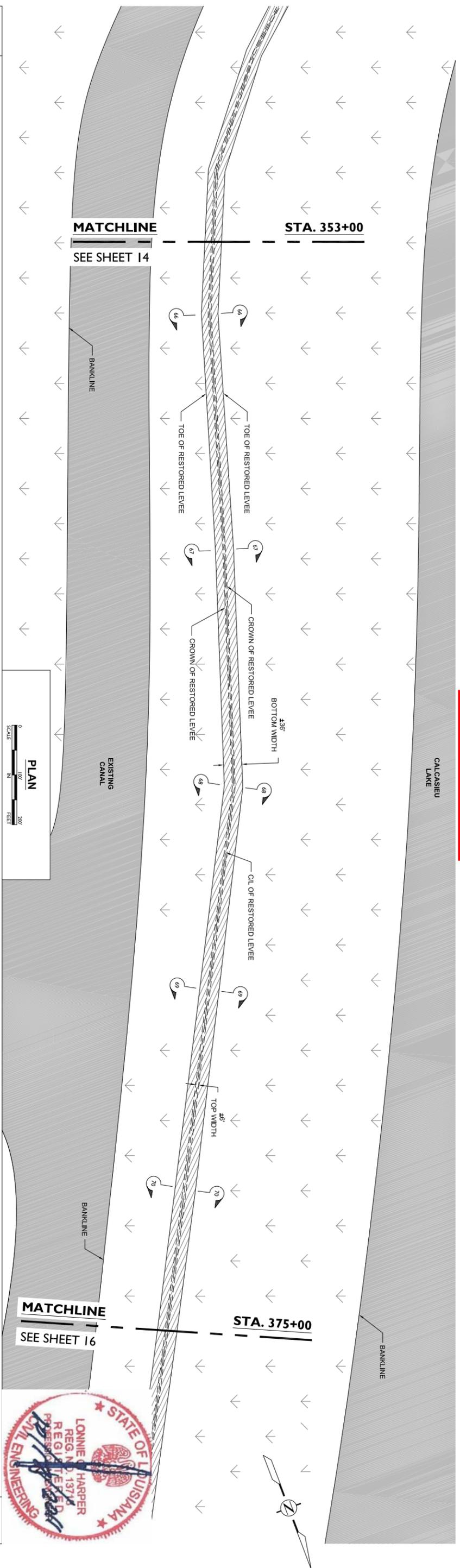
PLAN & PROFILE
 DETAIL "L"

DATE: 10/17/2011

SHEET 14 OF 51



CALCASIEU LAKE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SMA-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

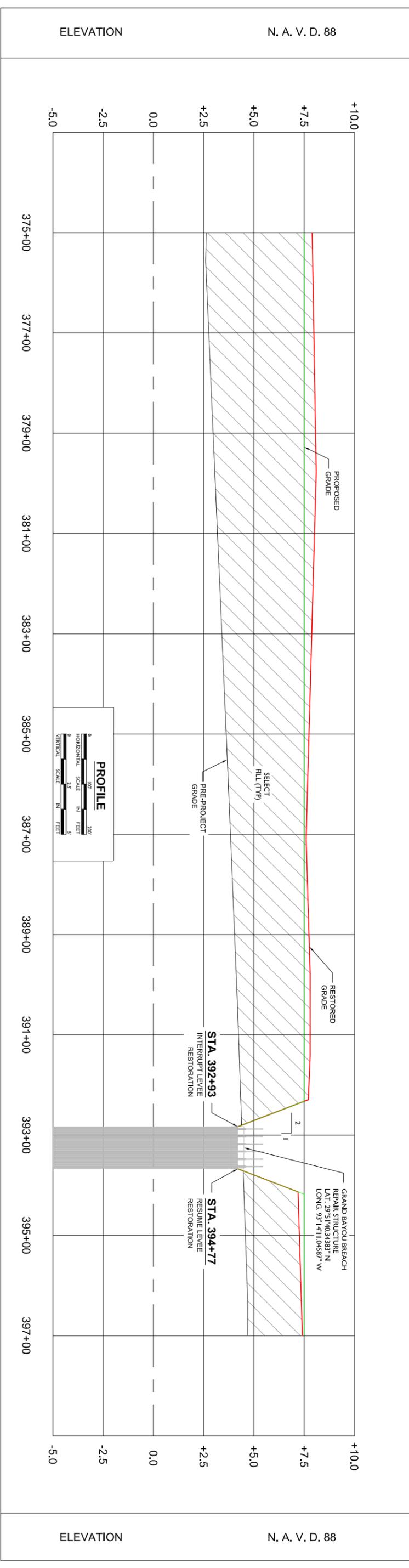
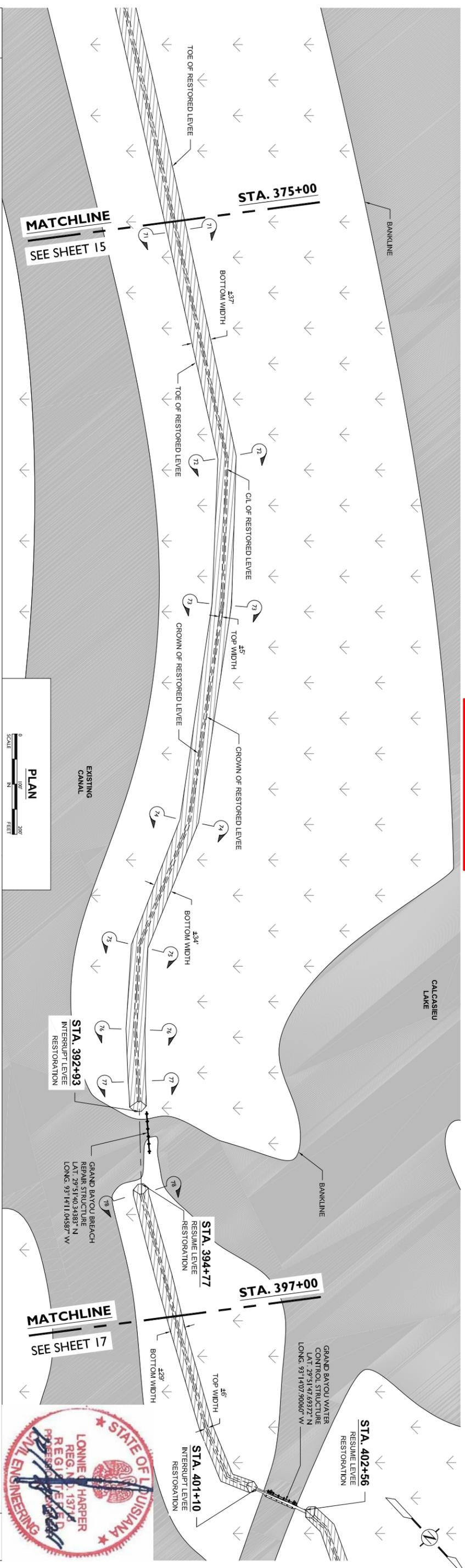
DRAWN BY: AARON HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLAN & PROFILE
 DETAIL "M"
 DATE: 10/17/2011
 SHEET 15 OF 51



ASBUILT DRAWINGS



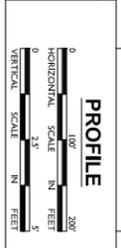
NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076



COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II

STATE PROJECT NUMBER: CS-04A-L

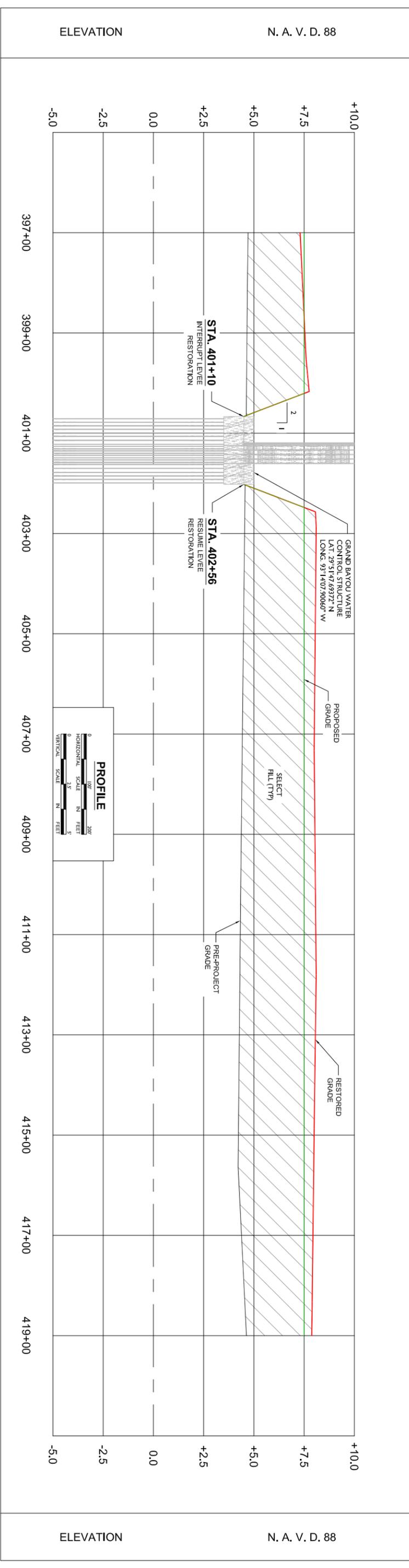
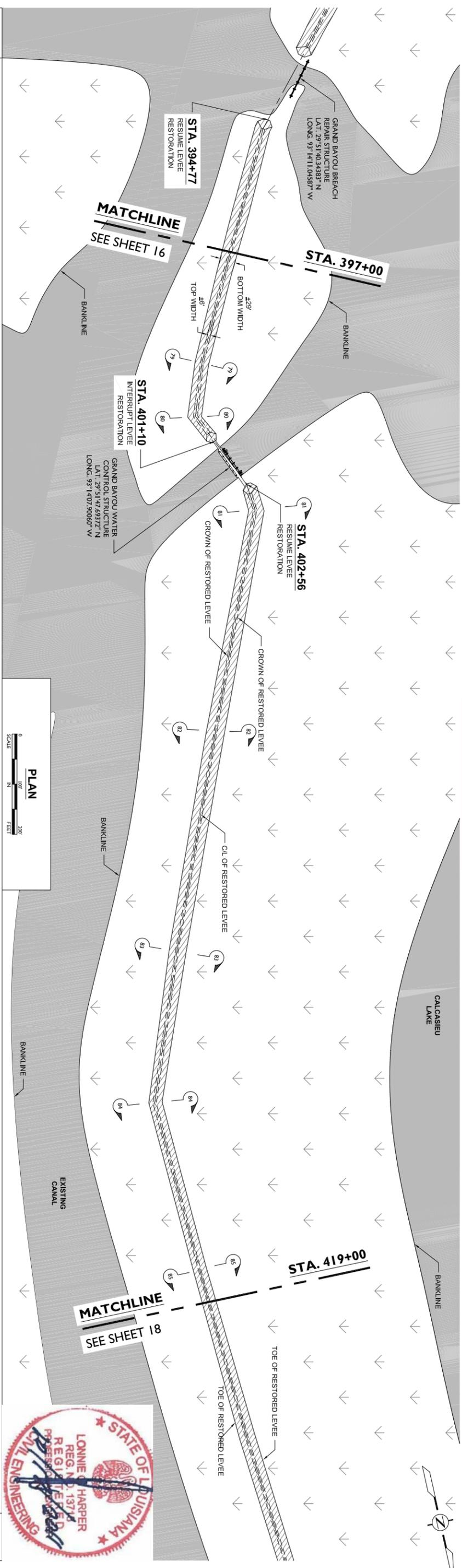
FEDERAL PROJECT NUMBER:

PLAN & PROFILE DETAIL "N"

DATE: 10/17/2011

SHEET 16 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMGS-SM-10A AND CMMGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

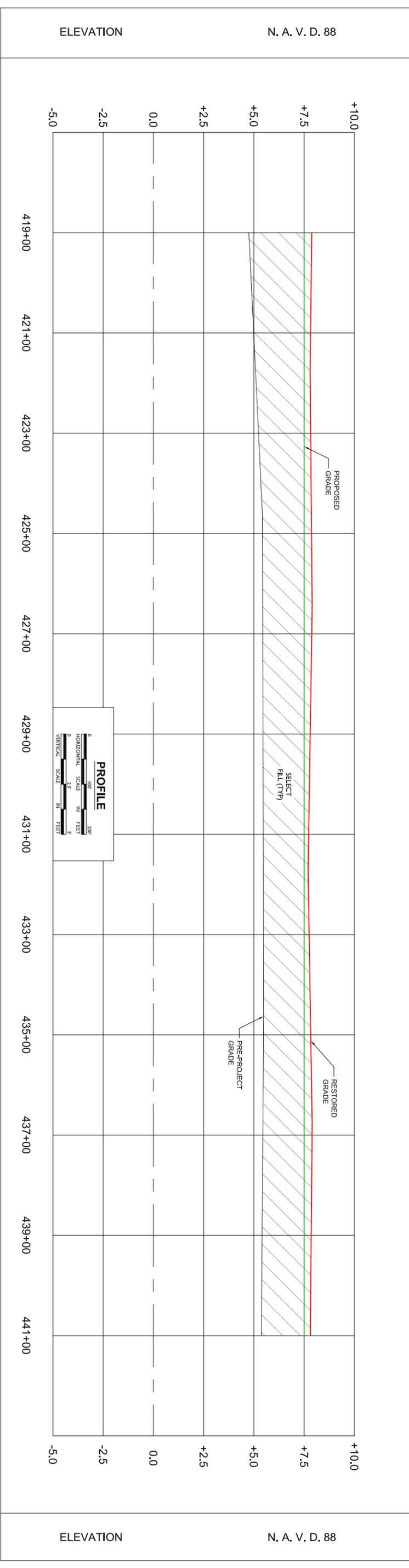
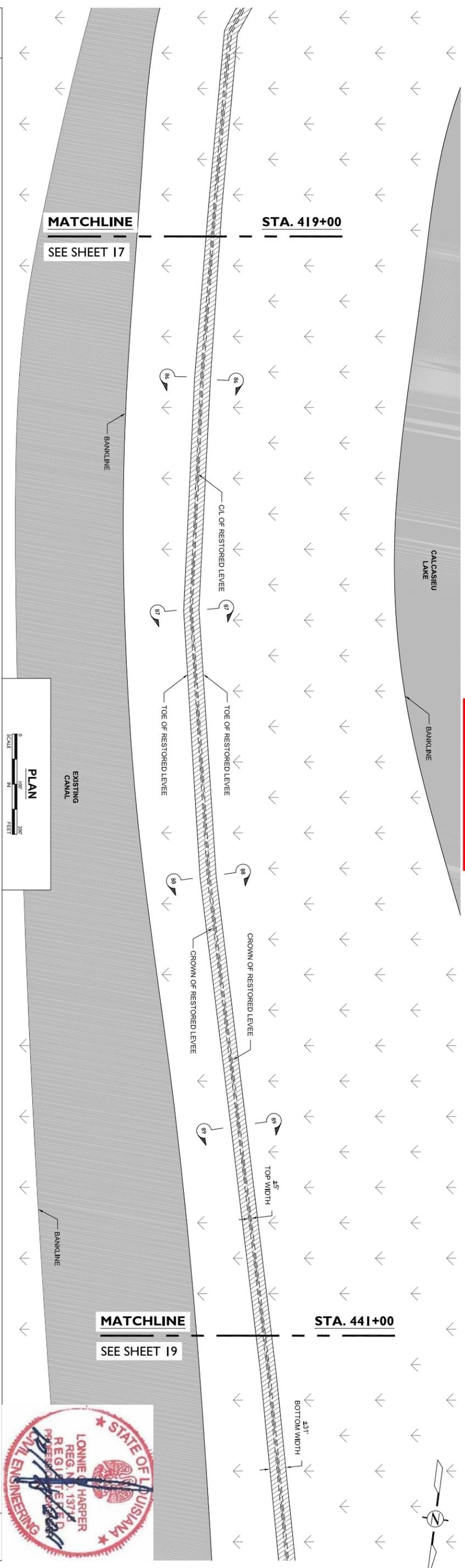
DRAWN BY: AARON HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLANNING & PROFILE
 DETAIL "O"
 DATE: 10/17/2011
 SHEET 17 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Belle City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
DESIGNED BY: LONNIE HARPER

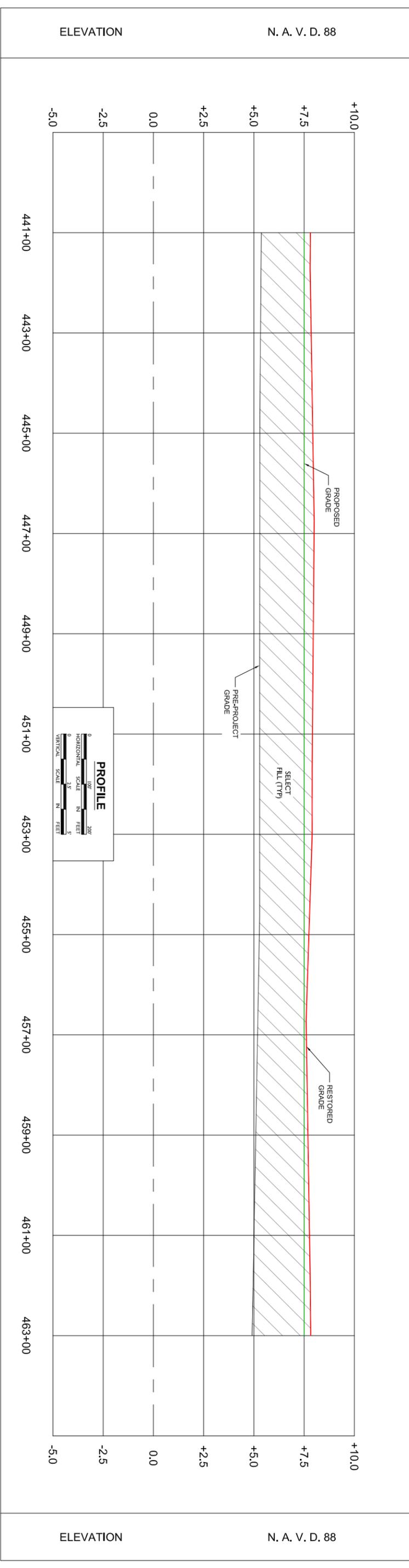
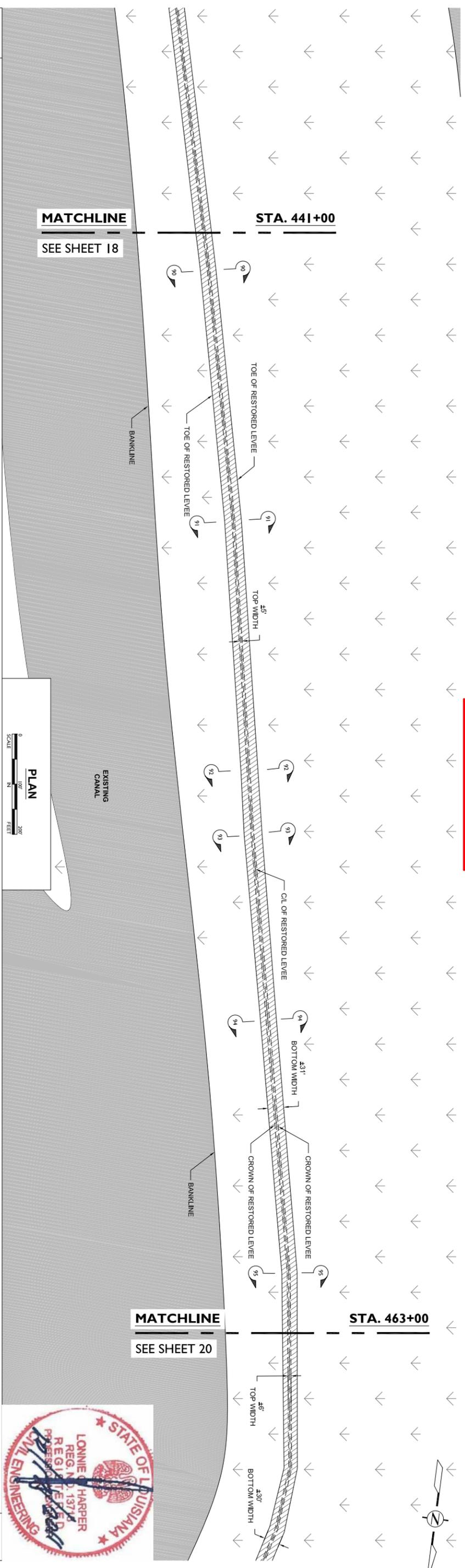
RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

APPROVED BY:

PLAN & PROFILE DETAIL "P"

DATE: 10/17/2011
SHEET 18 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle Chere, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

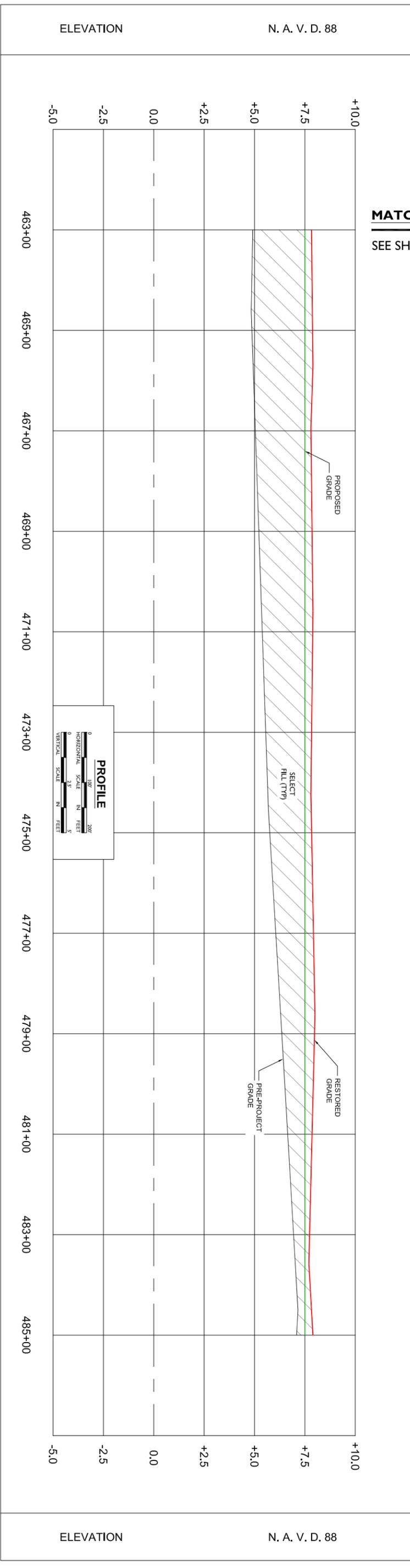
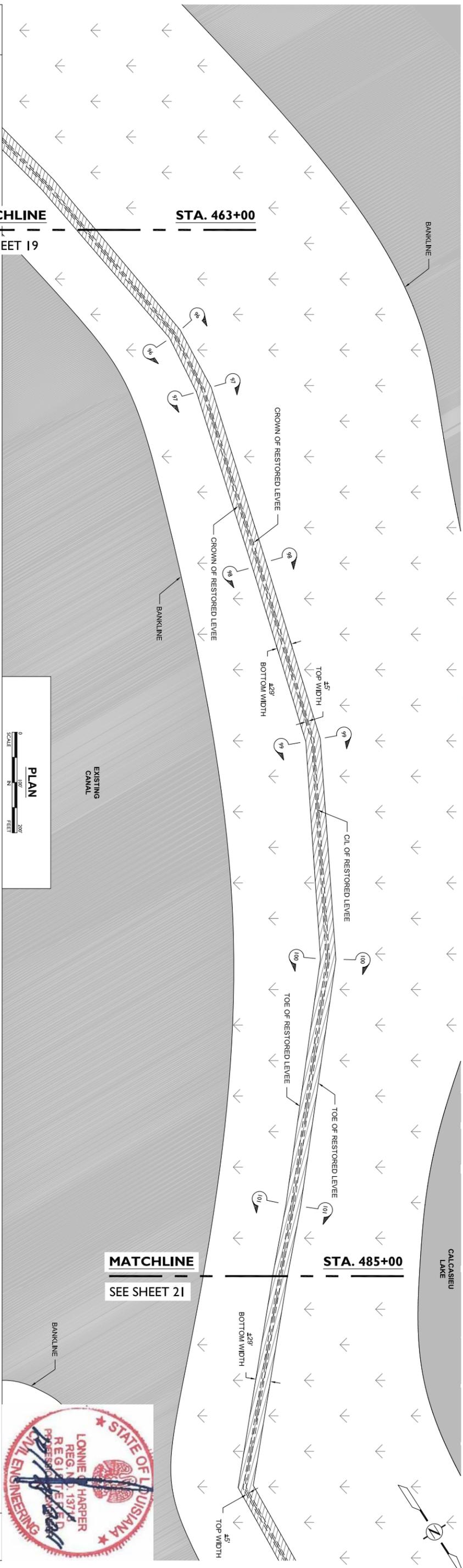
DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:
 DATE: 10/17/2011
 SHEET 19 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT NUMBER 100701, DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

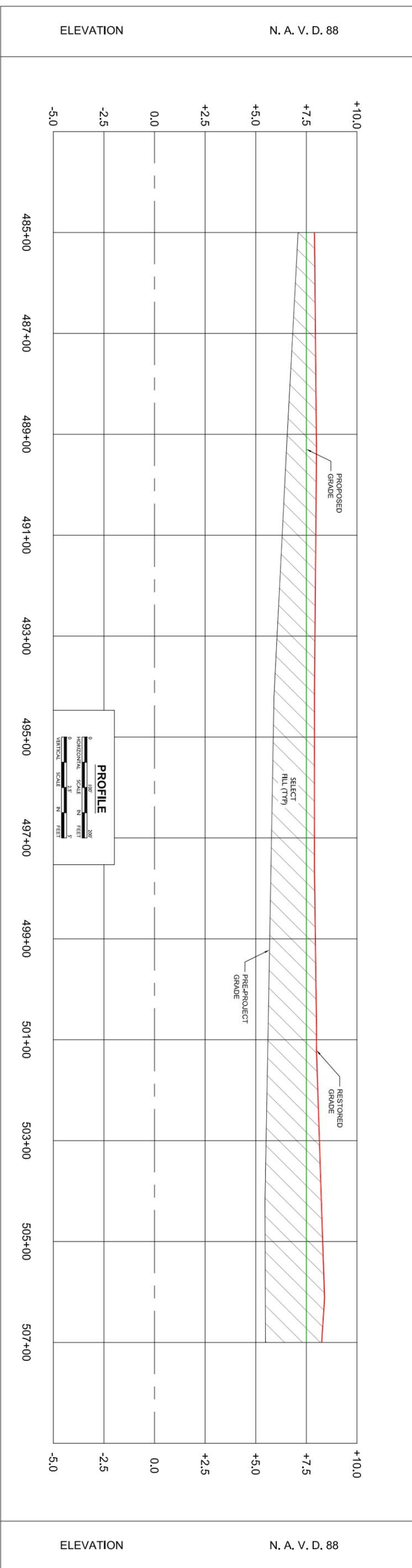
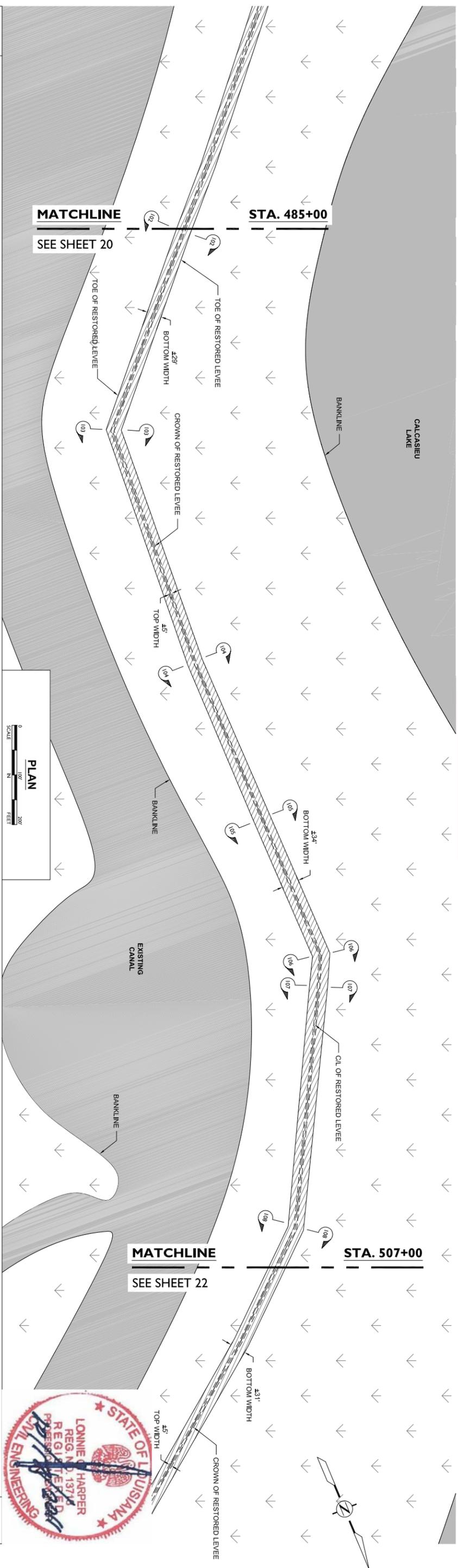
DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

PLAN & PROFILE DETAIL "R"
 DATE: 10/17/2011
 SHEET 20 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

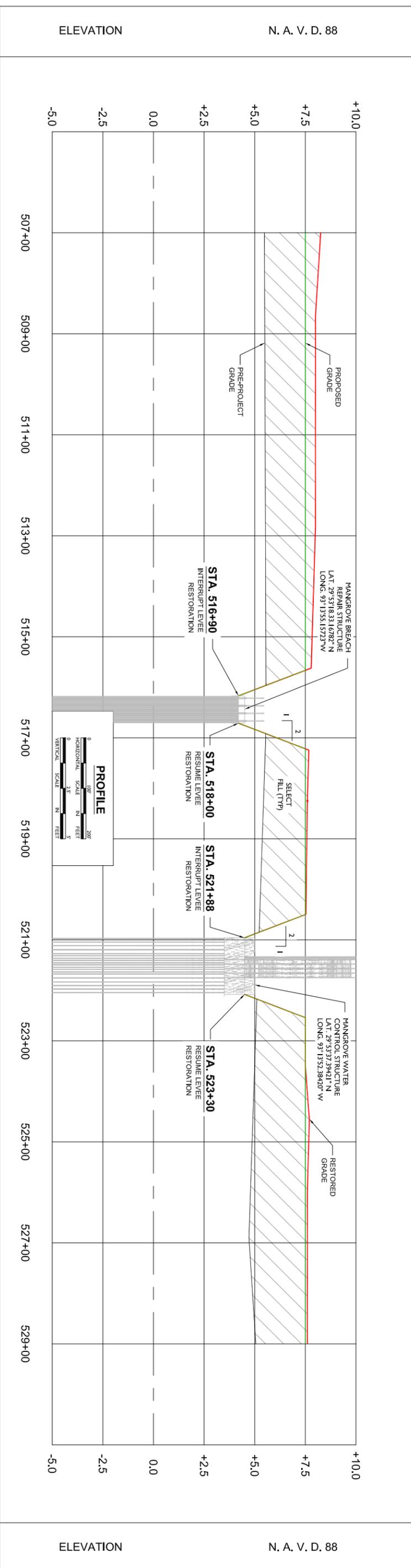
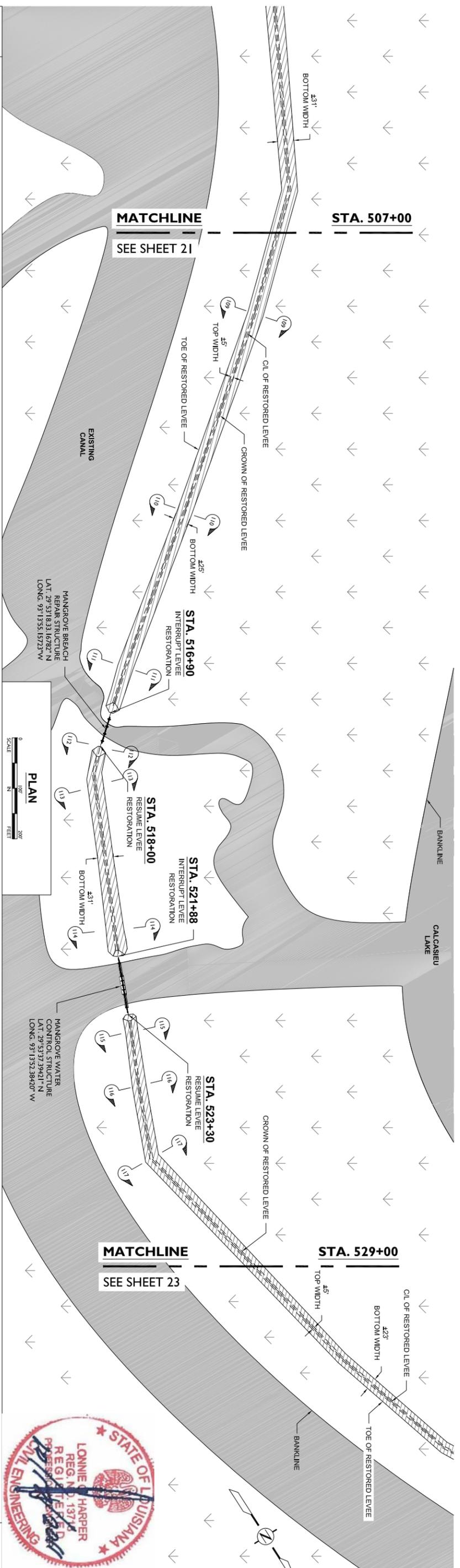
DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

**PLAN & PROFILE
 DETAIL "S"**
 DATE: 10/17/2011
 SHEET 21 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Bell City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

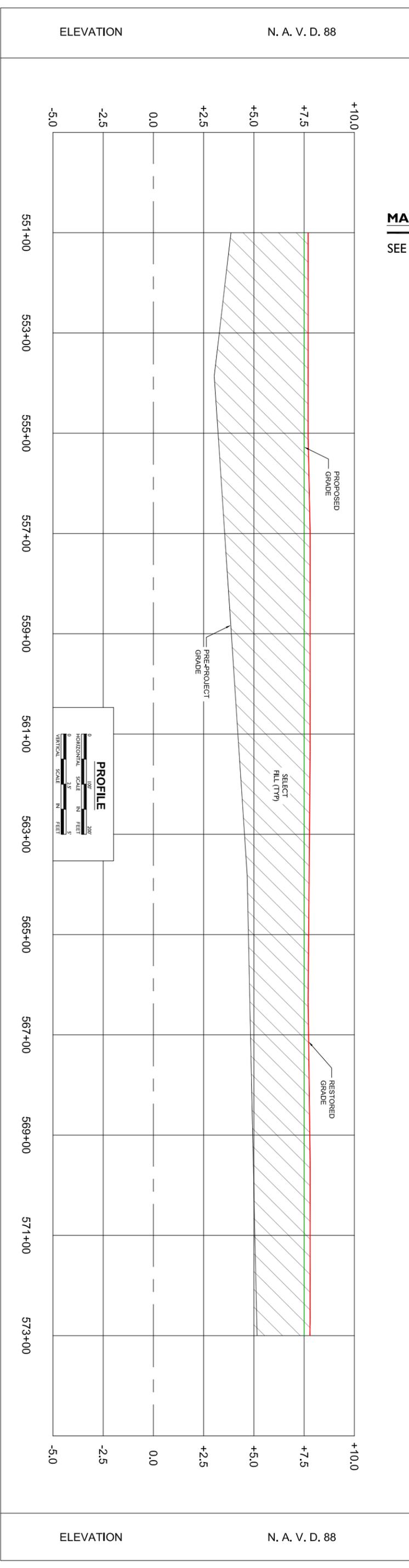
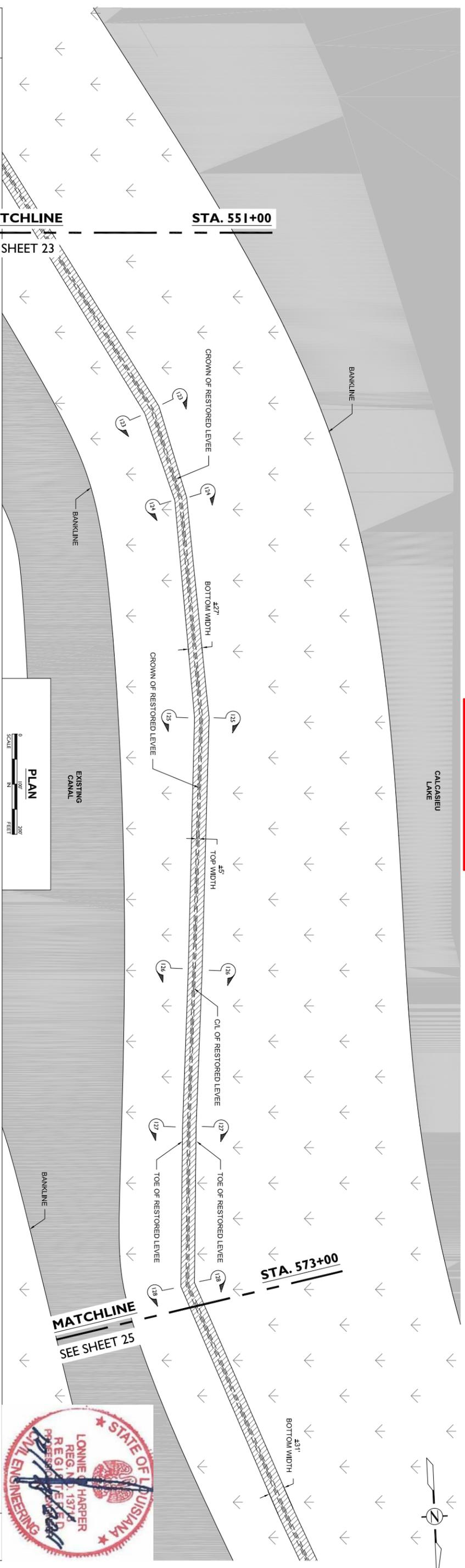
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

PLAN & PROFILE
DETAIL "T"
DATE: 10/17/2011
SHEET 22 OF 51



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

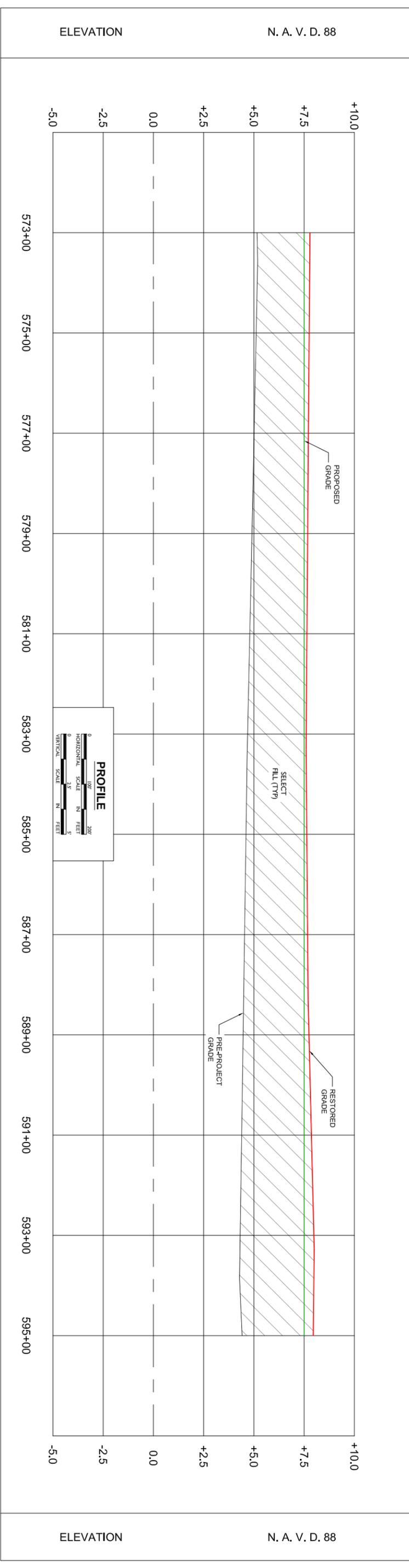
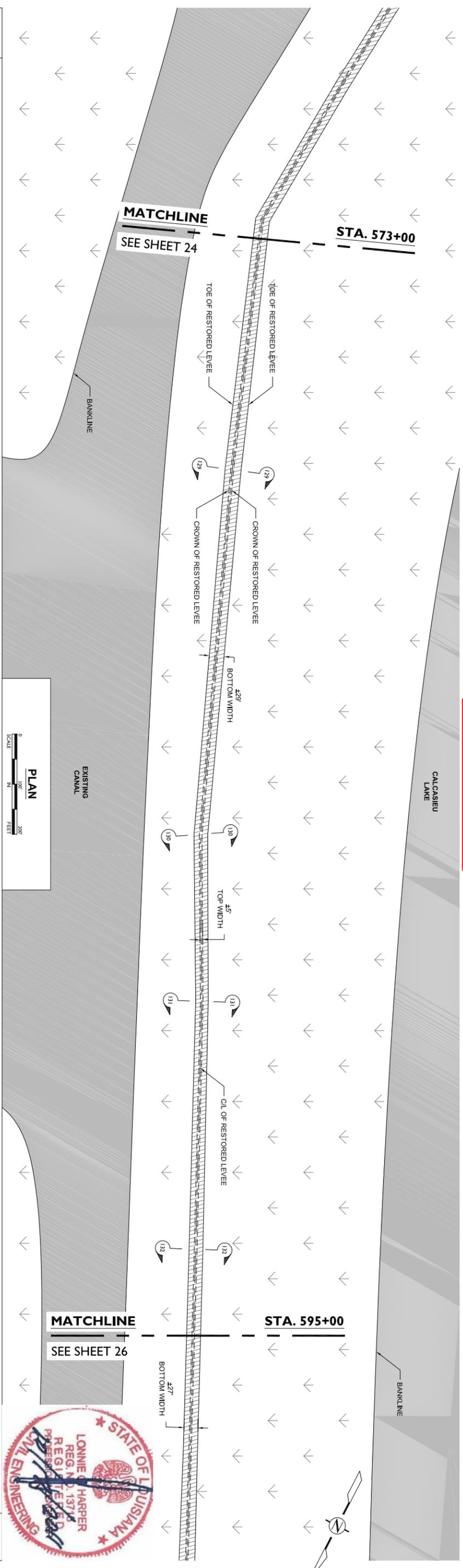
APPROVED BY:

PLAN & PROFILE DETAIL "V"

DATE: 10/17/2011

SHEET 24 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Belle City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

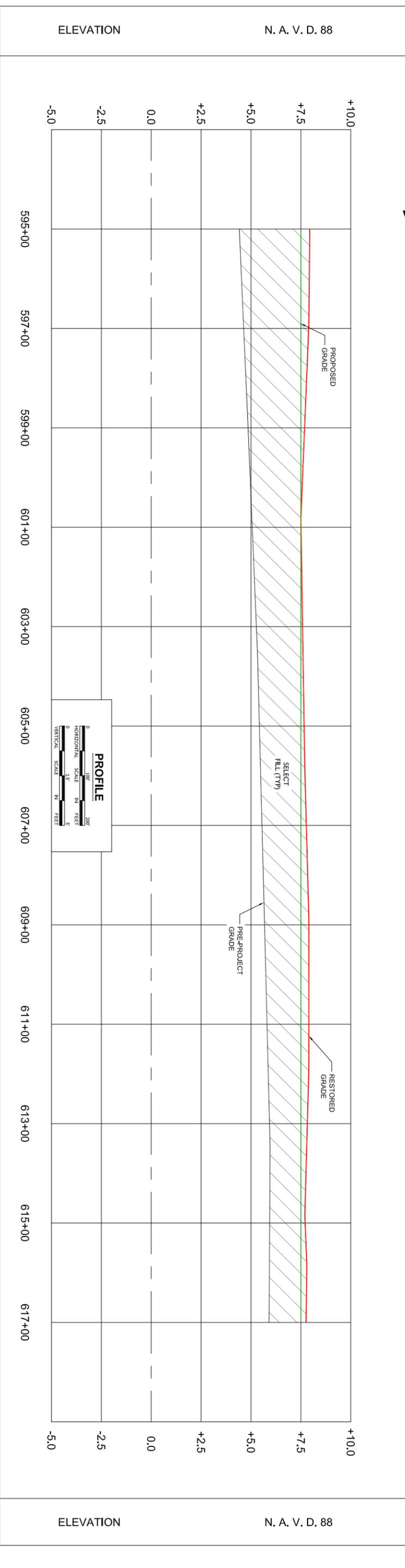
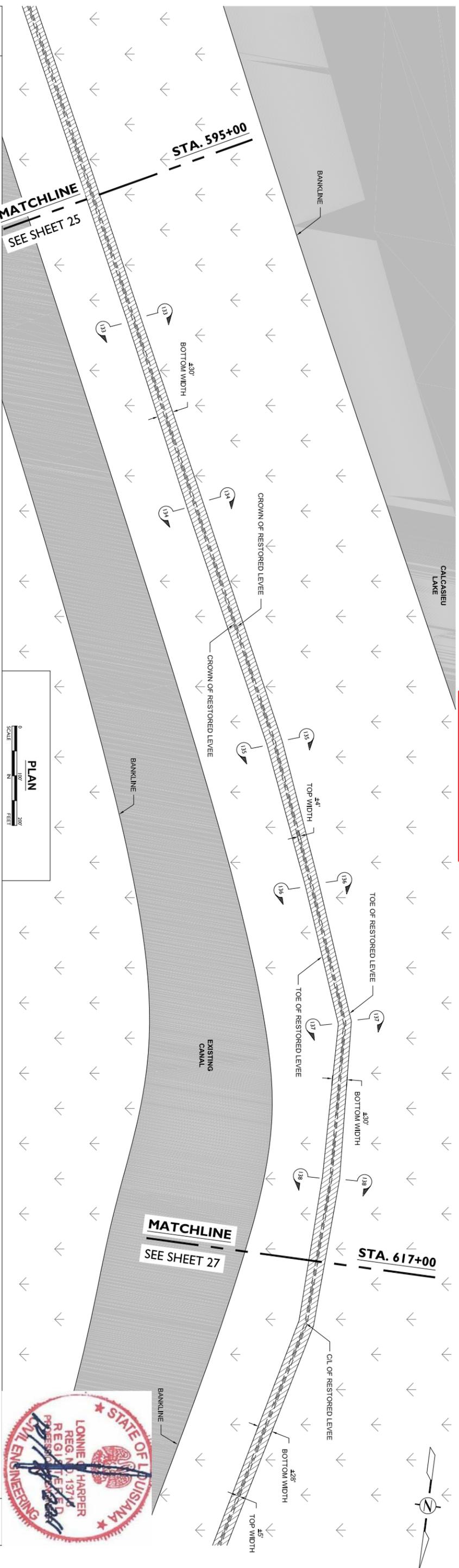
DRAWN BY: AARON HARPER
DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II

STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

PLAN & PROFILE DETAIL "W"

DATE: 10/17/2011
SHEET 25 OF 51



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SMA-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C10, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

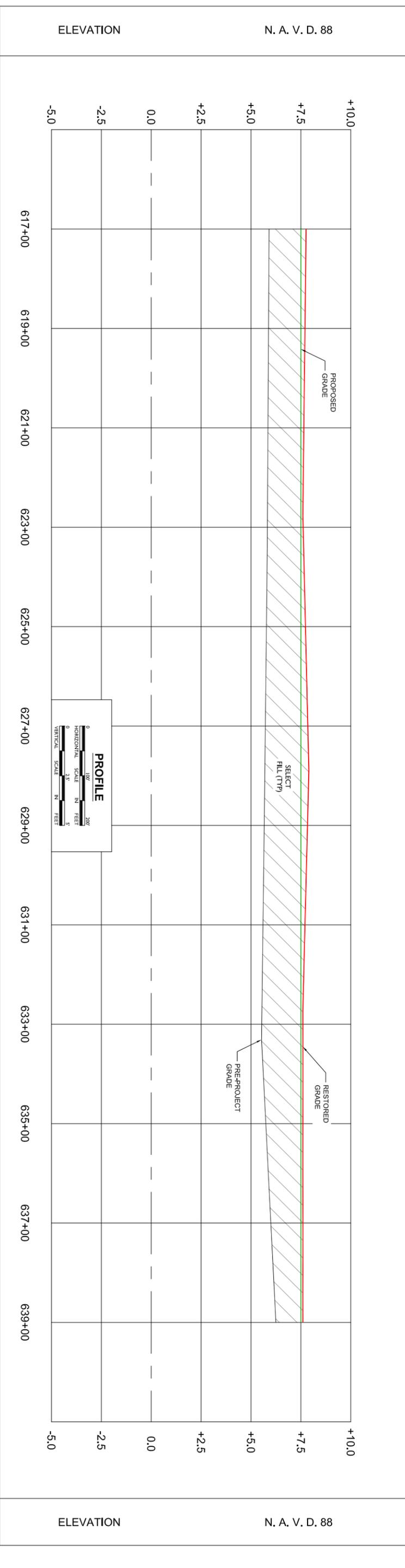
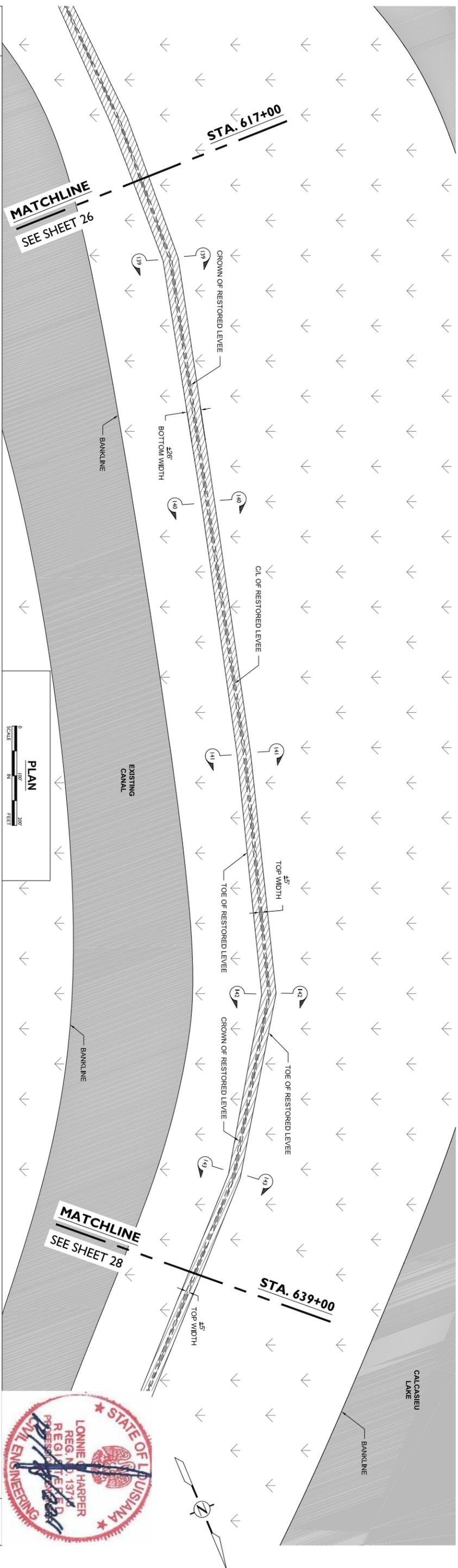
PLAN & PROFILE
 DETAIL "X"

DATE: 10/17/2011

SHEET 26 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

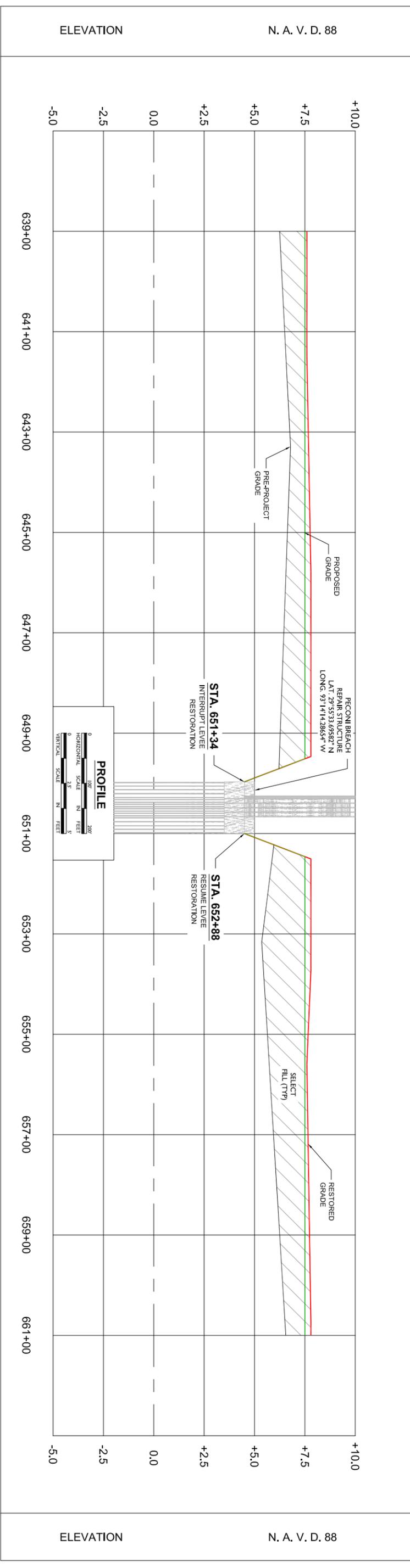
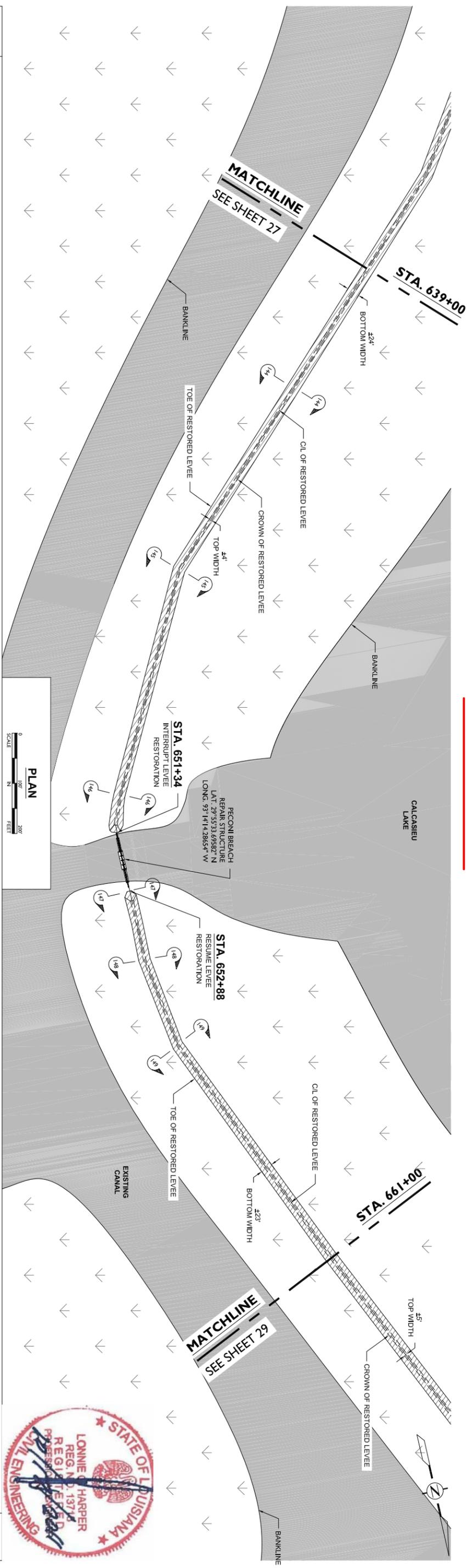


LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801
 DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLAN & PROFILE DETAIL "Y"
 DATE: 10/17/2011
 SHEET 27 OF 51



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C17, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

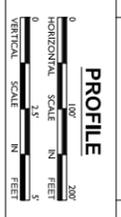
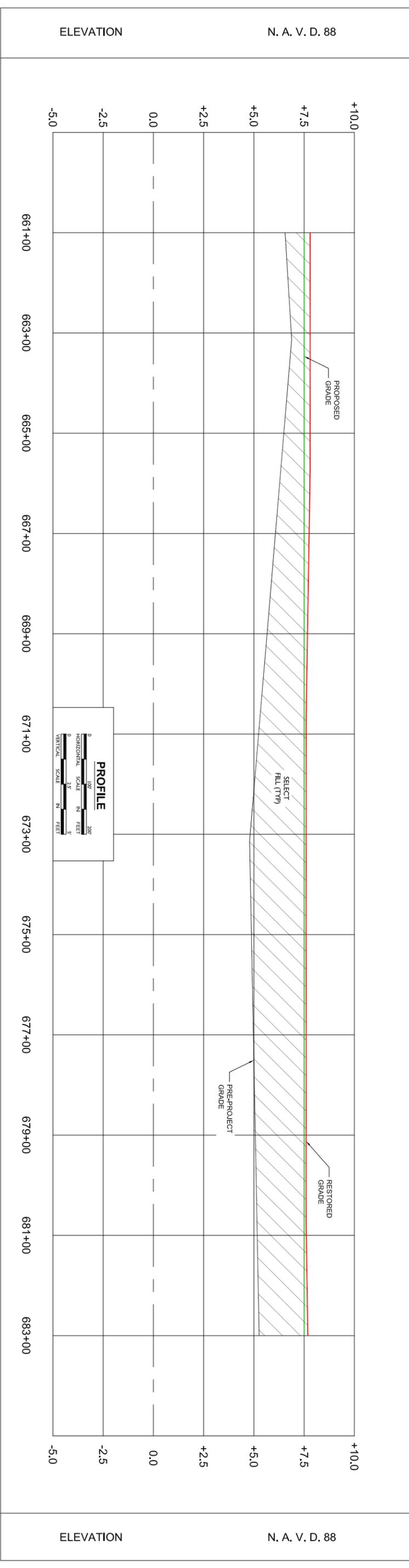
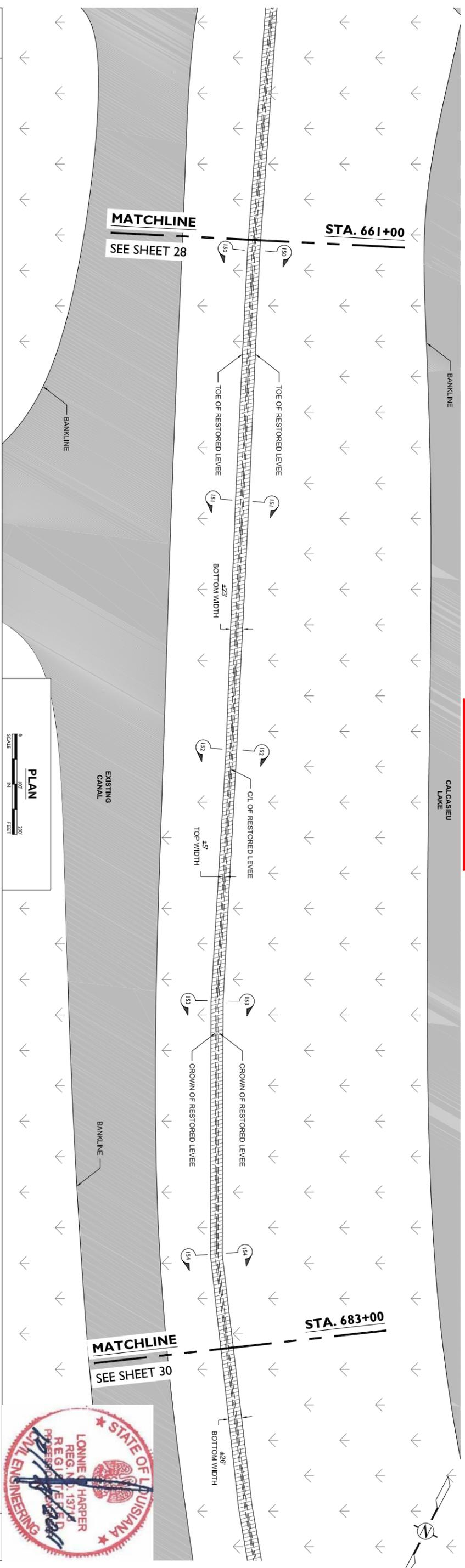
COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

PLAN & PROFILE DETAIL "Z"
 DATE: 10/17/2011
 SHEET 28 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SM-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

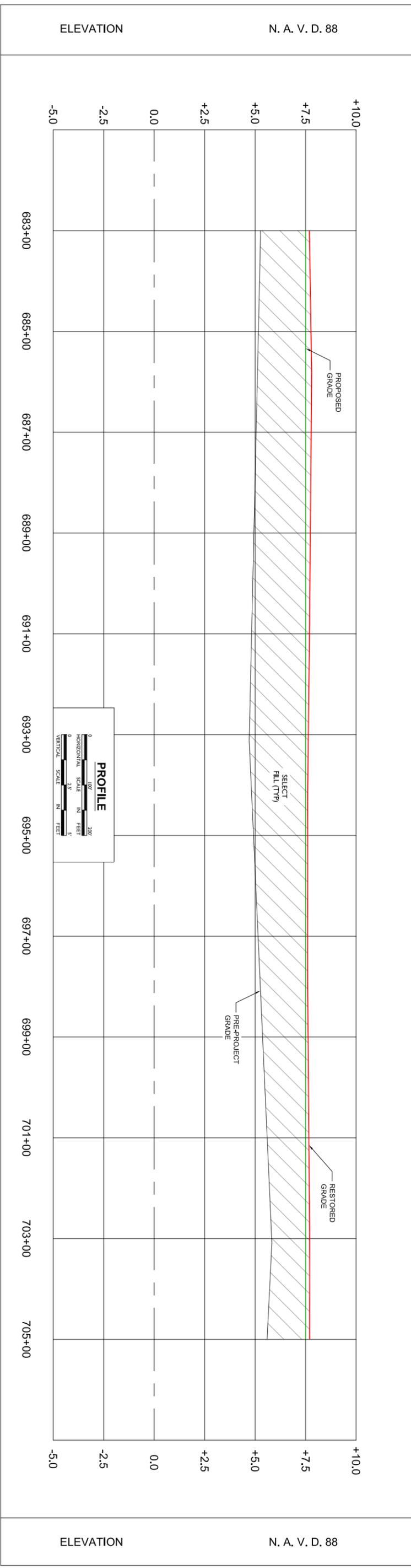
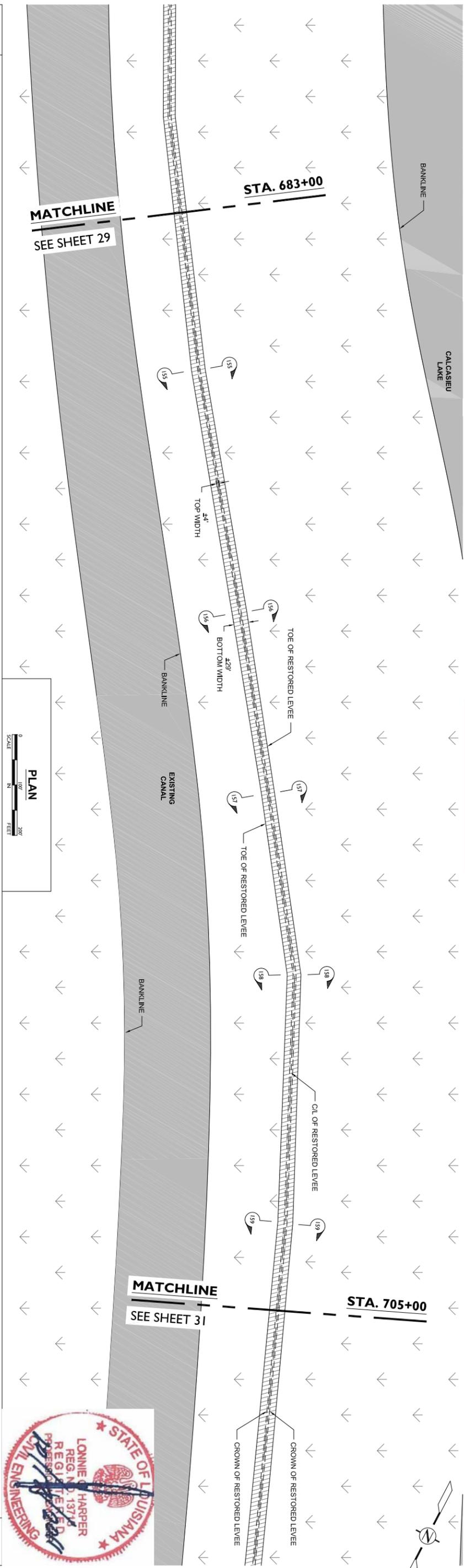
APPROVED BY:

PLAN & PROFILE
 DETAIL "AA"

DATE: 10/17/2011
 SHEET 29 OF 51



ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

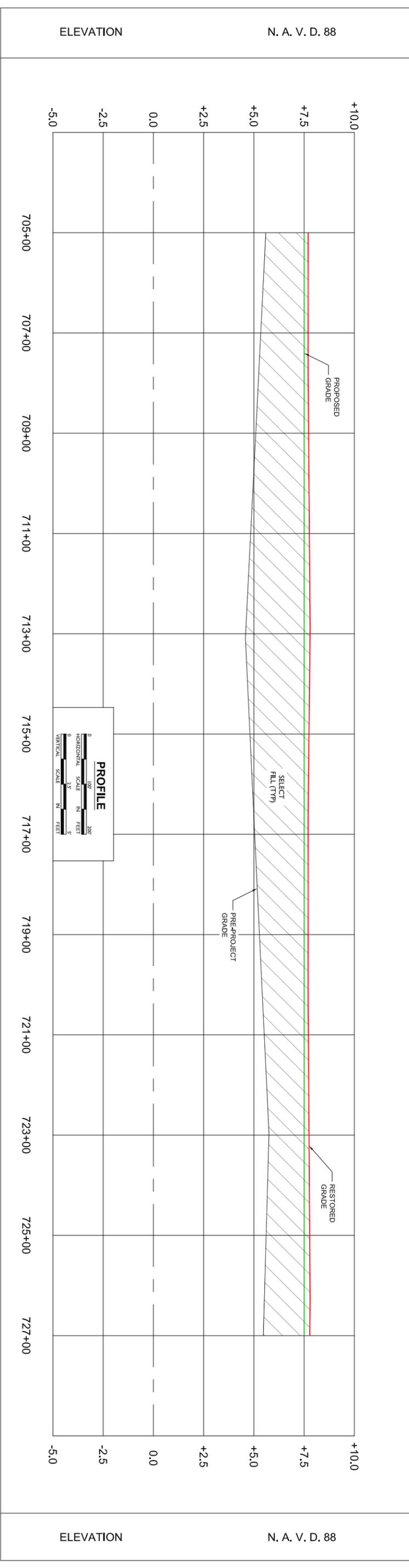
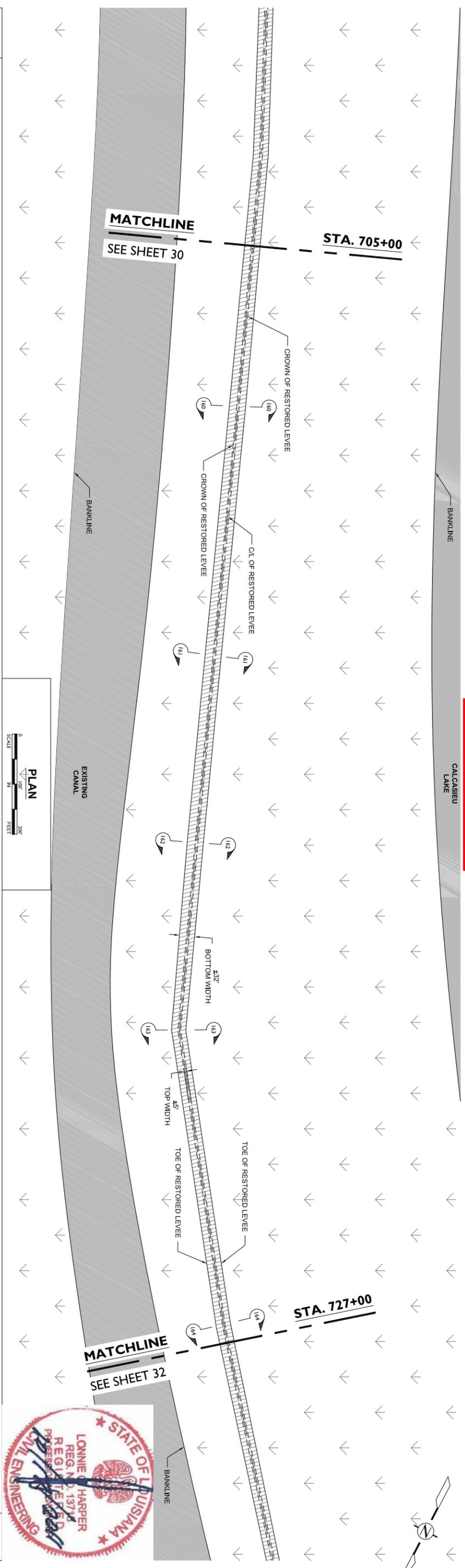
APPROVED BY:

PLAN & PROFILE DETAIL "B"

DATE: 10/17/2011
 SHEET 30 OF 51



CALCASIEU LAKE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT NUMBER 100701, DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSCS-SMA-10A AND CMMSCS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle Chere, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

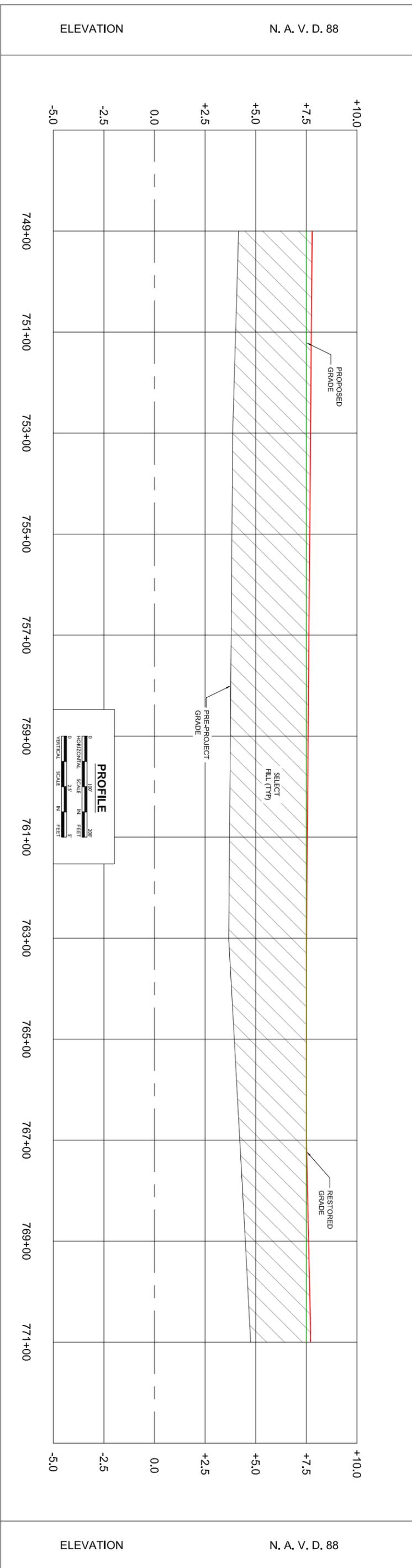
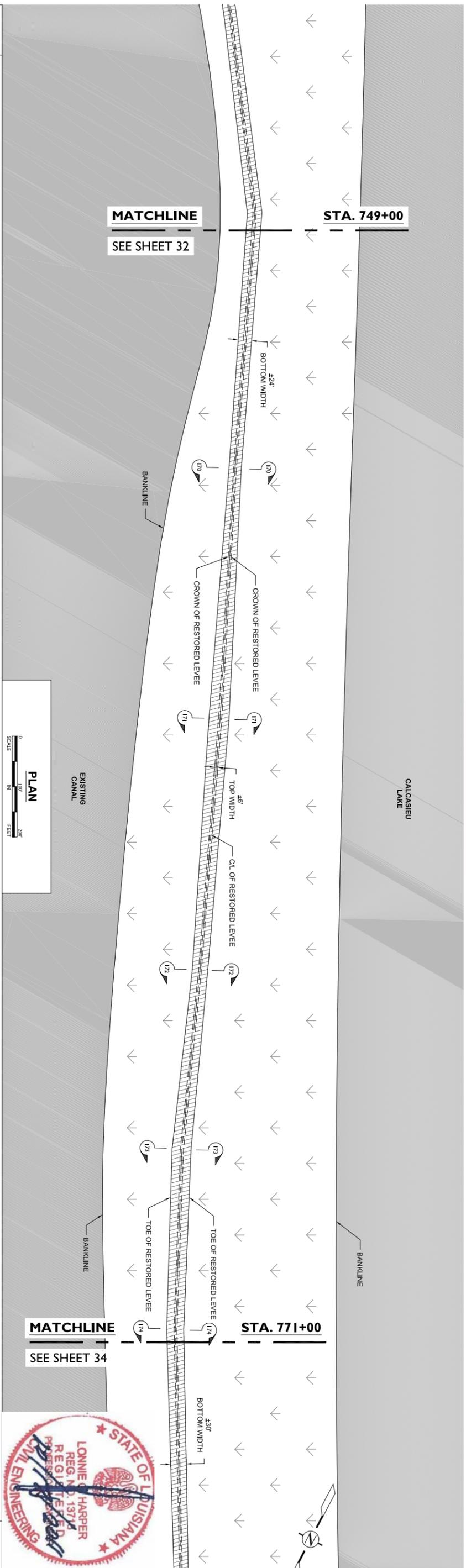
RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

PLAN & PROFILE
 DETAIL "CC"

DATE: 10/17/2011
 SHEET 31 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Belle City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER DESIGNED BY: LONNIE HARPER

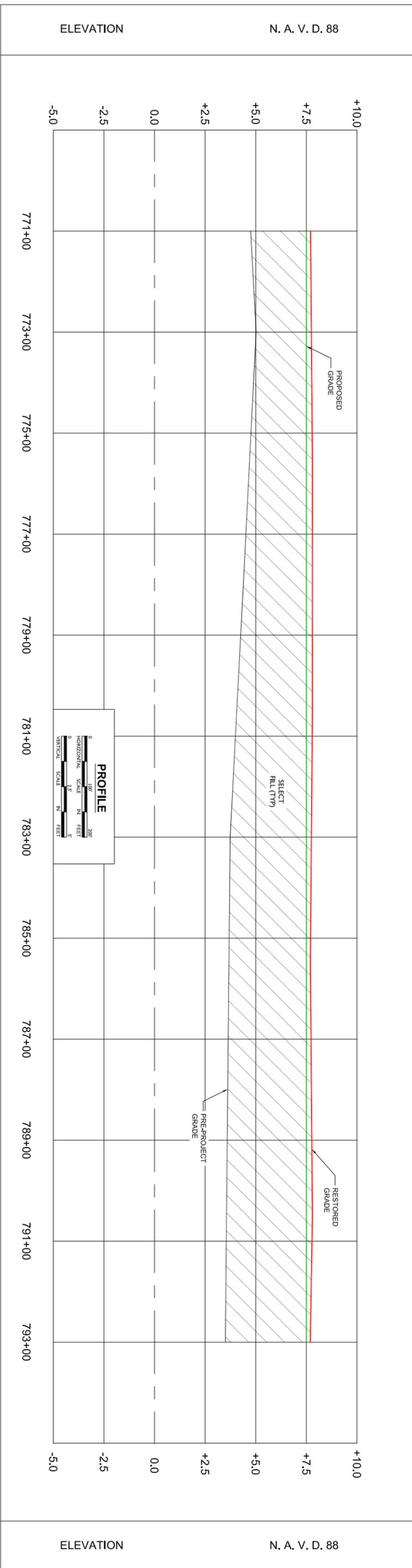
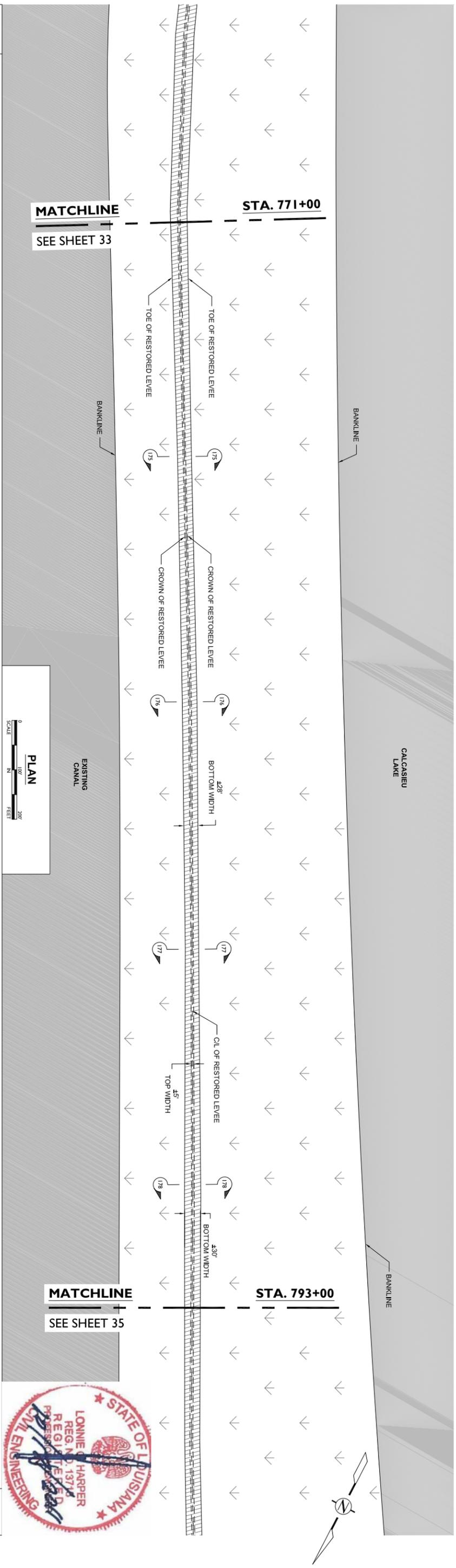
RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

PLAN & PROFILE
 DETAIL "EE"

DATE: 10/17/2011
SHEET 33 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT NUMBER 100701, DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

**COASTAL PROTECTION AND
 RESTORATION AUTHORITY**

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

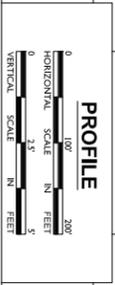
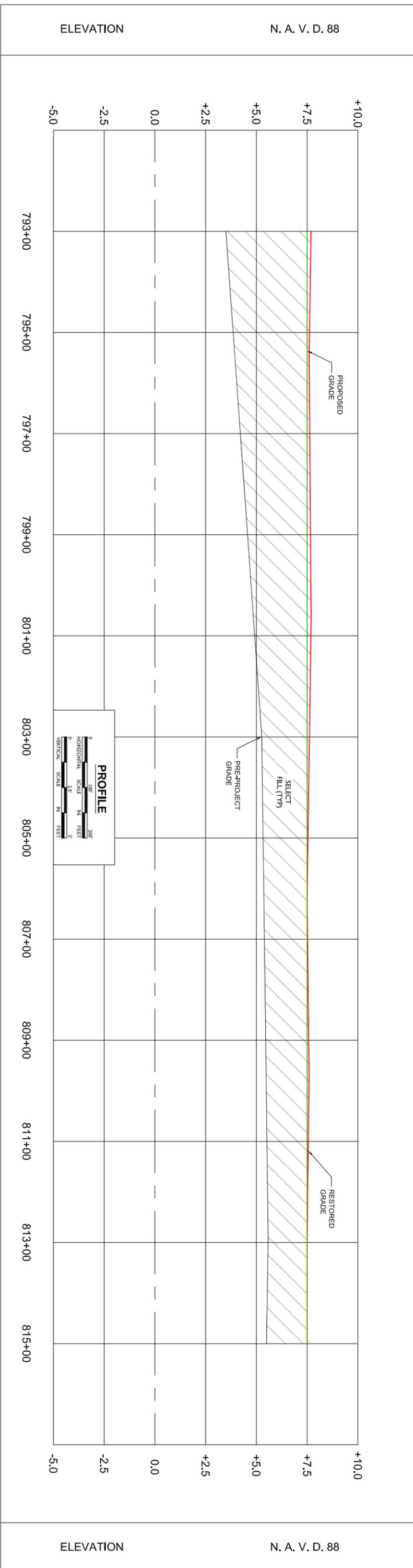
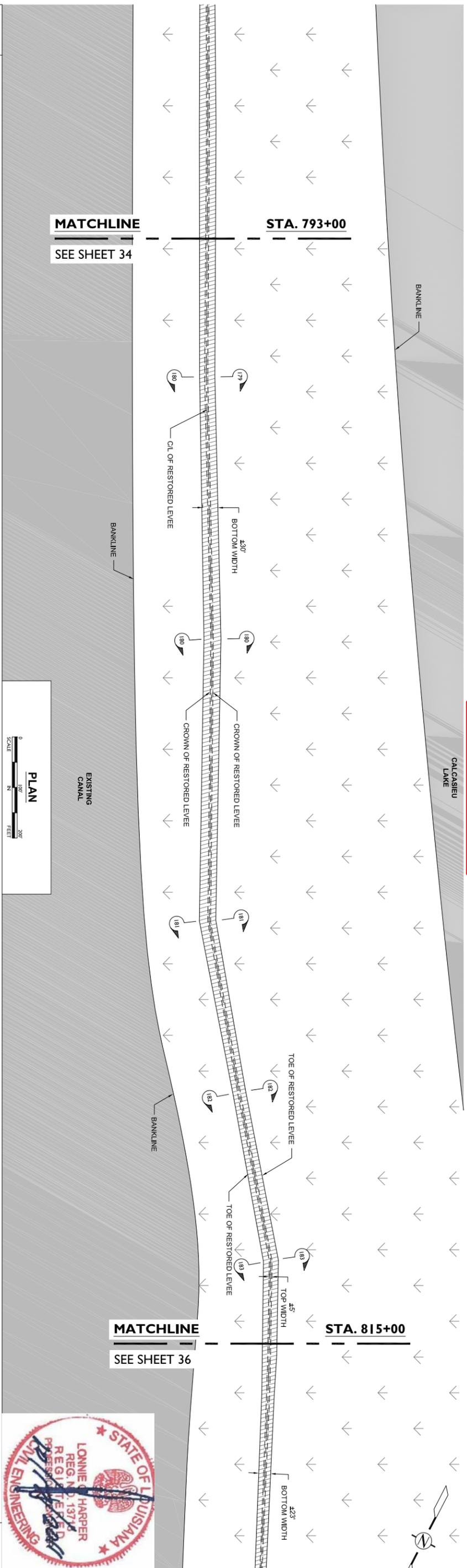
**RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II**

STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 PLAN & PROFILE
 DETAIL "FP"
 DATE: 10/17/2011
 SHEET 34 OF 51



CALCASIEU LAKE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
and Associates, Inc.
CIVIL ENGINEERING
AND LAND SURVEYING
2746 Hwy 384, Belle City, Louisiana 70630
PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

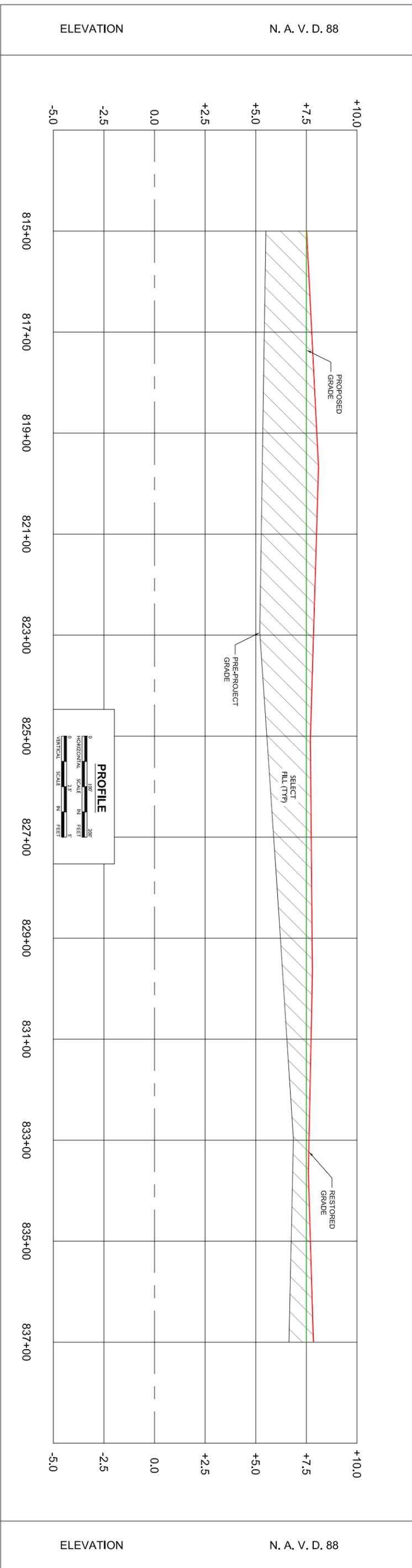
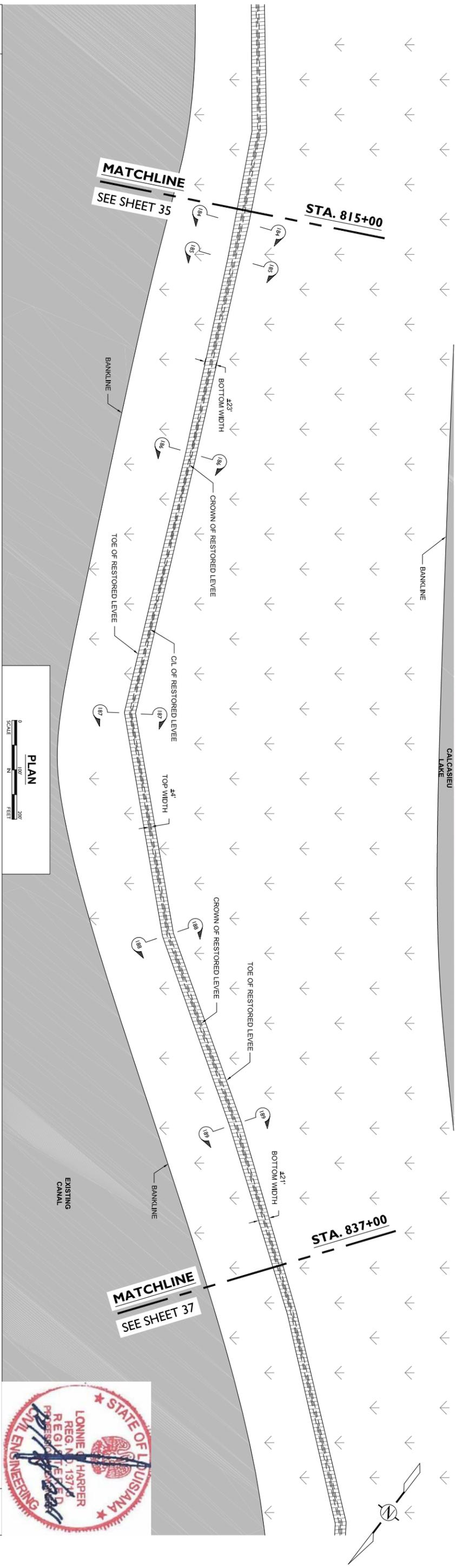
RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
STATE PROJECT NUMBER: CS-04A-L
FEDERAL PROJECT NUMBER:

PLAN & PROFILE
DETAIL "CG"

DATE: 10/17/2011

SHEET 35 OF 51





NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

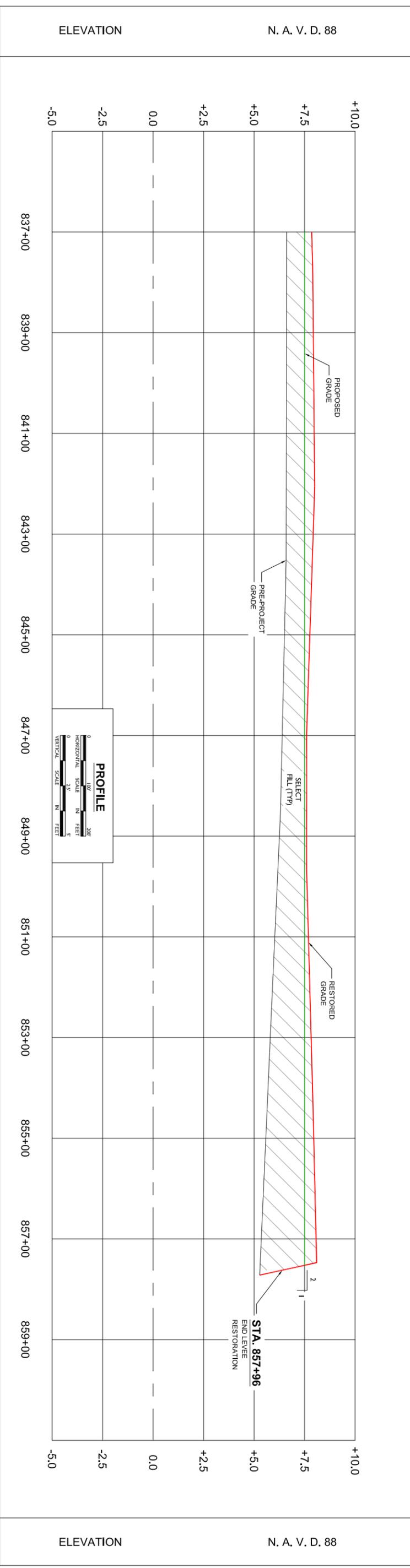
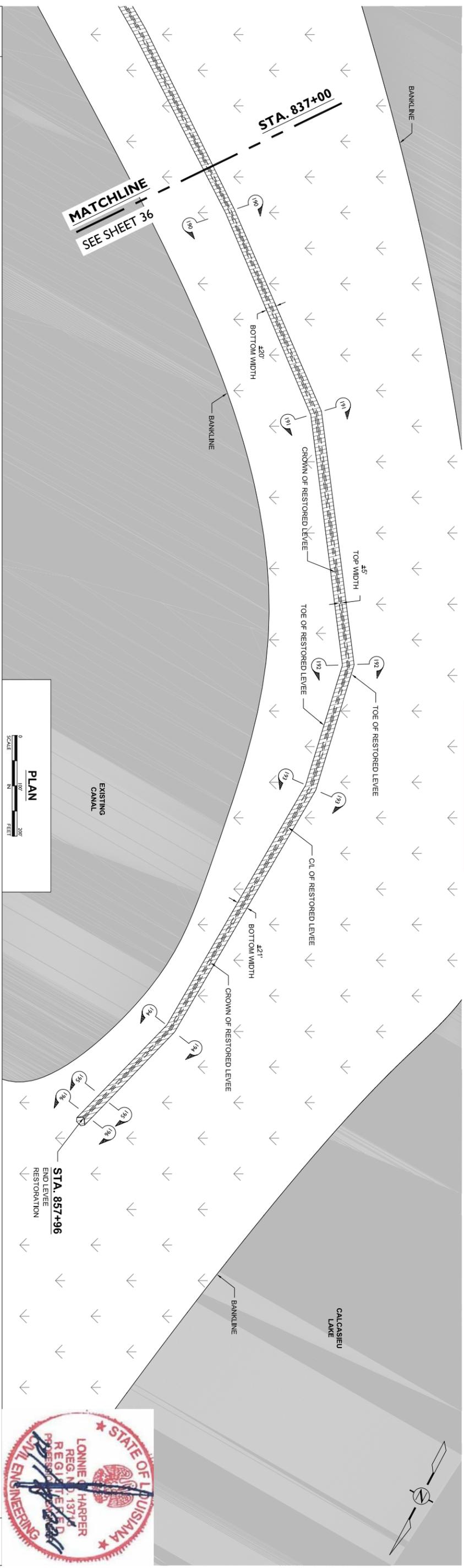
DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

PLAN & PROFILE
 DETAIL "HH"
 DATE: 10/17/2011
 SHEET 36 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMSGS-SM-10A AND CRMSGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

RESTORATION OF THE CAMERON
 CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

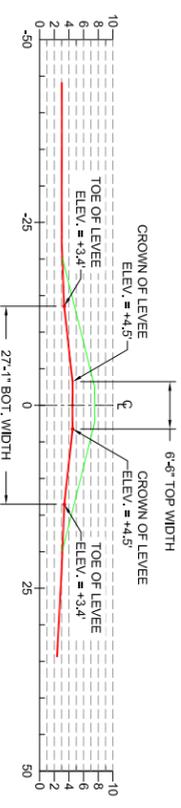
PLAN & PROFILE
 DETAIL "II"

DATE: 10/17/2011

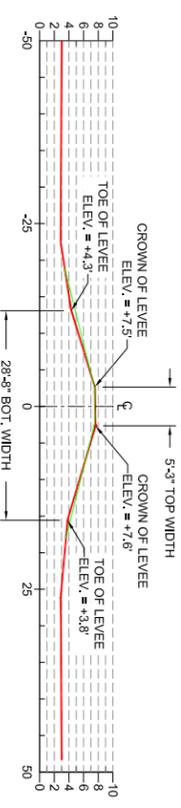
SHEET 37 OF 51



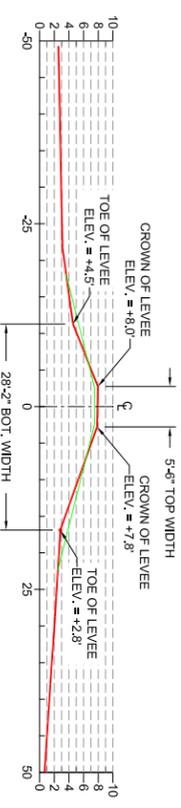
ASBUILT DRAWINGS



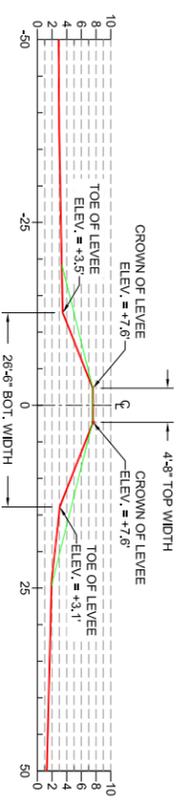
SECTION "1-1"
STA. 90+20
 N:492098.53
 E:2850982.96
 SCALE:1" = 25'



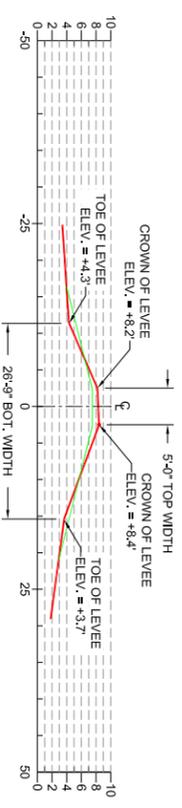
SECTION "2-2"
STA. 90+72
 N:492090.07
 E:2850909.57
 SCALE:1" = 25'



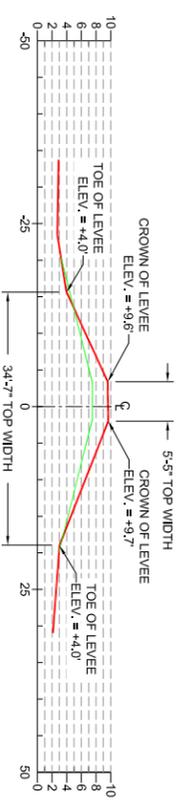
SECTION "3-3"
STA. 95+13
 N:492055.86
 E:2681348.73
 SCALE:1" = 25'



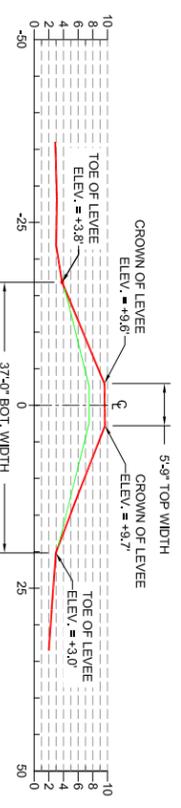
SECTION "4-4"
STA. 100+25
 N:491990.87
 E:2851857.40
 SCALE:1" = 25'



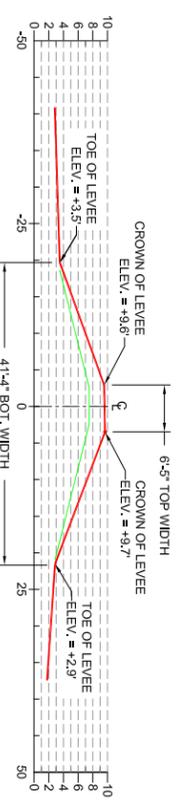
SECTION "5-5"
STA. 102+12
 N:491989.79
 E:2852043.54
 SCALE:1" = 25'



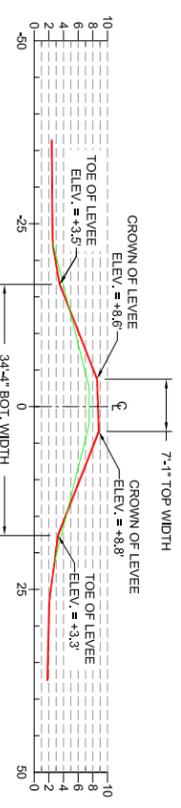
SECTION "6-6"
STA. 103+00
 N:491961.72
 E:2852130.31
 SCALE:1" = 25'



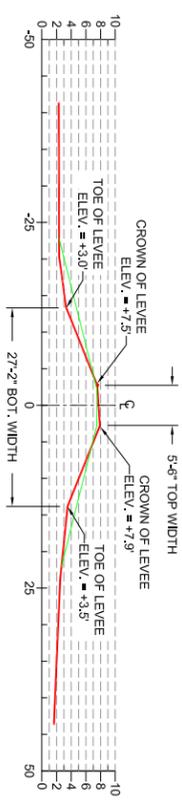
SECTION "7-7"
STA. 103+18
 N:491980.05
 E:2852148.23
 SCALE:1" = 25'



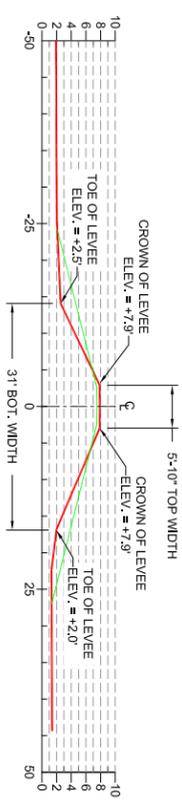
SECTION "8-8"
STA. 105+09
 N:491942.43
 E:2852328.40
 SCALE:1" = 25'



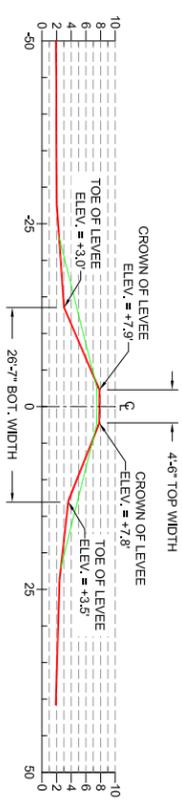
SECTION "9-9"
STA. 105+42
 N:491939.61
 E:2852371.45
 SCALE:1" = 25'



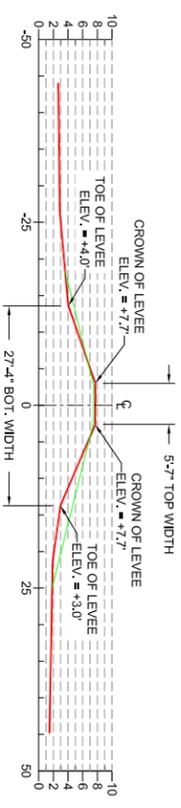
SECTION "10-10"
STA. 107+51
 N:491914.92
 E:2852578.42
 SCALE:1" = 25'



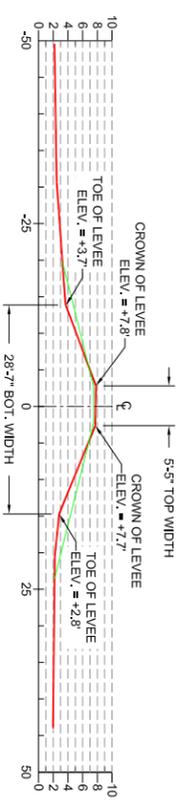
SECTION "11-11"
STA. 111+24
 N:491879.60
 E:2852960.85
 SCALE:1" = 25'



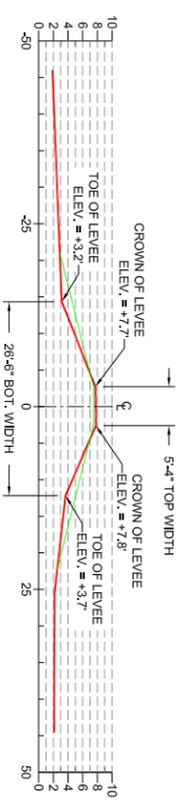
SECTION "12-12"
STA. 116+17
 N:491813.43
 E:2853429.64
 SCALE:1" = 25'



SECTION "13-13"
STA. 121+23
 N:491732.66
 E:2853937.85
 SCALE:1" = 25'



SECTION "14-14"
STA. 126+67
 N:491629.43
 E:2854472.55
 SCALE:1" = 25'



SECTION "15-15"
STA. 131+64
 N:491514.57
 E:2854956.30
 SCALE:1" = 25'

LEGEND
 PROPOSED TEMPLATE
 ASBUILT GRADE



- NOTES:**
1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
 2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
 3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
 4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMGS-SM-10A AND CMMGS-SM-10."
 5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

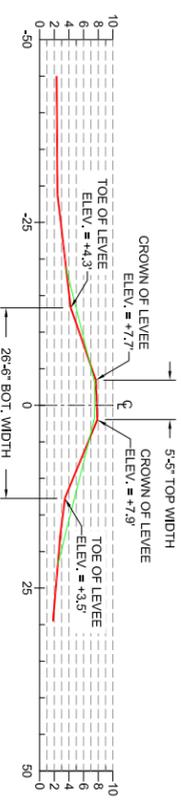
LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

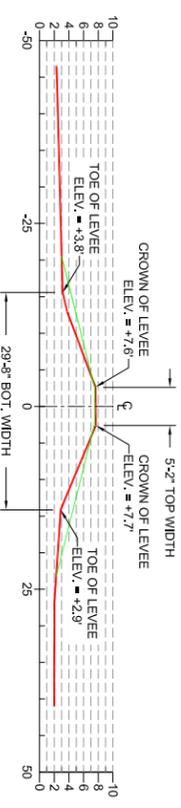
RESTORATION OF THE CAMERON CROUDE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

CROSS SECTIONS
 STA. 90+20 - STA. 131+64
 DATE: 10/17/2011
 SHEET 38 OF 51

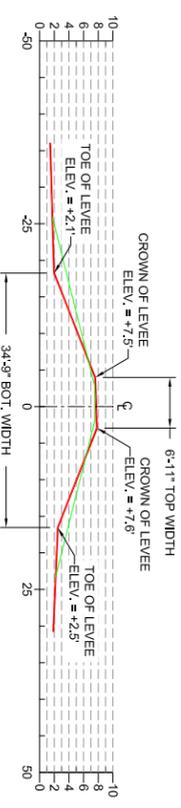
ASBUILT DRAWINGS



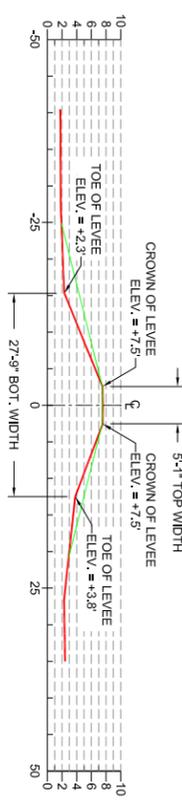
SECTION "16-16"
STA. 136+55
 N:491280.09
 E:2855428.52
 SCALE:1" = 25'



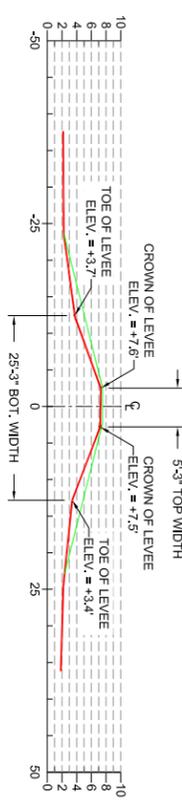
SECTION "17-17"
STA. 141+68
 N:491280.09
 E:2855927.22
 SCALE:1" = 25'



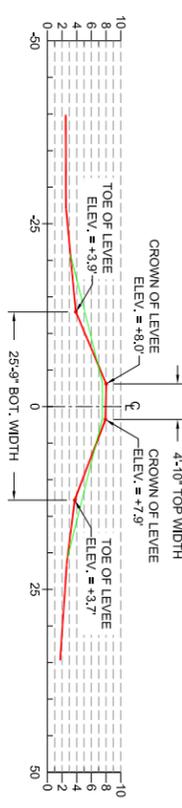
SECTION "18-18"
STA. 144+64
 N:491193.70
 E:2656215.70
 SCALE:1" = 25'



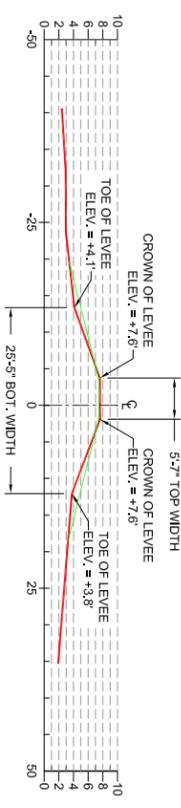
SECTION "19-19"
STA. 149+65
 N:491076.72
 E:2857703.14
 SCALE:1" = 25'



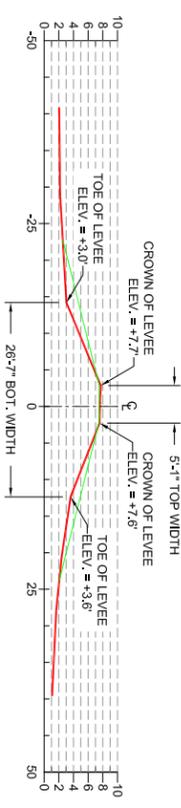
SECTION "20-20"
STA. 154+62
 N:490974.25
 E:2857189.34
 SCALE:1" = 25'



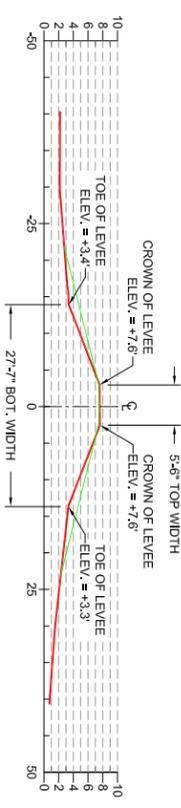
SECTION "21-21"
STA. 158+71
 N:490887.89
 E:2657588.59
 SCALE:1" = 25'



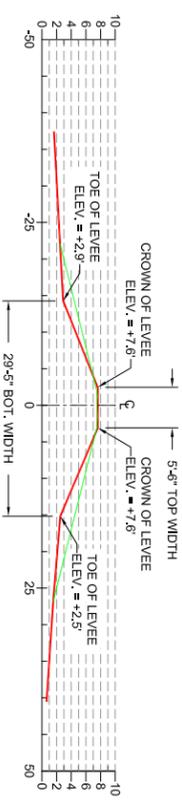
SECTION "22+22"
STA. 163+61
 N:490872.91
 E:2859078.98
 SCALE:1" = 25'



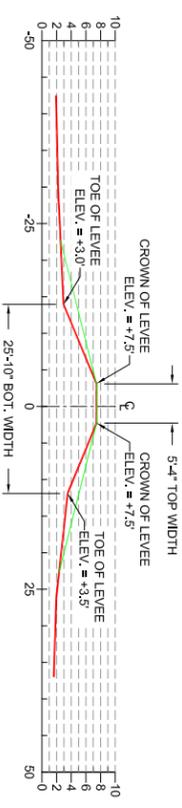
SECTION "23-23"
STA. 168+71
 N:490863.99
 E:2859888.34
 SCALE:1" = 25'



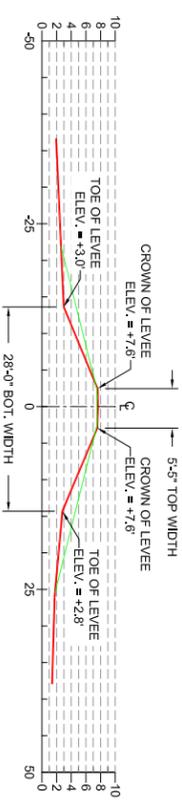
SECTION "24-24"
STA. 173+67
 N:490853.08
 E:2659085.02
 SCALE:1" = 25'



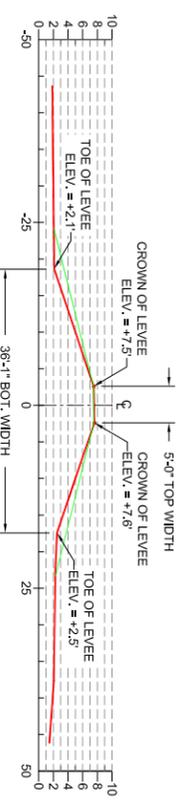
SECTION "25-25"
STA. 178+72
 N:490850.73
 E:2859890.31
 SCALE:1" = 25'



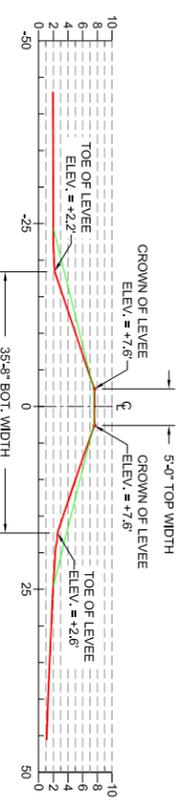
SECTION "26-26"
STA. 183+74
 N:490847.77
 E:2859090.85
 SCALE:1" = 25'



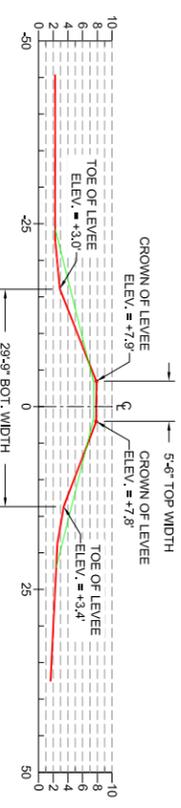
SECTION "27-27"
STA. 188+63
 N:490842.83
 E:2659080.29
 SCALE:1" = 25'



SECTION "28-28"
STA. 193+71
 N:490840.74
 E:2861088.46
 SCALE:1" = 25'



SECTION "29-29"
STA. 195+08
 N:490942.86
 E:2861225.51
 SCALE:1" = 25'



SECTION "30-30"
STA. 201+76
 N:490852.67
 E:2651893.86
 SCALE:1" = 25'

LEGEND
 PROPOSED TEMPLATE
 ASBUILT GRADE



- NOTES:**
- THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
 - ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
 - ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
 - ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CHMSS-5M-10A AND CHMSS-5M-10.
 - THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN 25K INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

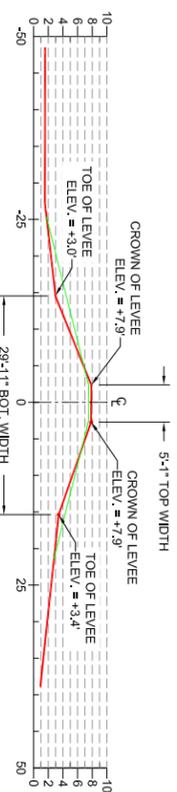
COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

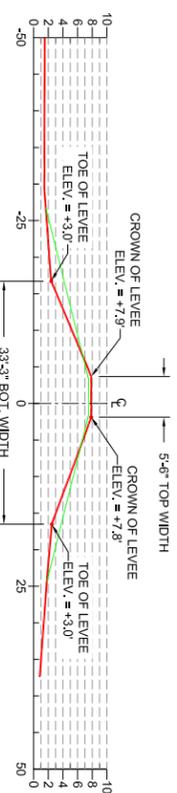
RESTORATION OF THE CAMERON CROULE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

CROSS SECTIONS
 STA. 136+55 - STA. 201+76
 DATE: 10/17/2011
 SHEET 39 OF 51

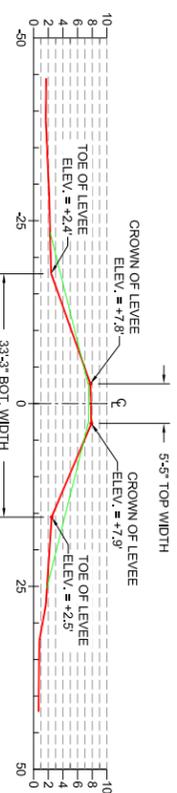
ASBUILT DRAWINGS



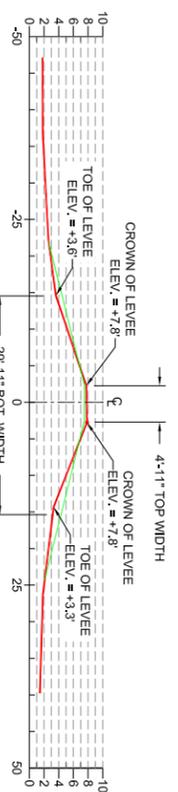
SECTION "31-31"
STA. 204+93
 N:490868.35
 E:2862208.60
 SCALE:1" = 25'



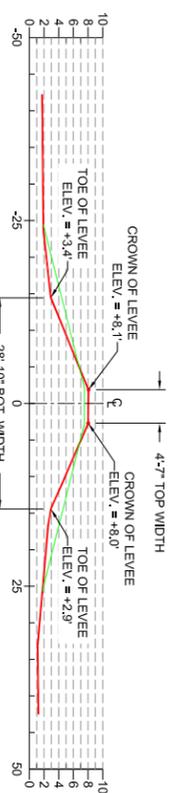
SECTION "32-32"
STA. 205+10
 N:490870.22
 E:2862227.00
 SCALE:1" = 25'



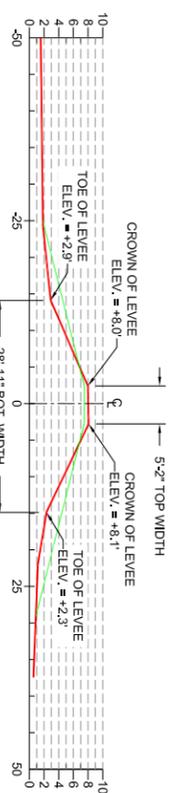
SECTION "33-33"
STA. 213+69
 N:490895.69
 E:2863076.94
 SCALE:1" = 25'



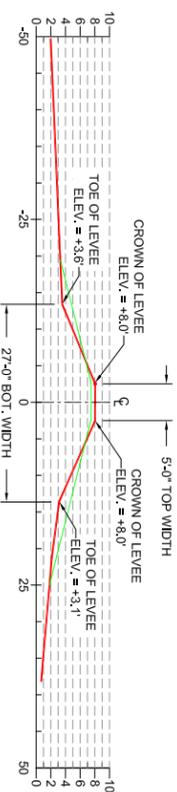
SECTION "34-34"
STA. 217+19
 N:491068.30
 E:2863418.12
 SCALE:1" = 25'



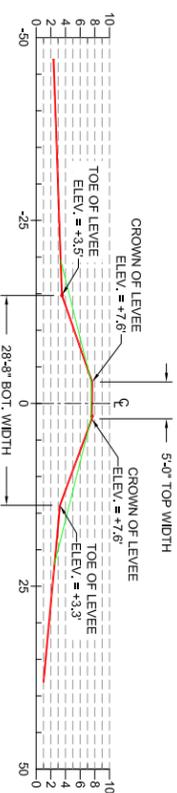
SECTION "35-35"
STA. 221+28
 N:491153.34
 E:2863818.67
 SCALE:1" = 25'



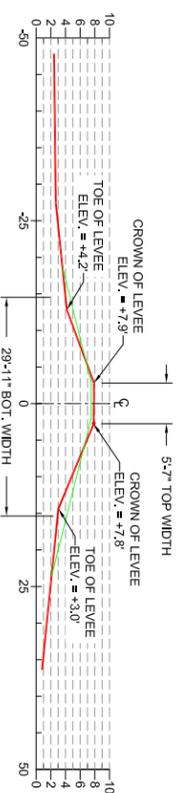
SECTION "36-36"
STA. 225+36
 N:491238.76
 E:2864218.08
 SCALE:1" = 25'



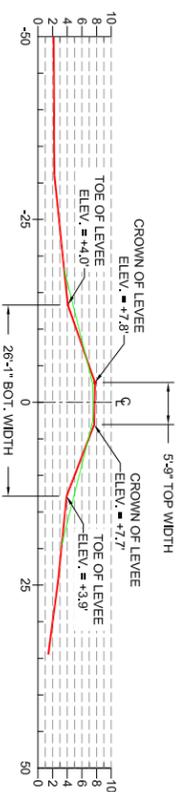
SECTION "37-37"
STA. 230+86
 N:491361.07
 E:2864753.30
 SCALE:1" = 25'



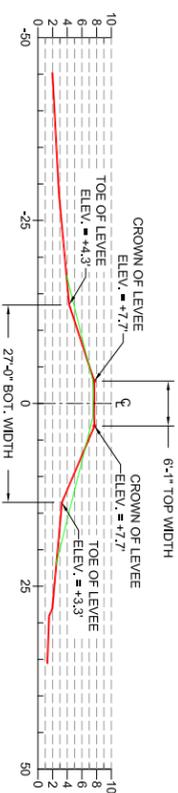
SECTION "38-38"
STA. 234+98
 N:491450.07
 E:2865156.56
 SCALE:1" = 25'



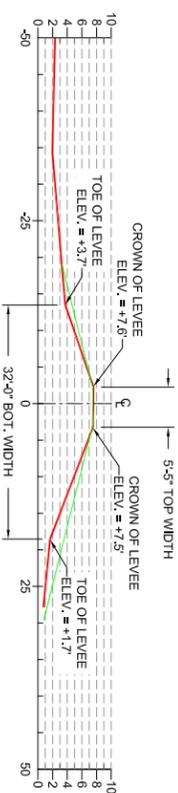
SECTION "39-39"
STA. 239+11
 N:491536.41
 E:2865600.81
 SCALE:1" = 25'



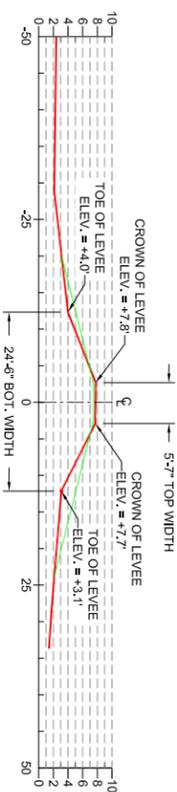
SECTION "40-40"
STA. 243+35
 N:491633.41
 E:2866973.10
 SCALE:1" = 25'



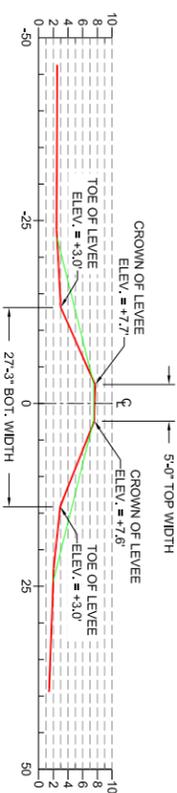
SECTION "41-41"
STA. 247+16
 N:491760.67
 E:2868332.04
 SCALE:1" = 25'



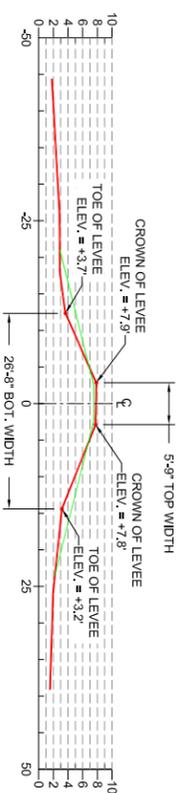
SECTION "42-42"
STA. 252+15
 N:491950.53
 E:2868793.29
 SCALE:1" = 25'



SECTION "43-43"
STA. 257+11
 N:492153.97
 E:2867246.54
 SCALE:1" = 25'



SECTION "44-44"
STA. 259+44
 N:492250.89
 E:2867457.82
 SCALE:1" = 25'



SECTION "45-45"
STA. 263+17
 N:492413.51
 E:2867793.26
 SCALE:1" = 25'

LEGEND
 PROPOSED TEMPLATE
 ASBUILT GRADE



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CHMGS-SM-10A AND CHMGS-SM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

RESTORATION OF THE CAMERON CROUDE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

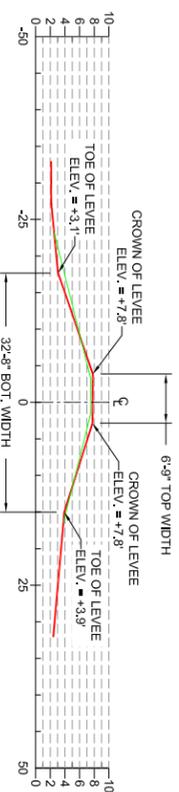
DESIGNED BY: LONNIE HARPER

CROSS SECTIONS
 STA. 204+93 - STA. 263+17

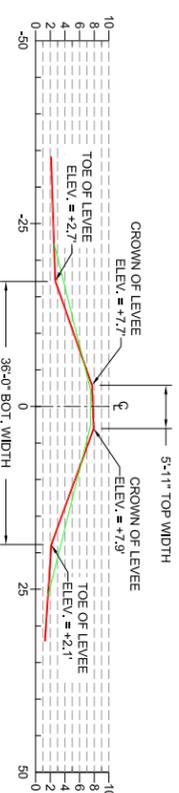
DATE: 10/17/2011

SHEET 40 OF 51

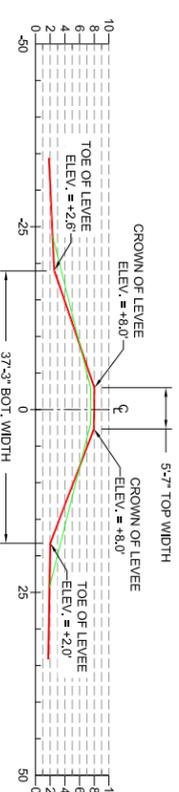
ASBUILT DRAWINGS



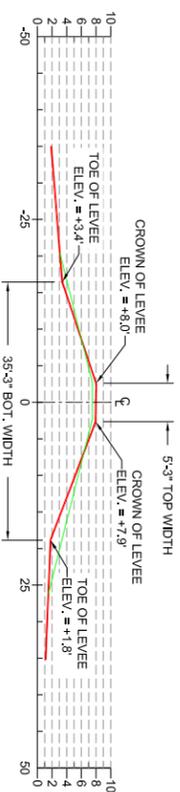
SECTION "46-46"
STA. 266+10
 N:492538.28
 E:2669058.10
 SCALE:1" = 25'



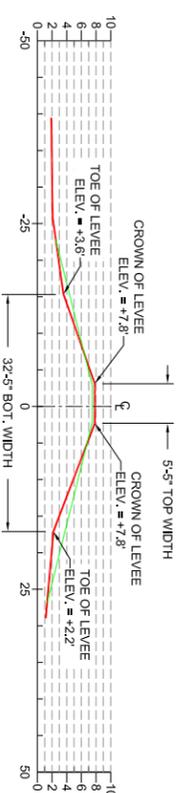
SECTION "47-47"
STA. 268+72
 N:492649.25
 E:2669296.83
 SCALE:1" = 25'



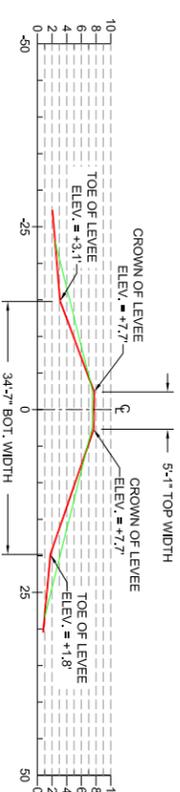
SECTION "48-48"
STA. 273+02
 N:492839.33
 E:2669681.60
 SCALE:1" = 25'



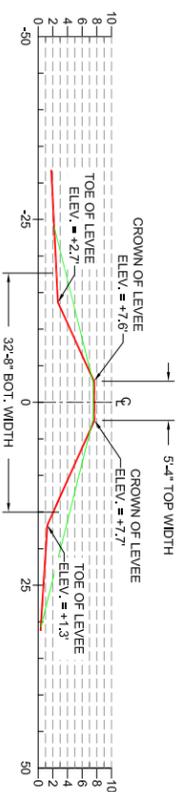
SECTION "49-49"
STA. 277+34
 N:493022.86
 E:2669073.37
 SCALE:1" = 25'



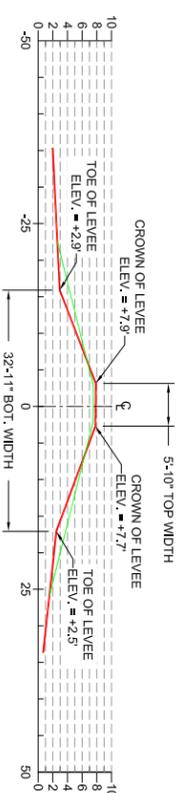
SECTION "50-50"
STA. 281+99
 N:493203.76
 E:2669500.57
 SCALE:1" = 25'



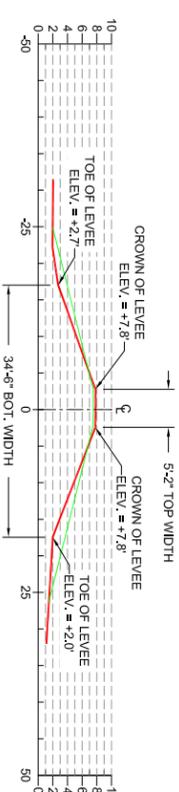
SECTION "51-51"
STA. 287+93
 N:493420.71
 E:2670054.07
 SCALE:1" = 25'



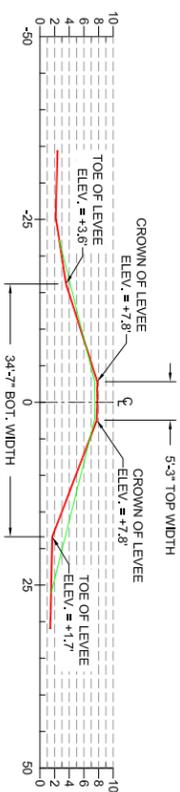
SECTION "52-52"
STA. 292+09
 N:493580.30
 E:2670446.44
 SCALE:1" = 25'



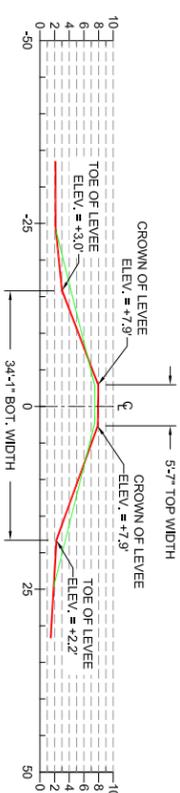
SECTION "53-53"
STA. 294+83
 N:493693.55
 E:2670703.90
 SCALE:1" = 25'



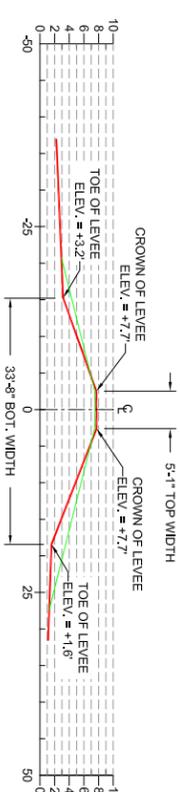
SECTION "54-54"
STA. 301+93
 N:493806.15
 E:2671376.10
 SCALE:1" = 25'



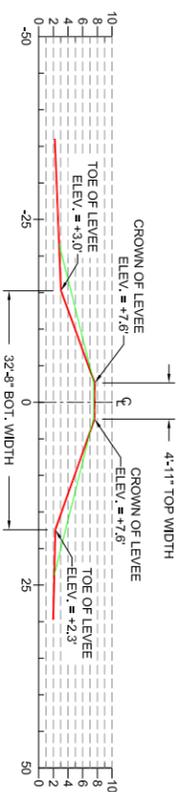
SECTION "55-55"
STA. 304+10
 N:493898.29
 E:2671561.16
 SCALE:1" = 25'



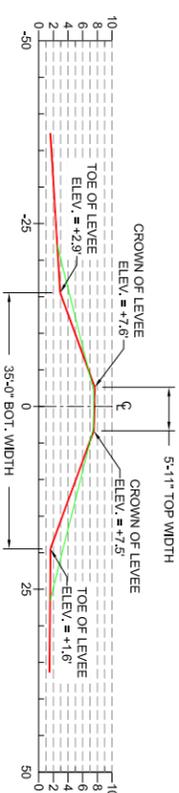
SECTION "56-56"
STA. 307+31
 N:494164.89
 E:2671836.53
 SCALE:1" = 25'



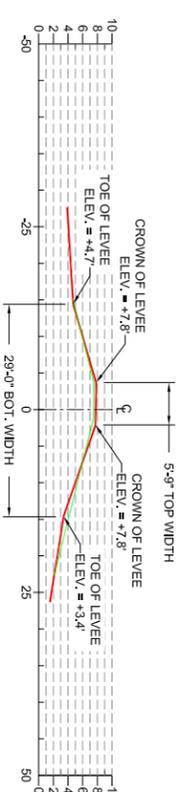
SECTION "57-57"
STA. 312+31
 N:494420.23
 E:2672266.89
 SCALE:1" = 25'



SECTION "58-58"
STA. 318+87
 N:494747.08
 E:2672934.98
 SCALE:1" = 25'



SECTION "59-59"
STA. 324+58
 N:495035.26
 E:2673328.12
 SCALE:1" = 25'



SECTION "60-60"
STA. 330+11
 N:495288.98
 E:2673828.44
 SCALE:1" = 25'

LEGEND
 PROPOSED TEMPLATE
 ASBUILT GRADE

CROSS SECTIONS
 STA. 266+10 - STA. 330+11



- NOTES:**
- THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
 - ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
 - ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
 - ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSS-5M-10A AND CMMSS-5M-10.
 - THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN .25K INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg. C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

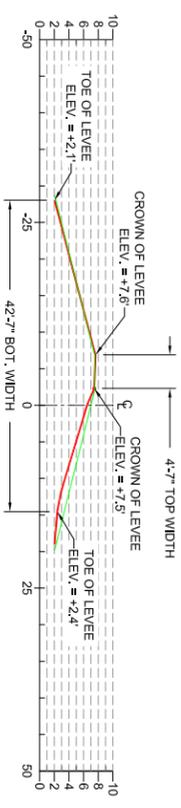
COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

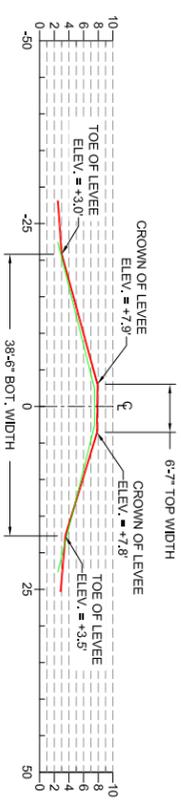
RESTORATION OF THE CAMERON CROULE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

DATE: 10/17/2011
 SHEET 41 OF 51

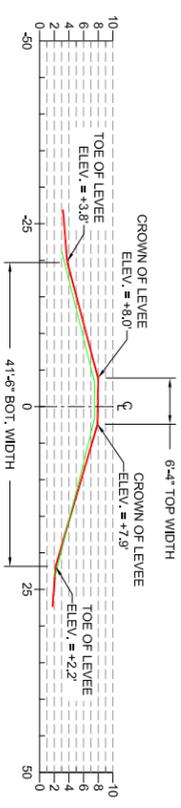
ASBUILT DRAWINGS



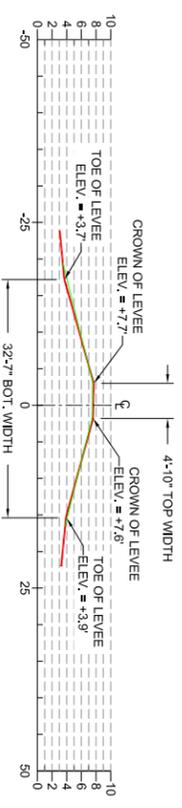
SECTION "61-61"
STA. 335+16
 N:495610.50
 E:2674272.71
 SCALE:1" = 25'



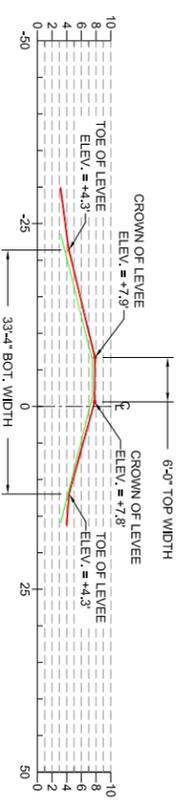
SECTION "62-62"
STA. 341+45
 N:495825.96
 E:2674817.02
 SCALE:1" = 25'



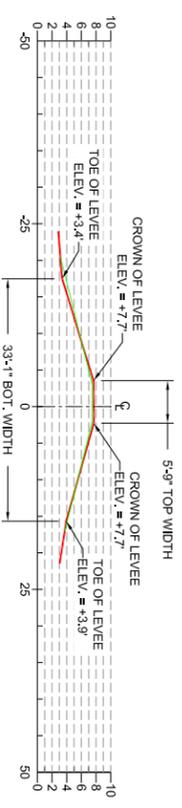
SECTION "63-63"
STA. 343+40
 N:495830.50
 E:2674981.65
 SCALE:1" = 25'



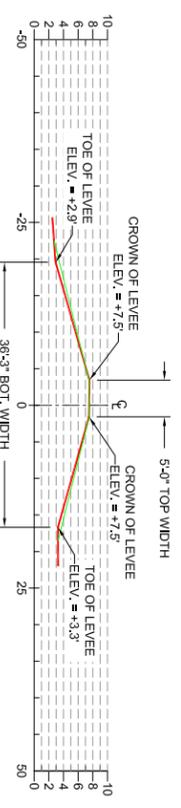
SECTION "64-64"
STA. 349+06
 N:496308.37
 E:2675401.07
 SCALE:1" = 25'



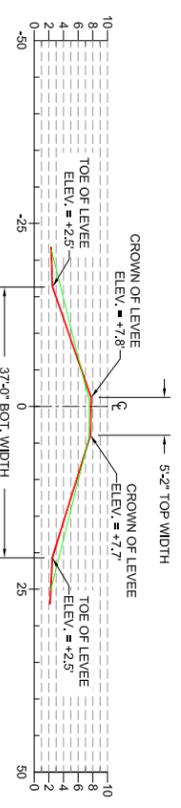
SECTION "65-65"
STA. 351+54
 N:496505.21
 E:2675552.85
 SCALE:1" = 25'



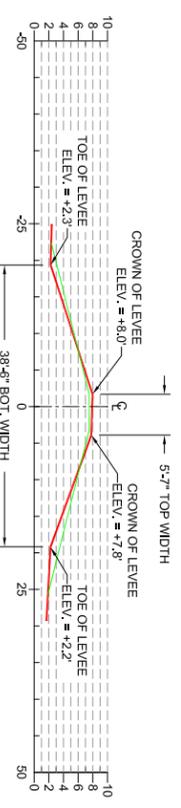
SECTION "66-66"
STA. 354+43
 N:496771.47
 E:2675664.04
 SCALE:1" = 25'



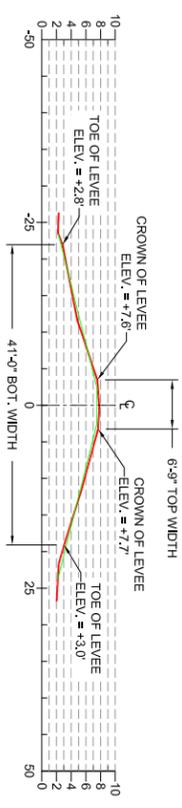
SECTION "67-67"
STA. 359+19
 N:497228.16
 E:2675799.41
 SCALE:1" = 25'



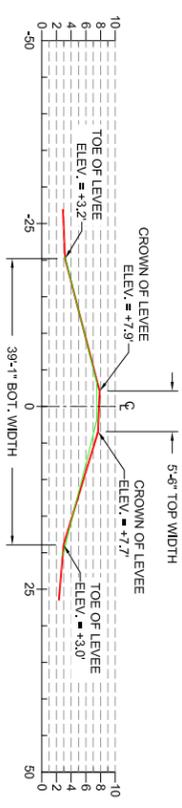
SECTION "68-68"
STA. 363+97
 N:497684.14
 E:2675944.52
 SCALE:1" = 25'



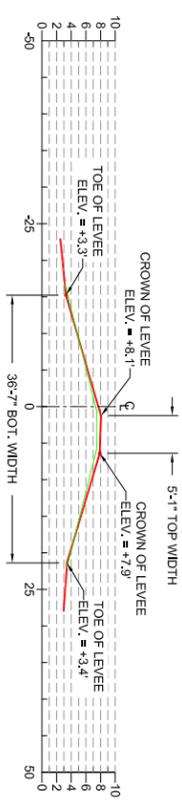
SECTION "69-69"
STA. 368+09
 N:498051.48
 E:2676131.73
 SCALE:1" = 25'



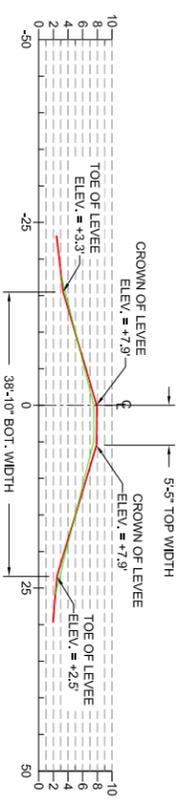
SECTION "70-70"
STA. 372+13
 N:498411.38
 E:2676314.22
 SCALE:1" = 25'



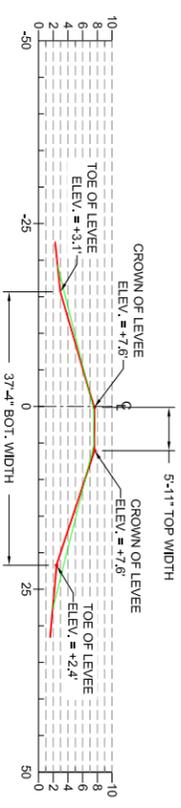
SECTION "71-71"
STA. 375+09
 N:498674.88
 E:2676449.88
 SCALE:1" = 25'



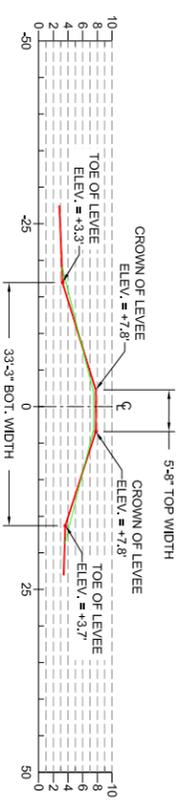
SECTION "72-72"
STA. 379+82
 N:499041.84
 E:2676689.00
 SCALE:1" = 25'



SECTION "73-73"
STA. 382+77
 N:499315.27
 E:2676863.83
 SCALE:1" = 25'



SECTION "74-74"
STA. 387+14
 N:499603.46
 E:2677191.90
 SCALE:1" = 25'



SECTION "75-75"
STA. 389+83
 N:499730.34
 E:2677428.21
 SCALE:1" = 25'

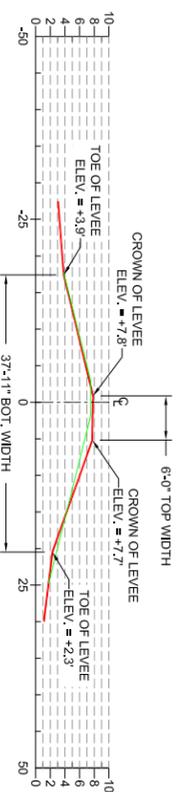
LEGEND



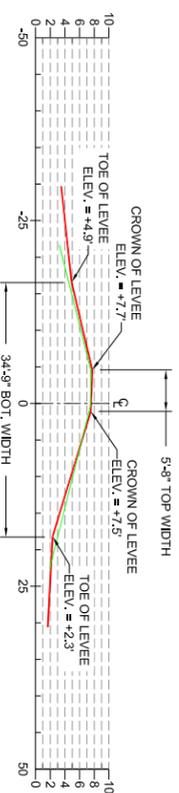
CROSS SECTION
 STA. 335+16 - STA. 389+83

| <p>NOTES:</p> <ol style="list-style-type: none"> THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSS-SM-10A AND CMMSS-SM-10. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN .25K INCHES OF PRE-PROJECT CONDITION. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">REV.</th> <th style="width: 10%;">DATE</th> <th style="width: 50%;">DESCRIPTION</th> <th style="width: 10%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> | REV. | DATE | DESCRIPTION | BY | | | | | | | | | | | | | | | | |
|--|---|-------------|------|-------------|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| REV. | DATE | DESCRIPTION | BY | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| <p>LONNIE G. HARPER and Associates, Inc. CIVIL ENGINEERING AND LAND SURVEYING 2746 Hwy 384, Bldg. C, Louisiana 70630 PHONE: (337) 905-1079 FAX: (337) 905-1076</p> | <p>COASTAL PROTECTION AND RESTORATION AUTHORITY</p> <p>450 LAUREL STREET BATON ROUGE, LOUISIANA 70801</p> | | | | | | | | | | | | | | | | | | | | |
| <p>DRAWN BY: AARON HARPER</p> | <p>DESIGNED BY: LONNIE HARPER</p> | | | | | | | | | | | | | | | | | | | | |
| <p>APPROVED BY:</p> | <p>DATE: 10/17/2011</p> | | | | | | | | | | | | | | | | | | | | |
| <p>SHEET 42 OF 51</p> | <p>FEDERAL PROJECT NUMBER: CS-04A-L</p> | | | | | | | | | | | | | | | | | | | | |

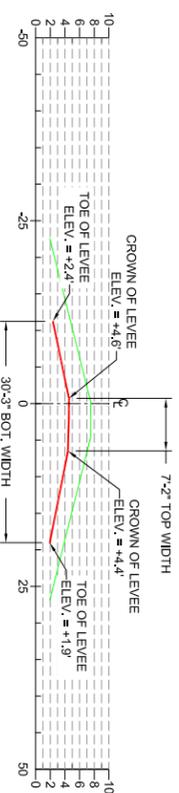
ASBUILT DRAWINGS



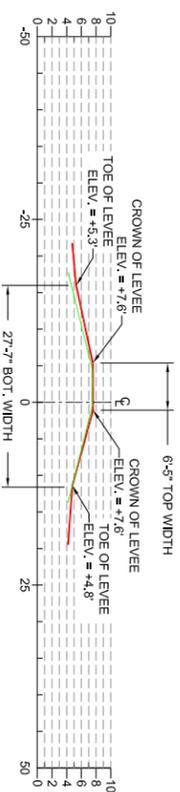
SECTION "76-76"
STA. 391+49
 N:499852.84
 E:2877541.00
 SCALE:1" = 25'



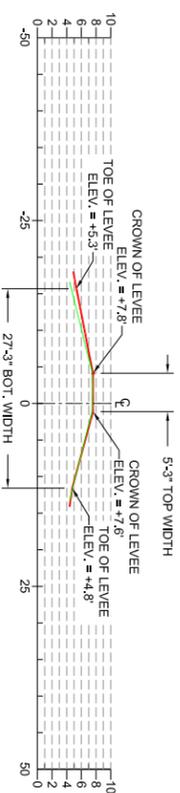
SECTION "77-77"
STA. 392+52
 N:499935.77
 E:2877603.15
 SCALE:1" = 25'



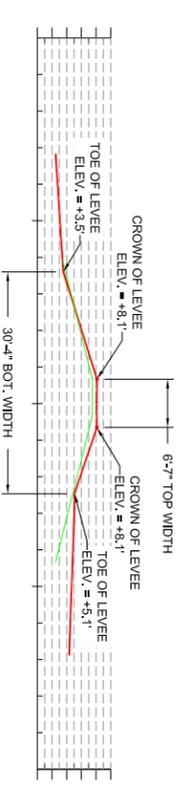
SECTION "78-78"
STA. 394+77
 N:500112.20
 E:2877422.33
 SCALE:1" = 25'



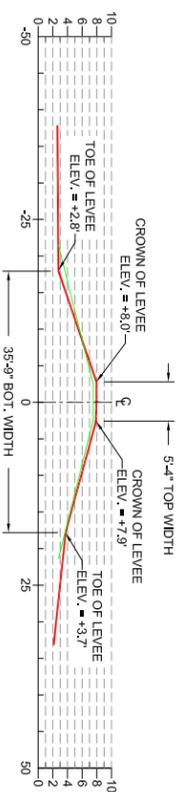
SECTION "79-79"
STA. 399+60
 N:500551.72
 E:2877943.62
 SCALE:1" = 25'



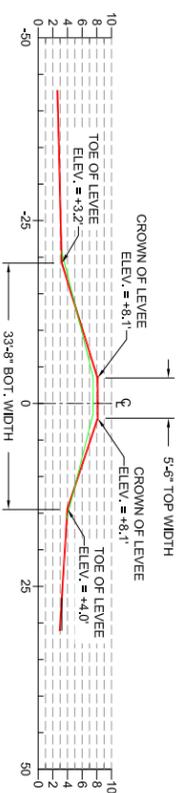
SECTION "80-80"
STA. 400+69
 N:500655.02
 E:2877973.59
 SCALE:1" = 25'



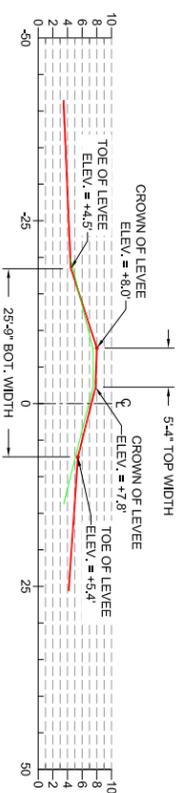
SECTION "81-81"
STA. 402+90
 N:500858.44
 E:2877890.05
 SCALE:1" = 25'



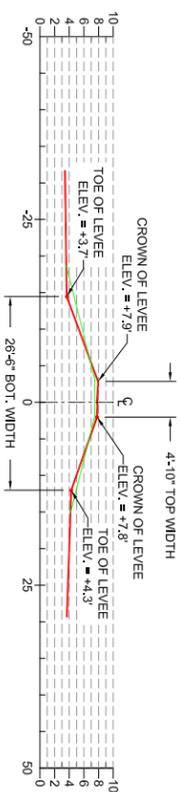
SECTION "82-82"
STA. 407+38
 N:501278.07
 E:2878043.52
 SCALE:1" = 25'



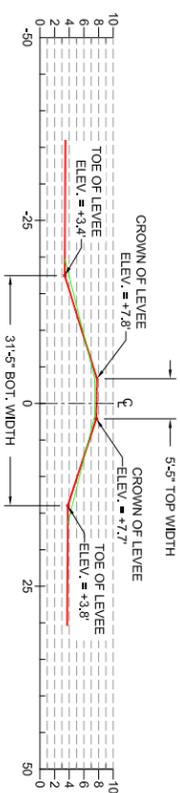
SECTION "83-83"
STA. 411+85
 N:501698.14
 E:2878196.34
 SCALE:1" = 25'



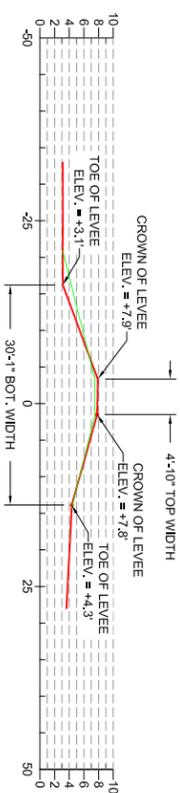
SECTION "84-84"
STA. 414+89
 N:501987.62
 E:2878292.06
 SCALE:1" = 25'



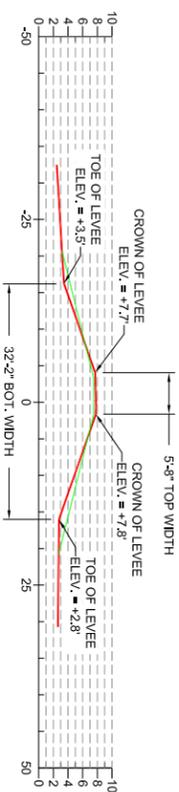
SECTION "85-85"
STA. 418+36
 N:502332.56
 E:2878291.83
 SCALE:1" = 25'



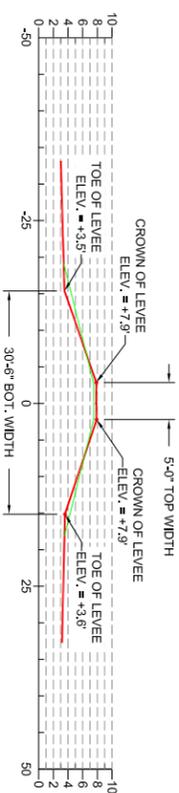
SECTION "86-86"
STA. 421+82
 N:502676.79
 E:2878227.40
 SCALE:1" = 25'



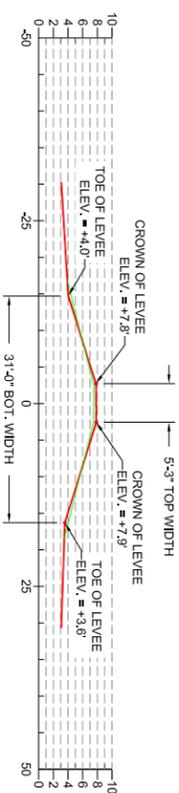
SECTION "87-87"
STA. 426+44
 N:503135.71
 E:2878188.24
 SCALE:1" = 25'



SECTION "88-88"
STA. 431+77
 N:503653.16
 E:2877804.88
 SCALE:1" = 25'



SECTION "89-89"
STA. 436+78
 N:504132.94
 E:2877896.50
 SCALE:1" = 25'



SECTION "90-90"
STA. 441+75
 N:504608.44
 E:2877511.88
 SCALE:1" = 25'

LEGEND
 PROPOSED TEMPLATE
 ASBUILT GRADE

CROSS SECTIONS
 STA. 391+49 - STA. 441+75

DATE: 10/17/2011
 SHEET 43 OF 51

RESTORATION OF THE CAMERON
 CROULE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

DESIGNED BY: LONNIE HARPER
 DRAWN BY: AARON HARPER

APPROVED BY:

COASTAL PROTECTION AND
 RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

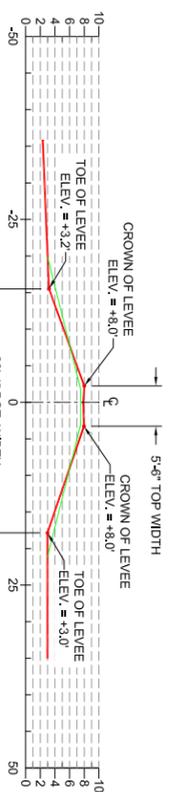
AND ASSOCIATES, INC.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

LONNIE G. HARPER
 REG. NO. 1377
 PROFESSIONAL ENGINEER
 STATE OF LOUISIANA
 CIVIL ENGINEERING

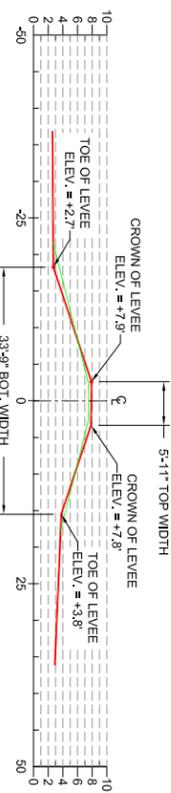
NOTES:
 1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
 2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT NUMBER 100701, DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
 3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
 4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS CMMSS-5M-10A AND CMMSS-5M-10.
 5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

REV. DATE DESCRIPTION BY

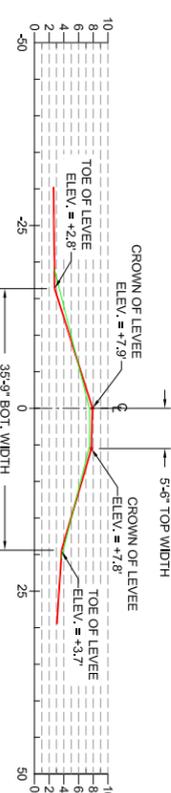
ASBUILT DRAWINGS



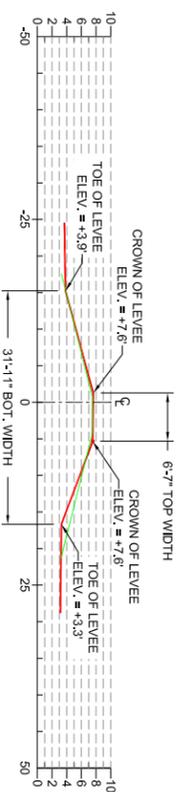
SECTION "91-91"
STA. 446+77
 N505091.28
 E2877616.96
 SCALE:1" = 25'



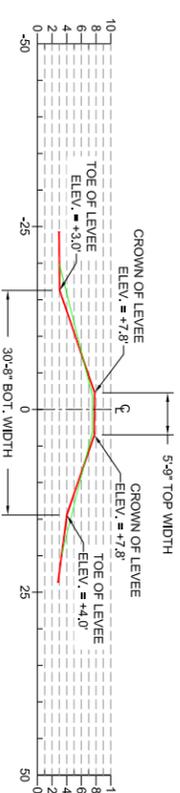
SECTION "92-92"
STA. 451+76
 N505575.79
 E2877500.98
 SCALE:1" = 25'



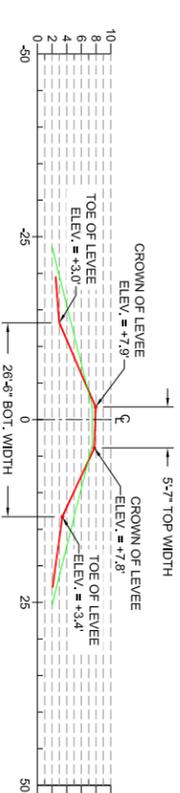
SECTION "93-93"
STA. 453+04
 N505700.01
 E2877471.11
 SCALE:1" = 25'



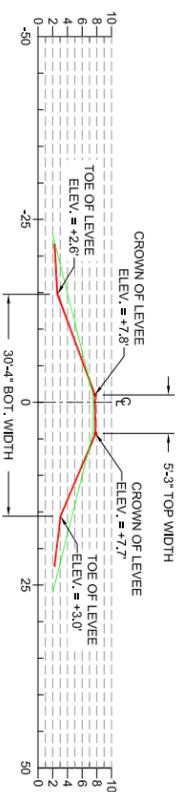
SECTION "94-94"
STA. 456+76
 N500600.80
 E2877376.48
 SCALE:1" = 25'



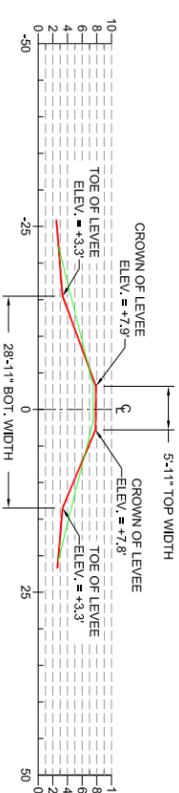
SECTION "95-95"
STA. 461+80
 N505649.16
 E2877248.21
 SCALE:1" = 25'



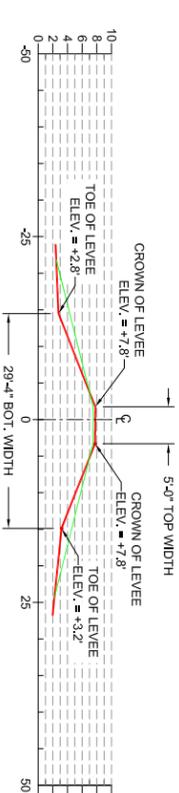
SECTION "96-96"
STA. 465+71
 N505933.30
 E2877177.44
 SCALE:1" = 25'



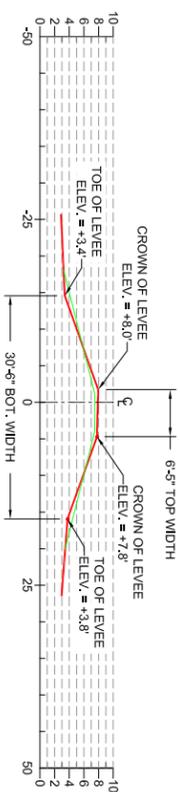
SECTION "97-97"
STA. 466+95
 N530767.38
 E287783.34
 SCALE:1" = 25'



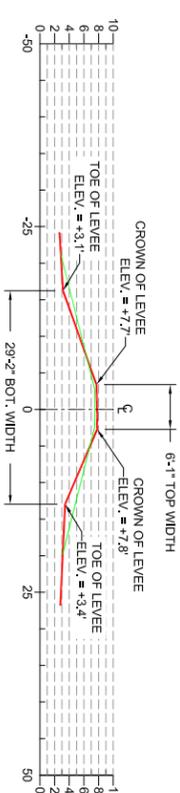
SECTION "98-98"
STA. 470+61
 N507414.47
 E287761.87
 SCALE:1" = 25'



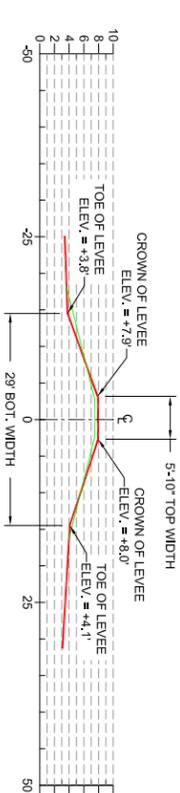
SECTION "99-99"
STA. 474+26
 N50770.15
 E2877343.50
 SCALE:1" = 25'



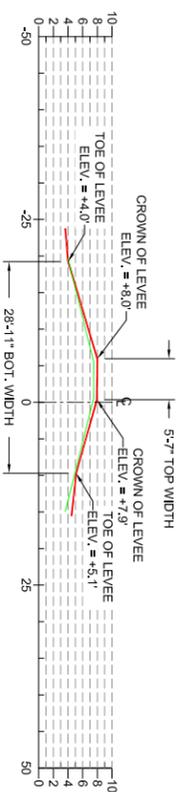
SECTION "100-100"
STA. 478+63
 N508162.47
 E287735.41
 SCALE:1" = 25'



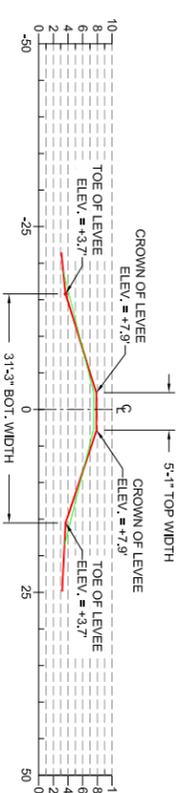
SECTION "101-101"
STA. 483+59
 N508652.64
 E2877841.44
 SCALE:1" = 25'



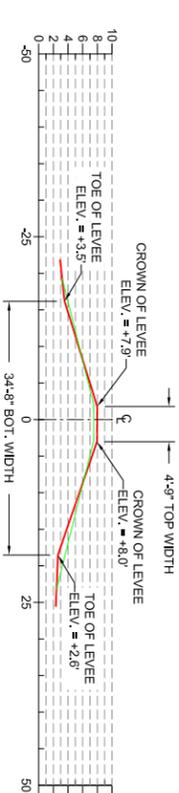
SECTION "102-102"
STA. 485+02
 N508662.13
 E2877933.22
 SCALE:1" = 25'



SECTION "103-103"
STA. 489+26
 N508989.18
 E2877803.06
 SCALE:1" = 25'



SECTION "104-104"
STA. 494+22
 N509494.95
 E2878208.73
 SCALE:1" = 25'



SECTION "105-105"
STA. 497+66
 N509827.50
 E2878183.09
 SCALE:1" = 25'

NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSS-5M-10A AND CMMSS-5M-10."
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN .25K INCHES OF PRE-PROJECT CONDITION.

LEGEND

 PROPOSED TEMPLATE
 ASBUILT GRADE



| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

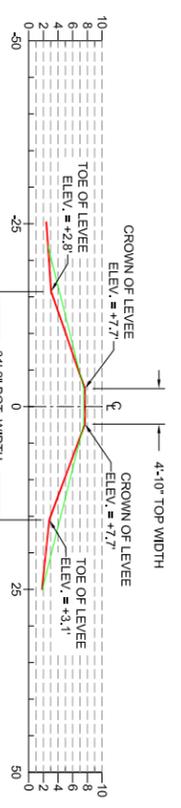
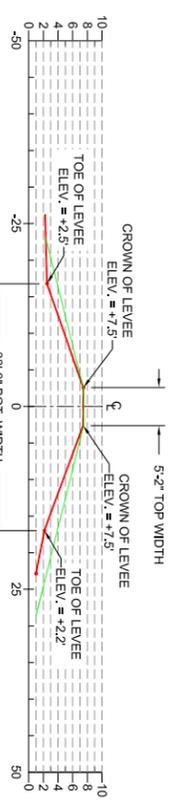
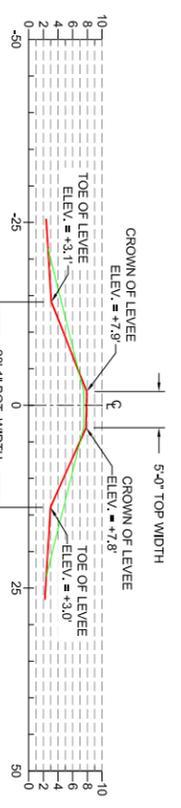
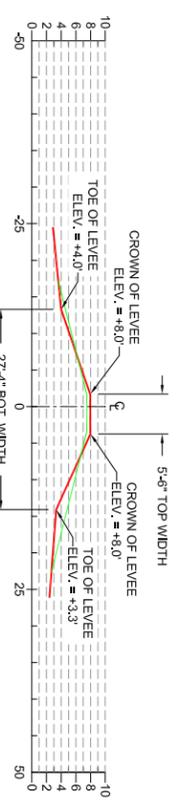
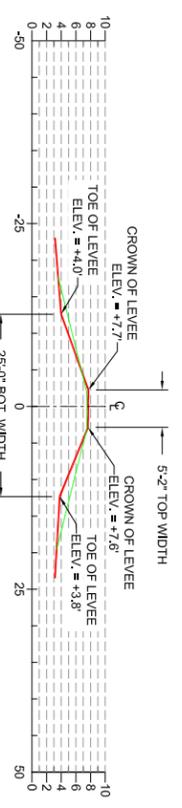
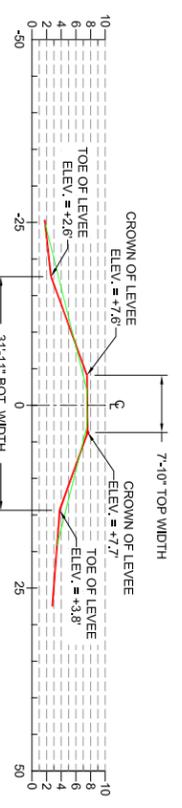
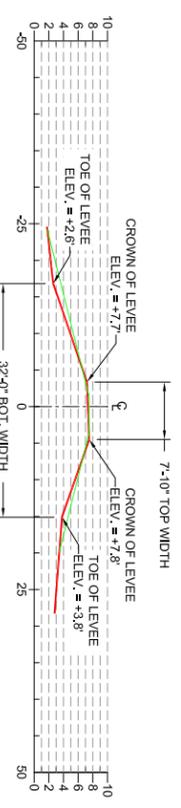
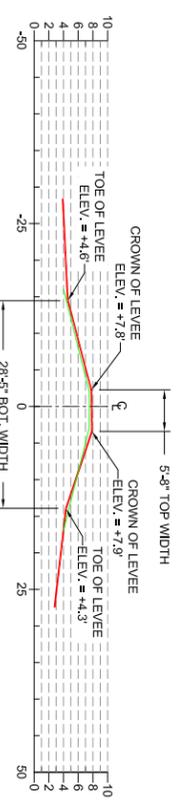
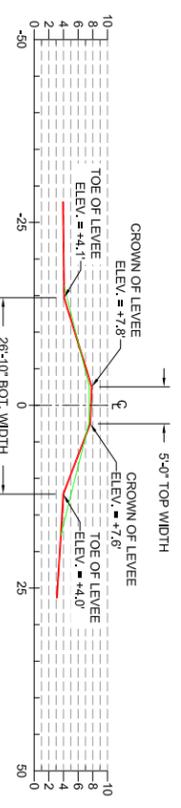
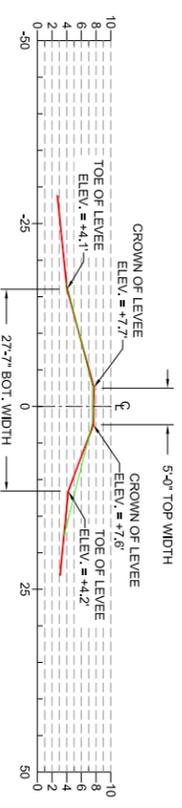
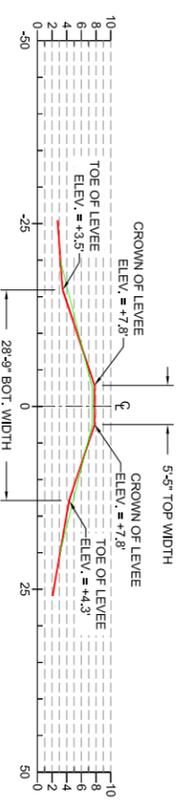
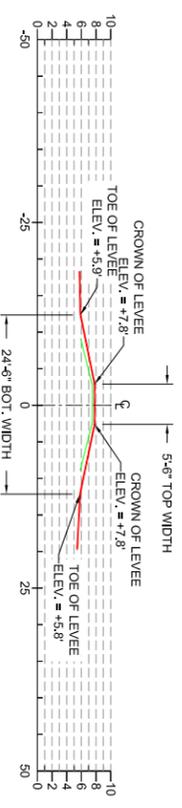
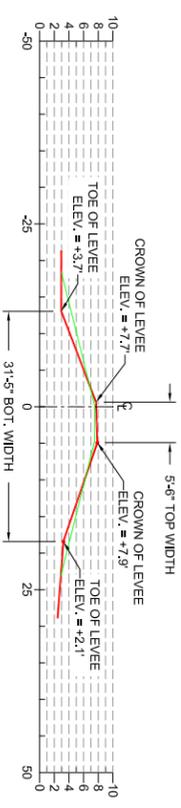
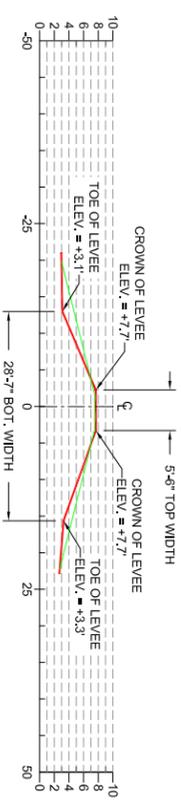
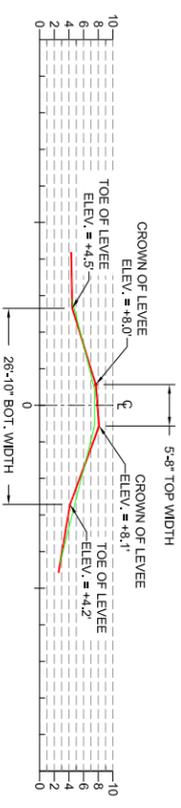
LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

RESTORATION OF THE CAMERON CROULE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

CROSS SECTIONS
 STA. 446+77 - STA. 497+66
 DATE: 10/17/2011
 SHEET 44 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CRMS-SSM-10A AND CRMS-SSM-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER and Associates, Inc.
 CIVIL ENGINEERING AND LAND SURVEYING
 2746 Hwy 384, Bldg. C, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

APPROVED BY:

LEGEND

 PROPOSED TEMPLATE
 ASBUILT GRADE

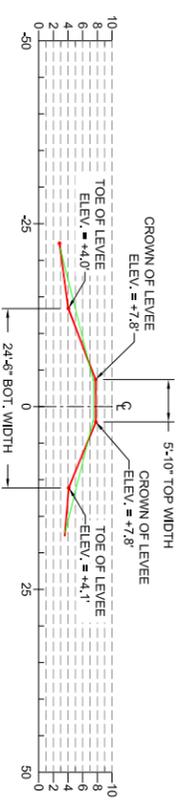
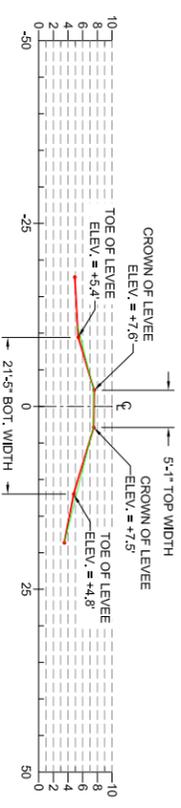
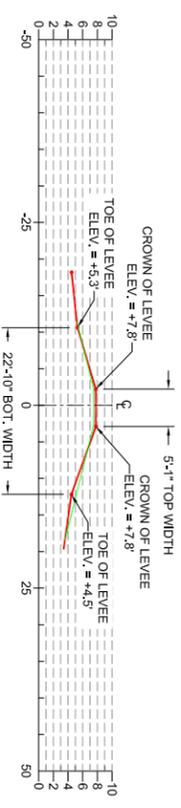
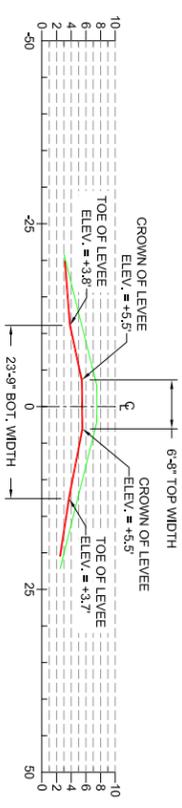
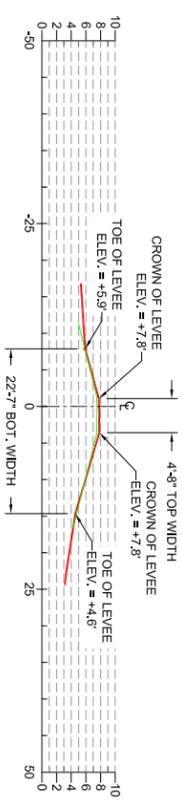
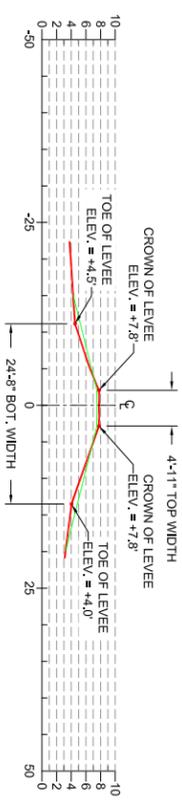
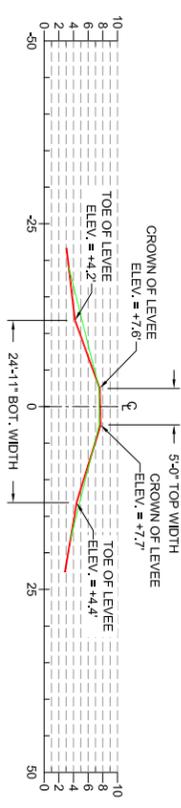
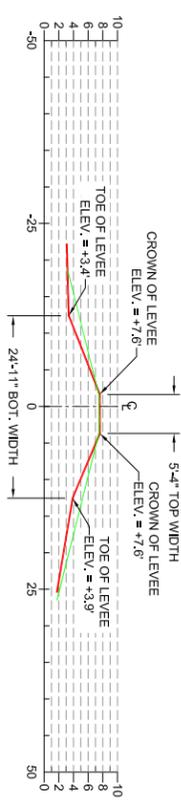
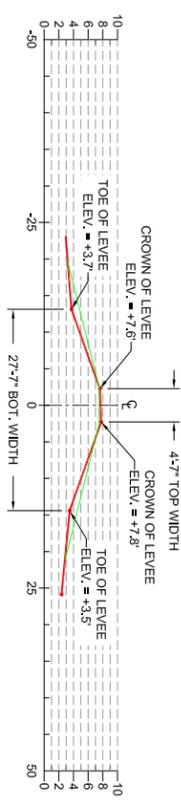
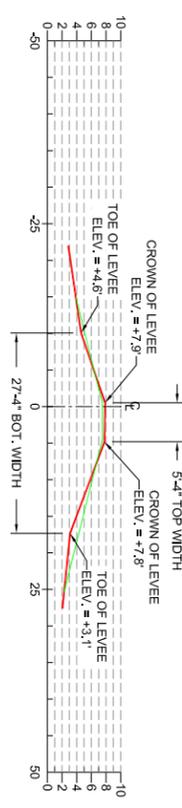
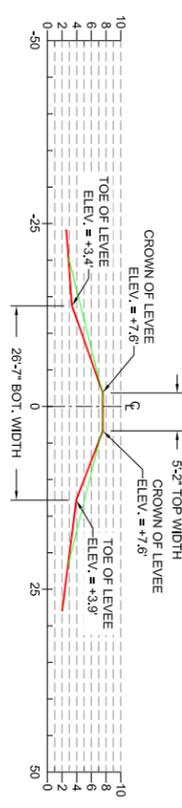
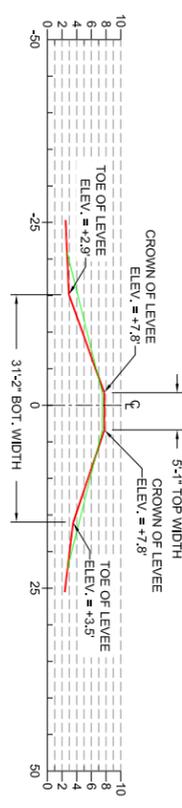
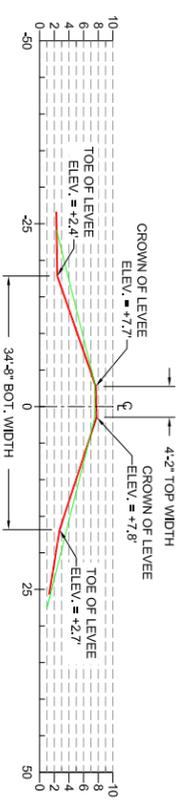
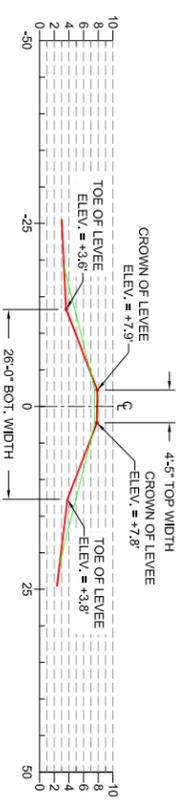
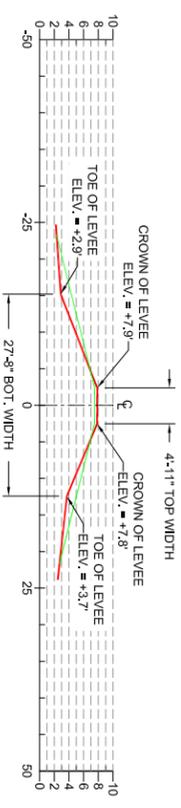


CROSS SECTIONS
 STA. 544+18 - STA. 606+27

DATE: 10/17/2011

SHEET 46 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSS-5M-10A AND CMMSS-5M-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER
 DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

APPROVED BY:

LEGEND

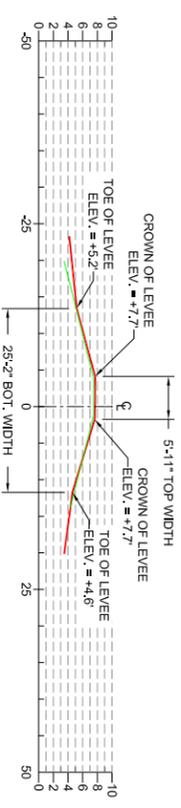
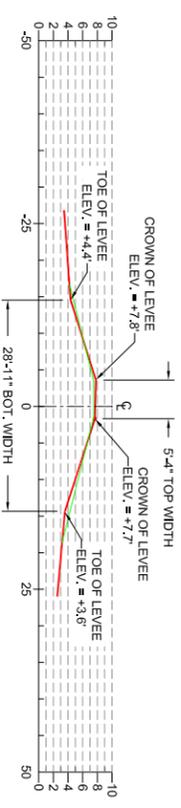
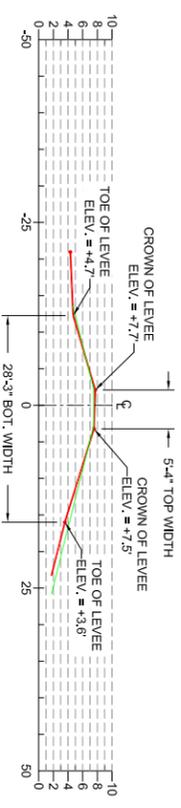
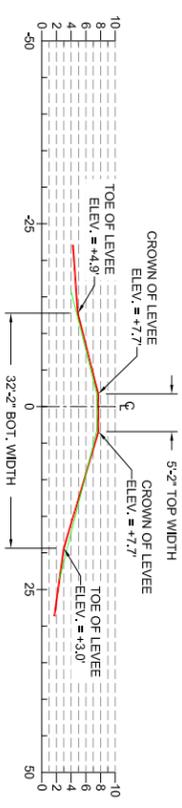
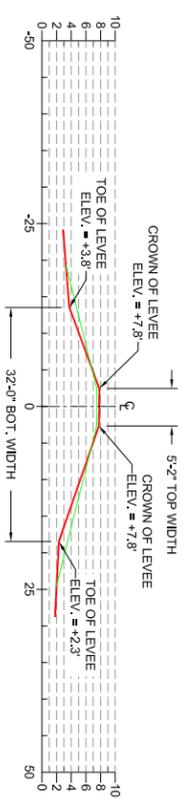
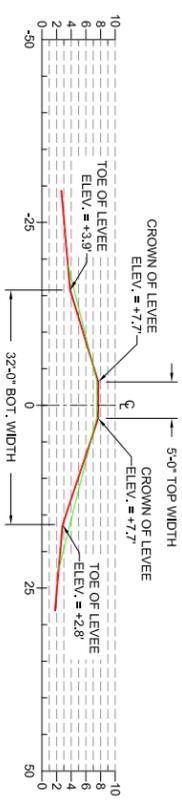
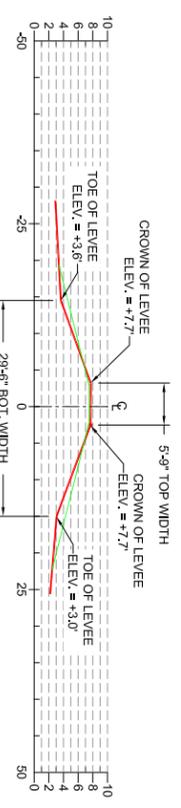
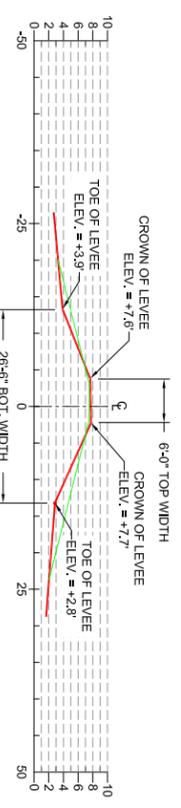
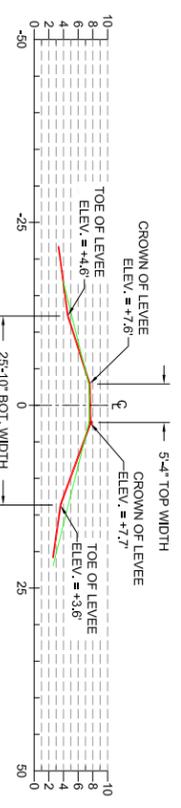
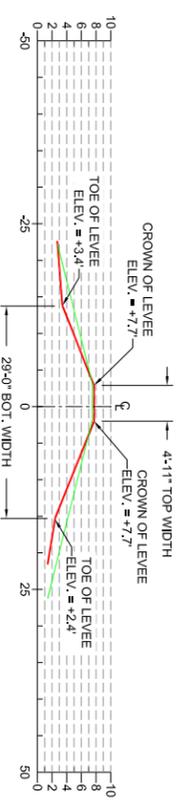
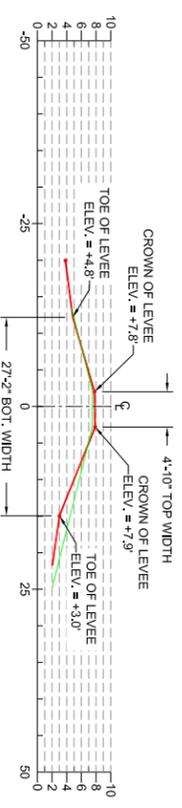
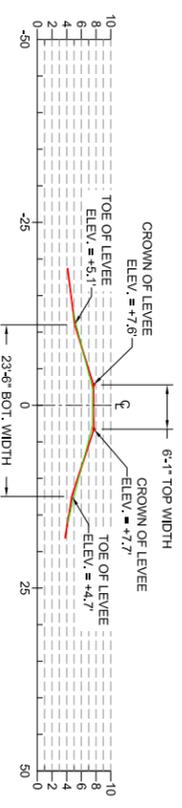
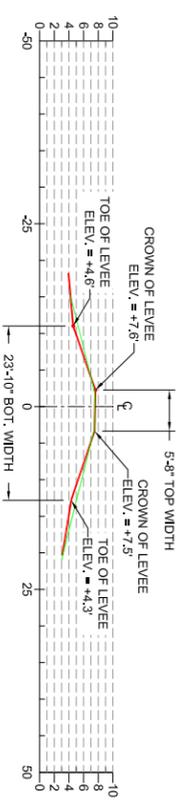
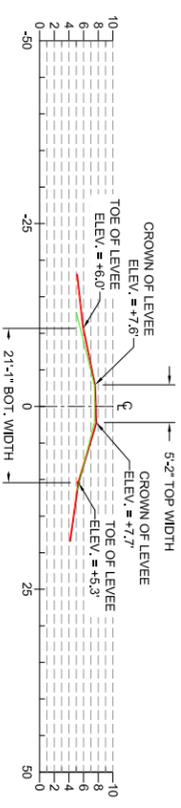
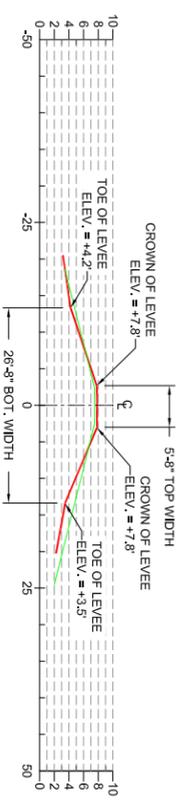
 PROPOSED TEMPLATE
 ASBUILT GRADE



CROSS SECTIONS
 STA. 609+22 - STA. 661+04

DATE: 10/17/2011
 SHEET 47 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CMMSS-54A-10A AND CMMSS-54A-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

LEGEND

 PROPOSED TEMPLATE
 ASBUILT GRADE



| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

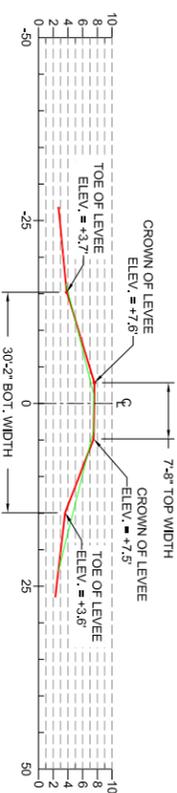
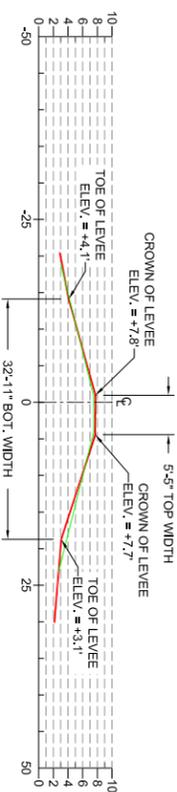
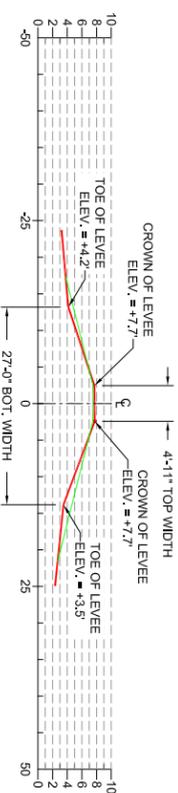
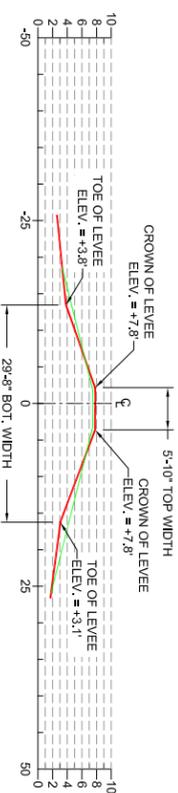
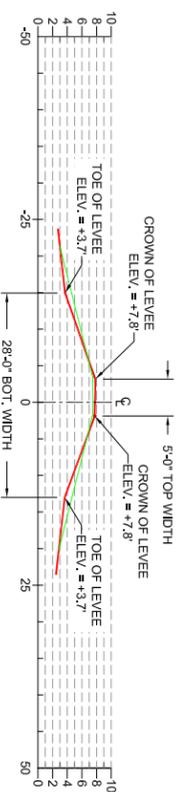
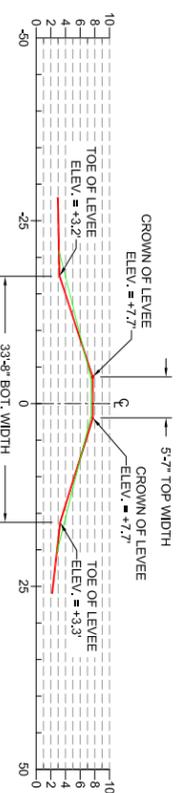
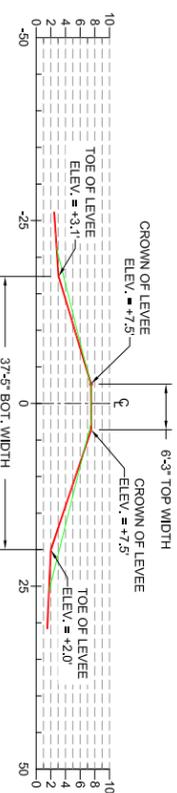
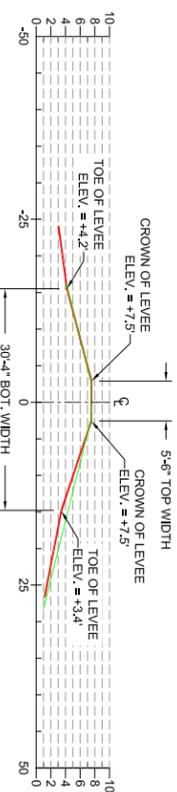
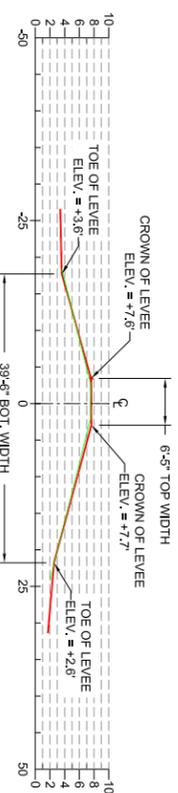
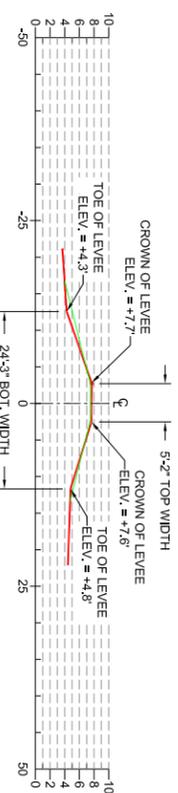
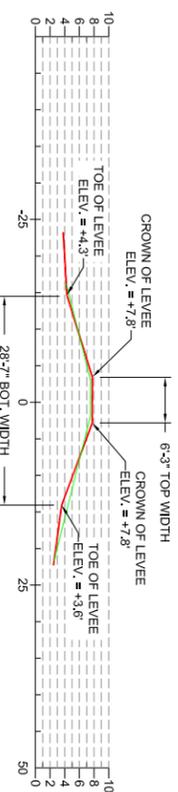
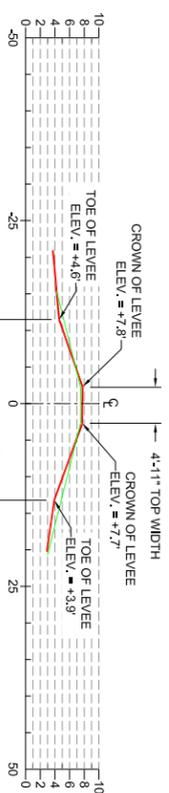
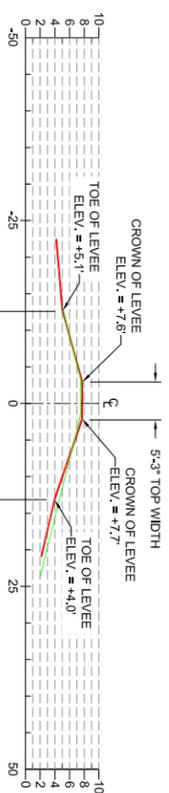
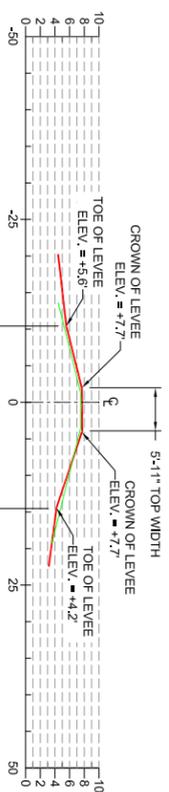
Lonnie G. Harper and Associates, Inc.
 CIVIL ENGINEERING AND LAND SURVEYING
 2746 Hwy 384, Bldg City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

DATE: 10/17/2011
 SHEET 48 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CHMGS-SM-10A AND CHMGS-SM-10."
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

LEGEND

 PROPOSED TEMPLATE
 ASBUILT GRADE



| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

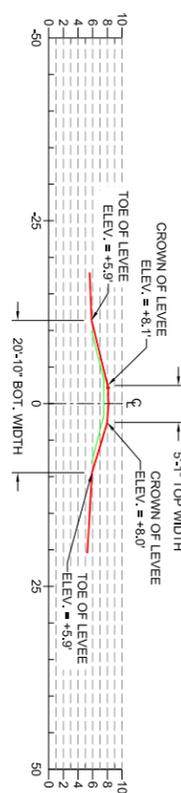
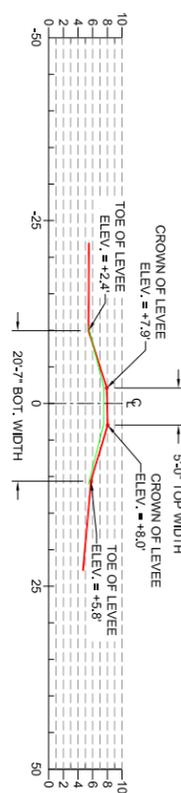
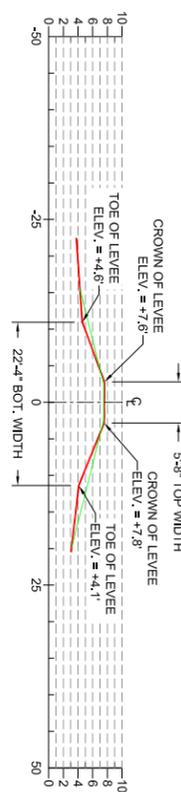
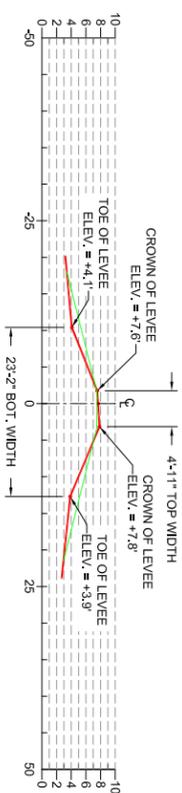
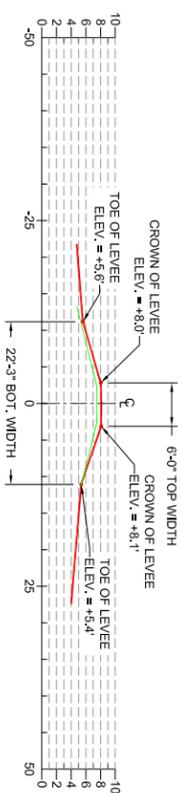
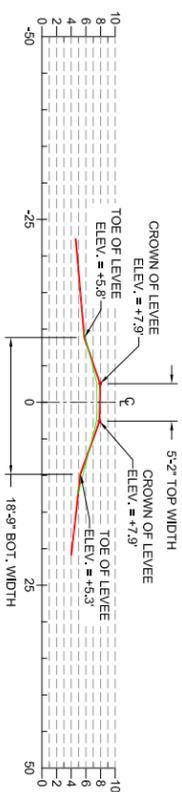
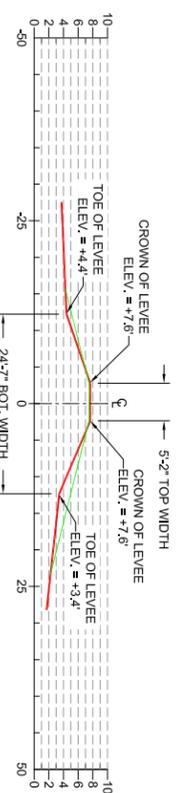
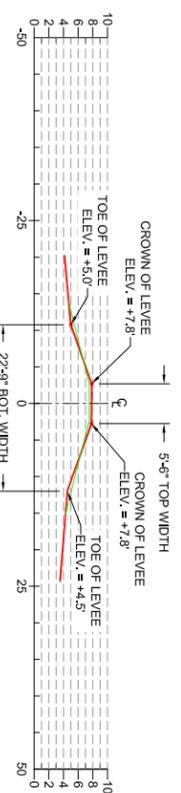
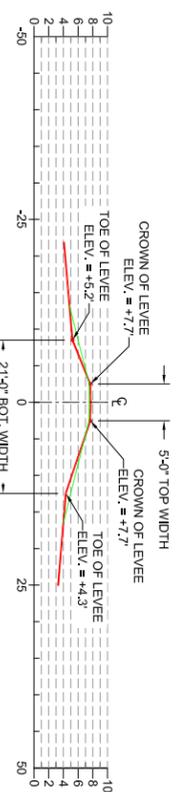
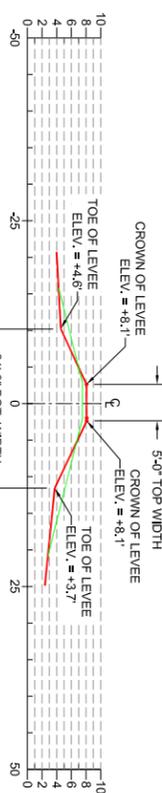
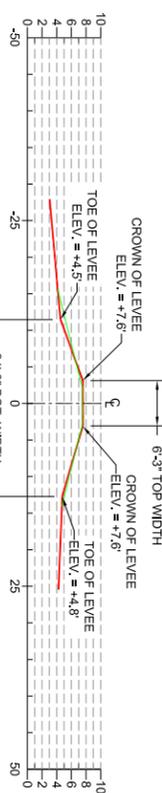
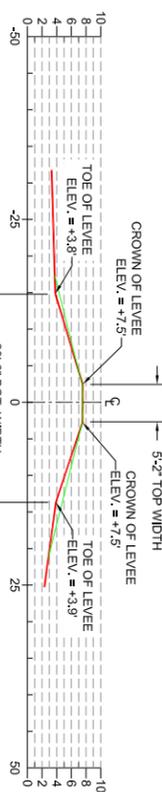
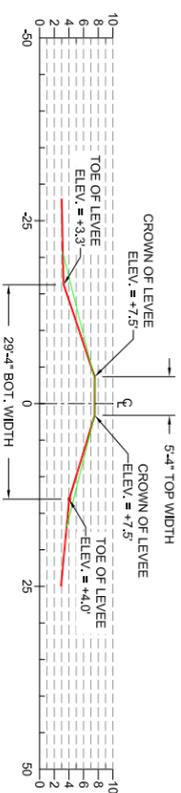
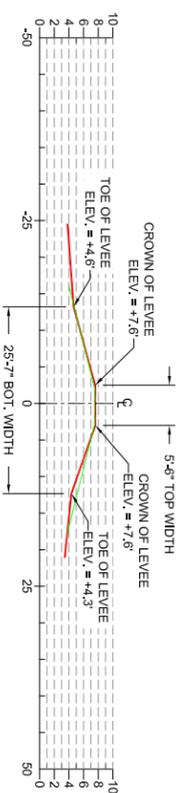
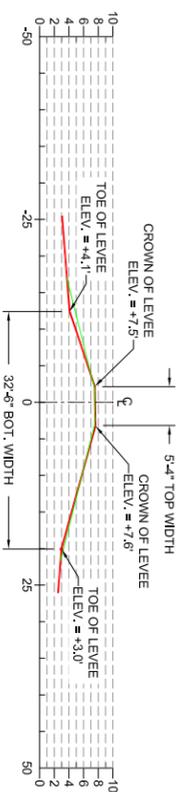
Lonnie G. Harper and Associates, Inc.
 CIVIL ENGINEERING AND LAND SURVEYING
 2746 Hwy 384, Bldg City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

CROSS SECTIONS
 STA. 736+60 - STA. 800+95
 DATE: 10/17/2011
 SHEET 49 OF 51

ASBUILT DRAWINGS



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE CROWN OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASPHALT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS CMMSCS-5M-10A AND CMMSCS-5M-10.
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

LEGEND

 PROPOSED TEMPLATE
 ASBUILT GRADE



| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |

LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bldg. City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY
 450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

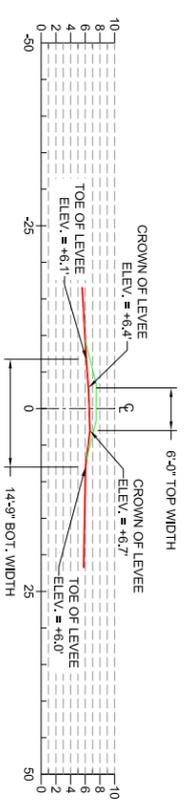
RESTORATION OF THE CAMERON CROLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

DESIGNED BY: LONNIE HARPER

CROSS SECTIONS
 STA. 806+52 - STA. 857+73

DATE: 10/17/2011

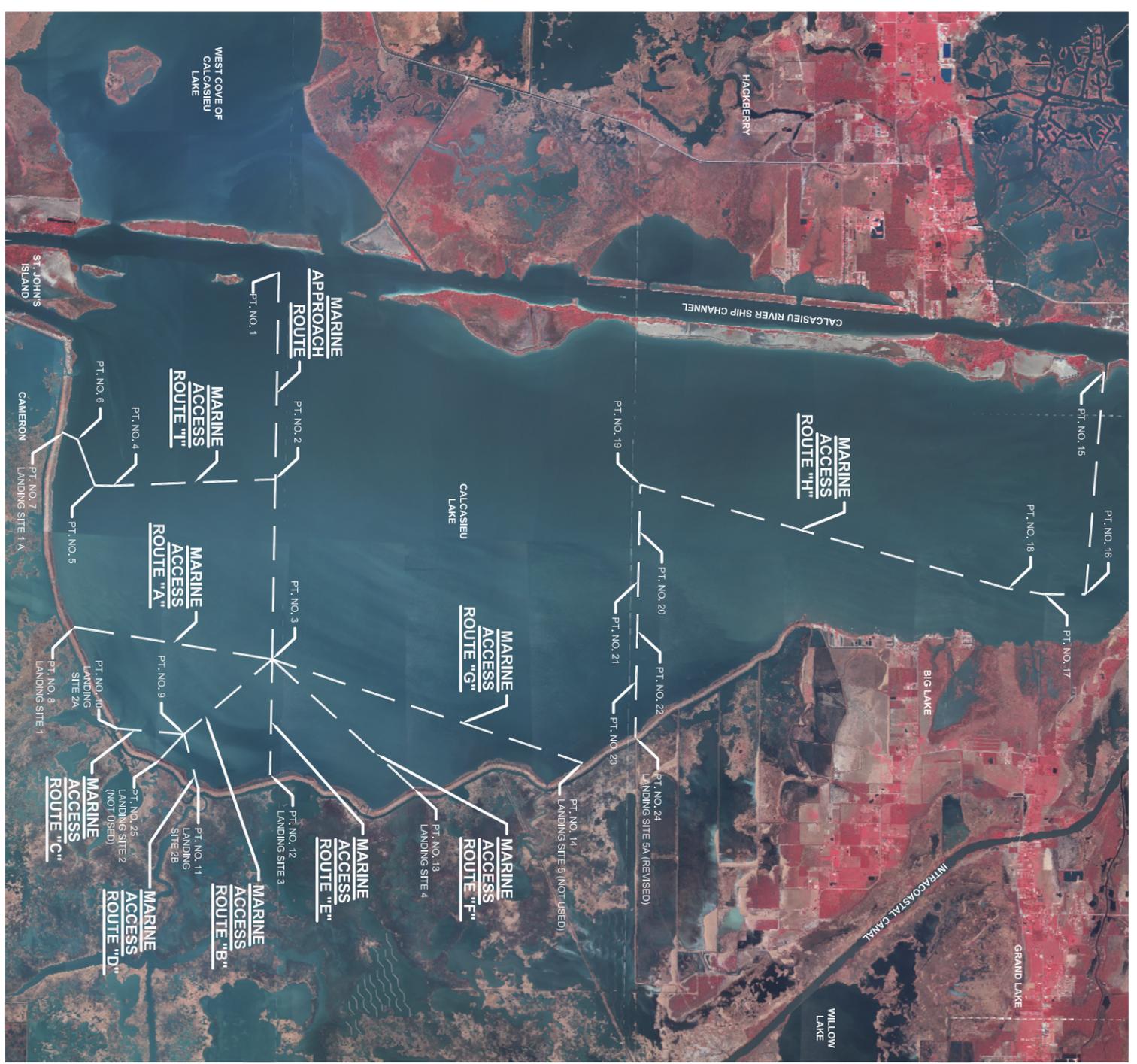
SHEET 50 OF 51



SECTION "196-196"
 STA. 857+96
 N5450813.97
 E2687288.71
 SCALE: 1" = 25'

MARINE ACCESS ROUTE POINT DATA

| POINT NUMBER | NORTHING | EASTING | LATITUDE | LONGITUDE | DESCRIPTION |
|--------------|-----------|------------|--------------|--------------|---------------------------------|
| PT. NO. 1 | 506122.38 | 2644112.44 | 29°52'35.00" | 93°20'33.00" | BEGIN MARINE APPROACH ROUTE |
| PT. NO. 2 | 505688.20 | 2657679.98 | 29°52'35.02" | 93°17'58.86" | BEGIN MARINE ACCESS ROUTE "I" |
| PT. NO. 3 | 505686.70 | 2669462.63 | 29°52'35.00" | 93°15'45.00" | END MARINE APPROACH ROUTE |
| PT. NO. 4 | 495292.47 | 2658098.43 | 29°50'50.21" | 93°17'52.05" | PI IN MARINE ACCESS ROUTE "I" |
| PT. NO. 5 | 494098.31 | 2658080.51 | 29°50'38.38" | 93°17'52.02" | PI IN MARINE ACCESS ROUTE "I" |
| PT. NO. 6 | 492979.60 | 2655070.53 | 29°50'26.80" | 93°18'28.97" | PI IN MARINE ACCESS ROUTE "I" |
| PT. NO. 7 | 491940.20 | 2654590.37 | 29°50'16.43" | 93°18'31.22" | LANDING SITE 1A |
| PT. NO. 8 | 492772.48 | 2667342.70 | 29°50'26.82" | 93°16'06.60" | LANDING SITE 1 |
| PT. NO. 9 | 499916.38 | 2674356.50 | 29°51'38.70" | 93°14'48.32" | PI IN MARINE ACCESS ROUTE "B" |
| PT. NO. 10 | 495517.61 | 2673977.21 | 29°50'55.09" | 93°14'51.80" | LANDING SITE 2A "LAMBERT BAYOU" |
| PT. NO. 11 | 500839.64 | 2677876.27 | 29°51'48.42" | 93°14'08.53" | LANDING SITE 2B "GRAND BAYOU" |
| PT. NO. 12 | 505547.43 | 2677000.63 | 29°52'34.87" | 93°14'19.36" | LANDING SITE 3 |
| PT. NO. 13 | 514695.39 | 2677746.04 | 29°54'05.54" | 93°14'12.62" | LANDING SITE 4 |
| PT. NO. 14 | 525931.82 | 2676241.32 | 29°55'56.51" | 93°14'31.84" | LANDING SITE 5 (NOT USED) |
| PT. NO. 15 | 559999.81 | 2650671.29 | 30°01'29.41" | 93°19'29.14" | BEGIN MARINE ACCESS ROUTE "H" |
| PT. NO. 16 | 558808.54 | 2665191.73 | 30°01'20.08" | 93°16'43.75" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 17 | 556108.58 | 2665191.73 | 30°00'53.36" | 93°16'43.23" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 18 | 553742.67 | 2664820.06 | 30°00'29.88" | 93°16'46.99" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 19 | 529727.30 | 2658025.84 | 29°56'31.03" | 93°17'59.60" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 20 | 529653.94 | 2661065.91 | 29°56'30.82" | 93°17'25.02" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 21 | 529585.60 | 2664341.24 | 29°56'30.69" | 93°16'47.78" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 22 | 529530.19 | 2667611.41 | 29°56'30.69" | 93°16'10.60" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 23 | 529449.59 | 2670899.94 | 29°56'30.44" | 93°15'33.21" | PI IN MARINE ACCESS ROUTE "H" |
| PT. NO. 24 | 529229.51 | 2674292.83 | 29°56'28.83" | 93°14'54.61" | LANDING SITE 5A (REVISED) |
| PT. NO. 25 | 498210.41 | 2675803.35 | 29°51'22.05" | 93°14'31.57" | LANDING SITE 2 (NOT USED) |



MARINE ACCESS ROUTES



NOTES:

1. THE COORDINATES FURNISHED REPRESENT THE INTERSECTION OF THE HORIZONTAL ALIGNMENT AND THE GROUND OF THE LEVEE BASED ON INFORMATION PROVIDED BY MORRISON SURVEYING, INC.
2. ALL DATA USED TO GENERATE THE ASBUILT PROFILE AND CROSS SECTIONS WERE PROVIDED BY MORRISON SURVEYING, INC. IN ACCORDANCE WITH PLAT OF SURVEY DATED OCTOBER 10, 2010 THRU SEPTEMBER 14, 2011, AND BEARING PLAT NUMBER 100701.
3. ALL ELEVATIONS, COORDINATES, AND STATION NUMBERS ARE EXPRESSED IN TERMS OF FEET, UNLESS OTHERWISE DENOTED.
4. ALL VERTICAL AND HORIZONTAL POSITIONS ARE REFERENCED TO EXISTING SURVEY MONUMENTS - CSMGSS-5M-10A AND CSMGSS-5M-10."
5. THE WATER BOTTOM PROFILES OF ALL MARINE ACCESS ROUTES AND APPROACHES HAVE BEEN RESTORED TO WITHIN SIX INCHES OF PRE-PROJECT CONDITION.

| REV. | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
| | | | |
| | | | |
| | | | |



LONNIE G. HARPER
 and Associates, Inc.
 CIVIL ENGINEERING
 AND LAND SURVEYING
 2746 Hwy 384, Bell City, Louisiana 70630
 PHONE: (337) 905-1079 FAX: (337) 905-1076

COASTAL PROTECTION AND RESTORATION AUTHORITY

450 LAUREL STREET
 BATON ROUGE, LOUISIANA 70801

DRAWN BY: AARON HARPER

DESIGNED BY: LONNIE HARPER

RESTORATION OF THE CAMERON CREOLE WATERSHED LEVEE - PHASE II
 STATE PROJECT NUMBER: CS-04A-L
 FEDERAL PROJECT NUMBER:

CROSS SECTION STA. 857+87
 MARINE ACCESS ROUTE
 DATE: 10/17/2011
 SHEET 51 OF 51